

# 2015-2016 UndERGRADUATE CATALOG 

University of Maryland Eastern Shore<br>11868 Academic Oval<br>Princess Anne, MD 21853

www.umes.edu

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The provisions of this publication are not to be regarded as an irrevocable contract between the student and the University of Maryland Eastern Shore. At the time of the publication, every reasonable effort was made to attain factual accuracy in the material presented. The catalog is not intended to be a complete statement of procedures, processes and regulations governing undergraduate, graduate or professional degree programs which may be covered in separate program and office documents. The University of Maryland Eastern Shore reserves the right to make changes in fees, course offerings, and general regulations and academic requirements without prior notice. For the most up-to-date information on course offerings, program requirements and deadlines, please write, call or email the program or department.

## Nondiscrimination Policy and Integration Statement

The University of Maryland Eastern Shore is committed to providing equal opportunity through its employment practices, educational programs, admissions and the many services it offers to the community. It is the policy of the University that no person shall be discriminated against on the basis of race, sex, color, religion, national origin or ancestry, age, marital status or handicap.

## University of Maryland Eastern Shore Undergraduate Catalog 2015-2016

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Fall 2015 Academic Calendar

|  | August 31 - December 18, 2015 |
| :--- | :--- |
| July 1 | Reopening of FALL 2015 Registration and Schedule Adjustment |
| July 1 | ADD/DROP Period BEGIN - Fall 2015 Session |
| August 12 | $\mathbf{1}^{\text {st }}$ DROP for Non-Payment of Fees Process - 5:00 p.m. |
| August 24 | Permission for Non-UMES Study Process ENDS for Fall 2015 |
| August 24-28 | Opening Activities - Academic Affairs |
| August 26 | Enrollment 101 Process |
| August 26 | Residence Halls Open: New Freshmen, New Transfers and Returning Students |
| August 27 | Fesidence Halls Open: Returning Students |
| August 31 | Additional Credit Unit Load Process ENDS for the Fall 2015 |
| September 4 | $\mathbf{2}^{\text {nd }}$ DROP for Non-Payment of Fees Process |
| September 4 | Labor Day Holiday - University Closed |
| September 7 | ADD/DROP Periods ENDS |
| September 9 | WITHDRAWAL Period BEGINS |
| September 10 | Mid-Term Exams |
| October 19-23 | Mid-Term Grades Posted in HawkWeb with copy to Department Chairperson |
| October 26 | Academic Advising period begins |
| October 26 | Permission for Non-UMES Study Process BEGINS for Winter and Spring Sessions |
| October 28 | Additional Credit Unit Load Process BEGINS for the Winter and Spring Sessions |
| October 28 | Course Selection (Winter/Spring 2016) Graduate, Seniors, Honors Program \& Athletics |
| October 28 | Course Selection (Winter/Spring 2016 Juniors and Sophomores Only |
| October 29 | Course Selection ( Winter/Spring 2016) Freshmen Only |
| October 30 | Course Selection ( Winter/Spring 2016) All Students |
| October 31- December 18 | WITHDRAWAL from a Course ENDS |
| November 13 | Student Evaluation of Instructor |
| Nov 16 -Dec 11 | Supplemental Grade Reports - Spring and Summer 2015 Sessions - Letter Grade Changes |
| November 23 | Thanksgiving Break - University Closed |
| November 26-29 | Application for Degree Process - Spring Commencement - May 2016 |
| November 30 -March 15 | Last Day of Class |
| December 11 | Fast Day to WITHDRAW from the University |
| December 11 | Final Exams (Course grades are due 48 hrs. after the exam is administered) |
| December 12 | Drop for Non-payment for Winter 2016 session |
| December 14-17 | December 16 |
| December 18 | December 20 |

WINTER 2016 ACADEMIC CALENDAR

| January 4-22, 2016 |  |
| :--- | :--- |
| December 16 | Drop for Non-Payment Begins at 5:00 pm |
| December 28 | Registration Reopens, ADD \& DROP Periods BEGIN |
| January 3 | Residence Halls Open |
| January 4 | First Day of Class |
| January 5 | Registration \& ADD Period ENDS |
| January 6 | WITHDRAWAL from a Course BEGINS |
| January 8 | MANDATORY - Winter Classes in Session |
| January 15 | WITHRAWAL from a Course ENDS |
| January 15 | MANDATORY - Winter Classes in Session |
| January 18 | Dr. Martin Luther King Holiday - No Classes |
| January 21 | Last Day of Class - Winter Session |
| January 21 | Last Day to Withdraw from the University for the Winter Session |
| January 22 | Final Exams |
| January 24 | Grades Posted to PeopleSoft |

## SPRING 2016 ACADEMIC CALENDAR

| January 25 - May 20, 2016 |  |
| :---: | :---: |
| January 11 | Reopening of SPRING 2016 Registration |
| January 11 | ADD/DROP Periods BEGIN - Spring 2016 Session |
| January 13 | $1{ }^{\text {st }}$ DROP for Non-Payment of Fees Process - 5:00 p.m. |
| January 18 | Non-UMES Study Process ENDS for the Spring Session - 2016 |
| January 19 | Check-In for Enrollment 101; Residence Halls Open for New Students |
| January 20 | Enrollment 101 Process for New Students |
| January 21 | Residence Halls Open: Returning Students |
| January 25 | Additional Credit Unit Load Process ENDS for the Spring Session - 2016 |
| January 25 | First Day of Class |
| January 29 | $2{ }^{\text {nd }}$ DROP for Non-Payment of Fees Process |
| February 3 | Registration and ADD/DROP Periods END |
| February 4 | WITHDRAWAL Period BEGINS - (grade of "W") |
| March 7-11 | Mid-Term Exams |
| March 13-20 | Spring Break - Students Only |
| March 14-15 | Spring Break - Campus Closed |
| March 16 | Mid-Term Grades Posted to PeopleSoft with copy to Department Chair by 4:00pm |
| March 21 | Academic Advising period begins |
| March 23 | Permission for Non-UMES Study Process BEGINS for Fall and All Summer Sessions |
| March 23 | Additional Credit Unit Load Process BEGINS for the Fall \& All Summer Sessions |
| March 23 | Course Selection (Summer/Fall 2016) Graduate, Seniors, Honors Program \& Athletics Only |
| March 24 | Course Selection (Summer/Fall 2016) Juniors and Sophomores Only |
| March 25 | Course Selection (Summer/Fall 2016) Freshmen Only |
| March 28 | Course Selection (Summer/Fall 2016) All Students |
| April 1 | Last day to WITHDRAW from a course (grade of "W") |
| April 7 | Honors Convocation |
| April 18 | Supplemental Grade Reports - Fall 2015 and Winter 2016 Sessions - Letter Grade Changes |
| April 18 - May 10 | Student Evaluation of Instructor |
| May 10 | Last Day of Class |
| May 10 | Last day to WITHDRAW from the University |
| May 11 | Reading Day |
| May 12-17 | Final Exams |
| May 14 | Final Exams - Special Testing |
| May 15 | Permission for Non-UMES Study Process ENDS Summer Sessions |
| May 19 | Grades Posted to PeopleSoft with copy to Department Chair by 4:00 p.m. |
| May 20 | Commencement |
| May 30 - September 30 | Application for Degree Process - Winter Commencement - December 2016 |

## SumMER 2016 Academic Calendar

SUMMER SESSION I : June 6 - August 12, 2016

| May 15 | Last day to submit NON-UMES Study forms - All summer terms |
| :--- | :--- |
| May 27* | DROP for Non-Payment of Fees Process Begins at 5:00 p.m. - Summer I and II |
| May 30 - September 30 | Application for Degree Process Continues - Winter 2017 Commencement |
| May 31 | Registration Reopens, ADD \& DROP Periods BEGIN |
| June 5 | Residence Halls Open |
| June 6 | First Day of Class |
| June 8 | Registration, \& ADD/DROP Period ENDS |
| June 10* | 2 $^{\text {nd }}$ DROP for Non-Payment of Fees Process Begins at 5:00 p.m. - Summer I and II |
| June 13 | WITHDRAWAL Period BEGINS |
| July 4 | $4^{\text {th }}$ of July Holiday celebrated - University Closed |
| July 29 | WITHDRAWAL from a course ENDS |
| August 11 | Last Day of Class |
| August 11 | WITHDRAWAL from the University ENDS |
| August 12 | Final Exams |
| August 12 | Check out of residence hall by 6 pm |
| August 15 | Grades Posted to PeopleSoft with Copy to Department Chair - 4:00 p.m. |

SUMMER SESSION II : June 6-July 7, 2016

| May 15 | Last day to submit NON-UMES Study forms - All summer terms |
| :--- | :--- |
| May 27* | DROP for Non-Payment of Fees Process Begins at 5:00 p.m. - Summer I and II |
| May 30 - September 30 | Application for Degree Process Continues - Winter Commencement |
|  |  |
| May 31 | Registration Reopens, ADD \& DROP Periods BEGIN |
| June 5 | Residence Halls Open |
| June 6 | First Day of Class |
| June 10 | Registration, \& ADD/DROP Period ENDS |
| June 10 * | $\mathbf{2}^{\text {nd }}$ DROP for Non-Payment of Fees Process Begins at 5:00 p.m. - Summer I and II |
| June 13 | WITHDRAWAL Period BEGINS |
| June 24 | WITHDRAWAL from a course ENDS |
| July 4 | $4^{\text {th }}$ of July Holiday celebrated - University Closed |
| July 6 | Last Day of Class |
| July 6 | WITHDRAWAL from the University ENDS |
| July 7 | Final Exams |
| July 7 | Check out of residence hall by 6:00 pm |
| July 8 | Grades Posted to PeopleSoft with Copy to Department Chair - 4:00 p.m. |

SUMMER SESSION III : July 11 - August 12, 2016

| May 15 | Last day to submit NON-UMES Study forms - All summer terms |
| :--- | :--- |
| May 30 - September | Application for Degree Process Continues - Winter Commencement |
| 30 | Registration Reopens, ADD \& DROP Periods BEGIN |
| May 31 | DROP for Non-Payment of Fees Process Begins at 5:00 p.m. - Summer III |
| July 1 | Residence Halls Open |
| July 10 | First Day of Class |
| July 11 | Registration \& ADD/DROP Period ENDS |
| July 13 | WITHDRAWAL Period BEGINS - Student receives a grade of "W" |
| July 14 | $\mathbf{2}^{\text {nd }}$ DROP for Non-Payment of Fees Process Begins at 5:00 p.m. - Summer III |
| July 15* | WITHDRAWAL from a course ENDS |
| July 29 | Last Day of Class |
| August 11 | WITHDRAWAL from the University ENDS |
| August 11 | Final Exams |
| August 12 | Check out of residence hall by 6 pm |
| August 12 | Grades Posted to PeopleSoft with Copy to Department Chair - 4:00 p.m. |
| August 15 |  |

## General Information

## About The University of Maryland Eastern Shore

Situated in the historic town of Princess Anne, the University of Maryland Eastern Shore (UMES) is an 1100 acre campus. It offers students a tranquil retreat to pursue academic goals, yet it is only a two-hour drive from any one of several mid-Atlantic metropolitan areas - Norfolk/Virginia Beach, Washington, Baltimore, Philadelphia, and Wilmington - providing access to many urban amenities. In addition, the resort town of Ocean City, Maryland, is less than an hour's drive away.

UMES is the only research and doctoral degree granting institution of the University System of Maryland on the Eastern Shore of Maryland. Its programs in Construction Management Technology, Aviation Sciences, and Hospitality and Tourism Management are unique to both the state and the region. The campus location and facilities, the program offerings, and opportunities afforded by the University of Maryland Eastern Shore provide an engaging atmosphere for study and growth for its students who represent all ages, professions and experiential training, (e.g., traditional young-adult students, graduate students, workforce professionals, senior-citizens, etc.).

About 55\% percent of the students live on campus. The oval shaped mall is the hub of campus academic and residential activity. The students, faculty, and staff walk together to and from their daily activities in the classrooms, administrative departments, student activities, and residential life facilities. The campus is decidedly close-knit.

Behind the campus oval are 500 acres of farmland that complete the multifaceted research institution. Innovative agricultural research, serving both local and global economies, is conducted through the Small Farms Institute and the Swine Research Center, which is the hub of all University of Maryland swine research; a poultry management operation; and crop and animal production programs.

The international elements of the UMES campus are evidenced by the flags of over 50 nations that wave at the campus entrance around the federal, state, and University flagpoles. These flags symbolize the various nationalities of students enrolled at UMES.

A recent ongoing capital improvement project reflects the University's emphasis on academic development. Combining the future with tradition, newer structures around the flagpole oval blend well with the Georgian-style architecture that defines the neighboring Ella Fitzgerald Center for the Performing Arts, the J.T. Williams administrative building, and Kiah Hall.

## UMES History

Founded under the auspices of the Delaware Conference of the Methodist Episcopal Church, the University of Maryland Eastern Shore (UMES) opened with nine students and one faculty members as the Delaware Conference Academy in Princess Anne on September 13, 1886.

Historical documents reveal that 37 students were enrolled by the end of the first year. Soon its title was changed to the Industrial Branch of Morgan State College, still under the influence of the Delaware Conference. Later it became known as Princess Anne Academy, but continued to be operated by Morgan State College under the control of the Methodist Church.

The State of Maryland, in operating its Land-Grant program at the Maryland Agricultural College at College Park, which did not admit African-American students, sought to provide a Land-Grant program for AfricanAmericans. In 1919, the State of Maryland assumed control of the Princess Anne Academy and renamed it the Eastern Shore Branch of the Maryland Agricultural College.

In 1926, the College passed into complete control and ownership by the State of Maryland, and the University of Maryland was designated as the administrative agency. In 1948, the Eastern Shore Branch of the University of Maryland, popularly known as Princess Anne College, officially became Maryland State College, a Division of the University of Maryland. On July 1, 1970, Maryland State College became the University of Maryland Eastern Shore.

## University Presidents

Fifteen chancellors and presidents have served the institution since it was founded in 1886. They are as follows:

Dr. Juliette B. Bell, 2012 - present<br>Dr. Mortimer Neufville, 2011-2012 (Interim President)<br>Dr. Thelma B. Thompson, 2002-2011<br>Dr. Jackie Thomas, 2001-2002 (Interim President)<br>Dr. Dolores R. Spikes, 1997-2000<br>Dr. William P. Hytche, Sr., 1975-1997<br>Dr. Archie L. Buffkins, 1971-1975<br>Dr. Howard Emery Wright, 1970-1971<br>Dr. John Taylor Williams, 1947-1970<br>Robert A. Grigsby, 1936-1947<br>Thomas Kiah, 1910-1936<br>Frank J. Trigg, 1902-1910<br>Dr. Pezavia O'Connell, 1900-1902<br>Portia E. Lovett Bird, 1897-1899<br>Benjamin Oliver Bird, 1886-1897

## UMES Today

From its original campus building known as "Olney," which was constructed in 1798 during the era of President George Washington, the University has grown to over 1100 with 32 major buildings and 43 other units. The student population has increased to 4,200 . With the strong support of the University System of Maryland Board of Regents, Administration, and the faculty, UMES has developed an academic program perhaps more impressive than any other higher education institution of its size in the East. Within the last decade, UMES has added 22 degree-granting programs to its academic roster. Graduates of these programs secure positions throughout the global community. However, many graduates often choose to remain on the Delmarva Peninsula, procuring careers in their areas of professional study to benefit the region, particularly the Lower Eastern Shore.

Today, the University offers major programs leading to the B.A. and B.S. degrees in 40 disciplines in the arts and sciences, professional studies, and agricultural sciences. In addition, UMES offers 12 teaching degree programs and two pre-professional programs, as well as an Honors Program to prepare students for professional school study.

Today the University offers a variety of well-constructed and outstanding academic programs on a beautiful campus. It provides today's students, through versatile student life activities, with opportunities to develop into well-rounded individuals who are able to assume leadership in today and tomorrow's global society.

Additional course offerings during evening and weekend hours have also been developed, allowing a greater segment of the local population to enhance themselves and their communities through post-secondary education.

## University Mission Statement

The University of Maryland Eastern Shore (UMES), the state's historically black 1890 land-grant institution, has its purpose and uniqueness grounded in distinctive learning, discovery and engagement opportunities in the arts and sciences, education, technology, engineering, agriculture, business and health professions.

UMES is a student-centered, doctoral research degree-granting university known for its nationally accredited undergraduate and graduate programs, applied research, and highly valued graduates.

UMES provides individuals, including first generation college students, access to a holistic learning environment that fosters multicultural diversity, academic success, and intellectual and social growth.

UMES prepares graduates to address challenges in a global knowledge-based economy, while maintaining its commitment to meeting the workforce and economic development needs of the Eastern Shore, the state, the nation and the world.

## Institutional Core Values

- Providing high quality undergraduate and graduate programs that will equip students with 21 st century knowledge and skills necessary for the challenges of America and the world.
- Affirming its role as the State's 1890 land-grant institution by providing citizens with opportunities and access that will enhance their lives and enable them to develop intellectually, economically, socially, and culturally.
- Demonstrating shared-governance through recognition of the viewpoints that various members of the University community contribute to the institution.
- Appreciating diversity in its student body, faculty, staff and administration through civility, commitment to tolerance, freedom of expression, and celebration of other cultures.
- Adhering to the highest standards of honesty, fairness, trust and integrity in both personal and professional behavior.
- Promoting student-centeredness as the heart of the educational enterprise.
- Focusing on character development through learning and leadership experiences.


## Location

UMES is located in the small town of Princess Anne on the Eastern Shore of Maryland. The town dates back to 1733 and has many buildings and landmarks of historic interest. The quiet community environment is excellent for learning, yet it is only about 2 hours by car from the abundant cultural and recreational facilities of Washington, D.C., Baltimore, Philadelphia, and Virginia Beach. The state's famous seaside resort, Ocean City, is only 1 hour from the campus. The campus is located 13 miles south of the town of Salisbury, which provides shopping and recreational facilities.

## Facilities

The University of Maryland Eastern Shore is a 1,100 -acre campus that is at once academic, international, and Arcadian, making it an inviting and fitting atmosphere for study and young adult growth.

## University Buildings

- Alumni House
- Auxiliary Gym and Wellness Center
- Charles R. Drew Building
- Early Childhood Research Center
- Frederick Douglass Library
- Farm Machinery Building
- Farm Shop House
- Greenhouse Academic Building
- Greenhouse Research Building
- Hydroponics Facility
- J. Milliard Tawes Gymnasium
- Learning Resource Center


## Residence Halls

- Community Center/Office of Residential Life
- Court Plaza Residence Hall
- Harford Hall
- Hawk's Landing Apartment
- Murphy Hall \& Murphy Hall Annex


## Classroom and Laboratory Buildings

- Access and Success Building
- Charles Clinton Spaulding Hall
- Crop and Aquaculture Swine Reproduction Facility
- Ella Fitzgerald Center for the Performing Arts
- Food Science and Technology Building
- Frank Trigg Hall


## Service Buildings

- Benjamin Oliver Bird Hall
- John T. Williams Hall
- Paul S. Sarbanes Coastal Ecology Center
- Public Safety Building
- Richard A. Henson Center
- SRC Laundry Facility
- Lida Brown Building
- MAES Poultry Office/Laboratory
- MAES Poultry Environmental Research Laboratory
- Marksman - East
- Marksman - West
- Physical Plant/Central Receiving
- Poultry Technology Management House
- Somerset Hall - Pharmacy
- Swine Reproductive Facility
- Swine Research Facility
- WESM/91.3 FM Radio Station
- Nuttle Hall
- Plaza Residence Hall
- Student Apartments 1-6
- Student Residential Complex A-D \& A-F
- University Terrace
- Wicomico Hall
- George Washington Carver Hall
- Henry O. Tanner Hall
- Richard A. Henson Center
- Theodore Briggs and Richard Thomas
- Arts and Technology Center
- Thomas R. Kiah Hall
- William P. Hytche Athletic Center
- Wilson Hall
- Student Apartment Laundry
- Student Development, Cultural and Recreation
- Student Services Center
- Richard Hazel Hall
- Waters Hall


## Organization of The University

## The University System of Maryland

Since its formation in 1988, the University System of Maryland has focused on the vision of national eminence described in the System's founding legislation. This vision has guided in the pursuit of its broadest goal: to serve Marylanders' educational needs through teaching, research, and public service.
Specific missions are central to UMES' success as a family of thirteen diverse and complementary institutions. They enable UMES to balance its broad educational mission with its responsibility for prudent allocation of resources. These mission statements reflect efforts to meet these obligations as UMES works to build a higher education system marked by quality, access, and accountability.

The mission statements also provide a comprehensive glimpse of the University System of Maryland. Each of the institutions has brought its unique history and strengths to the formulation of its mission. Each has also reflected on its identity, constituencies, and priorities. These statements were not developed in isolation; each USM institution refined its statement as part of a collegial process involving sister USM institutions, under the guidance of the Board of Regents and with input from the System Office and the Maryland Higher Education Commission. The resulting "family portrait" captures both the institutional diversity that is a USM hallmark and the synergy that is at the heart of the University System of Maryland: the creative interaction that produces a strong and vibrant academic enterprise.

## 2015-2016 Board of Regents

James L. Shea, Chair
Barry P. Gossett, Vice-Chair
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Linda R. Gooden, Assistant Treasurer
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Robert Neall
Robert Pevenstein
Robert D. Rauch
Dr. Frank M. Reid, III
Sydney Comitz, Student Regent*
*Term expires 6.30.2016

## Dr. Joann Boughman

Senior Vice Chancellor for Academic Affairs

## Mr. Joseph Vivona

COO/Vice Chancellor for Administration and Finance

Mr. Leonard R. Raley

Vice Chancellor for Advancement

Ms. Anne Moultrie<br>Vice Chancellor for Communications

## University of Maryland Eastern Shore Board of Visitors

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Mr. Mark Garth
Mr. Michael Gershenfeld
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2015-2016
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Dr. Margaret (Peggy) Naleppa
Mr. Stephen Powell
Mr. George Reynolds
Mr. Greg Tawes
Mr. Seth Wade

## President's CAbinet

Under the administration of the President, the administrative organization of the campus is divided among five divisions: Academic Affairs, Administrative Affairs, Institutional Advancement, Research and Student Affairs and Enrollment Management. Each division is headed by a Vice President who administers the policies, procedures, and directives of the President, the Chancellor, and the Board of Regents.

## Dr. Juliette B. Bell, President <br> President's Cabinet Members

## Mr. Kevin Appleton

Vice President of Administrative Affairs

## Mr. Keith Davidson

Director of Athletics

## Dr. D. Jason DeSousa

Vice President for Student Affairs \& Enrollment
Management
Mrs. Kimberly Dumpson, Esquire, CFRE
Executive Vice President
Dr. Patrick R. Liverpool
Provost and Vice President for Academic Affairs
Office of the President

Mrs. Kimberly Dumpson, Esquire, CFRE

Executive Vice President
Dr. Stanley Nyirenda
Institutional Planning and Assessment

## Mr. Dominick Murray

Executive Director for Business and
Economic Development

Mr. Stephen L. McDaniel, CFRE
Vice President for Institutional Advancement
Mr. Dominick Murray
Executive Director for Business and Economic Development

Dr. G. Dale. Wesson
Vice President for Research

## Dr. Patrick R. Liverpool, Provost and Vice President for Academic Affairs

| Dr. Kimberly D. Whitehead <br> Vice Provost | Dr. Latasha Wade (Interim) <br> Associate Provost for Faculty Affairs and Strategic <br> Initiatives |
| :--- | :--- |
|  | School Deans |

## Mr. Kevin Appleton, Vice President

Mrs. Nelva White
Assistant Vice President and Budget Director

## Mr. Ken Kundell

Chief Information Officer
Mr. Kenneth Gaston
Administrative Computing
Mr. Javid Braithwaite
Auxiliary Enterprises
Ms. Beatrice Wright
Budget Analyst

Ms. Bonita Byrd
Comptroller

## Dr. Maurice Ngwaba

Facilities Planning, Design and Construction
Mrs. Marie Billie
Human Resource Management

## Mr. Phillip Taylor

Information Technology
Ms. Jacqueline Collins
Procurement

Mr. Kenneth Belton
Physical Plant
Mr. Ernest Leatherbury, Jr.
Public Safety
Division of Institutional Advancement

Ms. Kim Mills
Richard A. Henson Center
Mrs. Vera Heath-Miles (Interim)
Student Financial Aid

Mr. Stephen McDaniel, Vice President

Dr. Veronique Diriker
Development
Ms. Chenita Reddick
Advancement Services

Mr. James Lunnermon, II
Alumni Development
Mr. Wayne Jerald (Interim)
Corporate and Foundation Relations

Division of Student Affairs and Enrollment Management
Dr. D. Jason DeSousa, Vice President

Dr. James White
Associate Vice President
Mrs. Cheryll Collier-Mills
Assistant Vice President
Dr. Benita Rashaw
Dean of Students
Dr. Theresa Queenan
Career Services and Cooperative Education

Mr. Marvin Jones
Residence Life
Ms. Jinawa McNeil (Interim)
Strategic Enrollment Management and Performance
Dr. Melanie White-Davenport (Interim)
Counseling Services
Ms. Sharone Grant
Student Health Center

Division of Research

Dr. G. Dale Wesson, Vice President

Ms. Catherine Bolek<br>Sponsored Programs

## Student Notification of Rights

## Student Notification of Rights under <br> The Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) afford students certain rights with respect to their education records. These rights include:

- The right to inspect and review the student's education records within 45 days of the day the University receives a request for access;

Students should submit to the Registrar written requests that identify the record(s) they wish to inspect. The Registrar will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the Registrar to whom the request was submitted, then the Registrar shall advise the student of the correct official to whom the request should be addressed.

- The right to request the amendment of the student's education records that the student believes is inaccurate;

Students may ask the University to amend a record that they believe is inaccurate. They should write the Registrar, clearly identify the part of the record they want changed, and specify why it is inaccurate.

If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

- The right to consent to disclosures of personally identifiable information contained in the student's education records except to the extent that FERPA authorizes disclosures without consent;

One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agency); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a legitimate interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the University discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

- The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University of Maryland Eastern Shore to comply with the requirements of FERPA.

The name and address of the Office that administers FERPA are:

Family Policy Compliance Office<br>U.S. Department of Education<br>400 Maryland Avenue, SW<br>Washington, DC 20202-4605

## ADMISSIONS AND RECRUITMENT

The Office of Admissions and Recruitment serves prospective students, currently enrolled students, faculty and staff relative to matriculation, document processing and the maintenance of students' records. The Recruitment Office engages in prescribed activities designed to identify, attract, enroll and retain prospective students through graduation.

## Campus Tours

Prospective students and their parents are encouraged to visit the campus for an orientation tour and to discuss enrollment with University staff. Campus tours can be arranged by contacting the Recruitment Office at (410) 651-8403.

## Freshman Admissions Requirements

## General Policies

As a condition of admission, prospective freshmen will be expected to have graduated from an accredited high school and have successfully completed an academic program of study, which includes the following minimum course requirements:

1. Four years of English;
2. Three years of social science/history;
3. Two years of laboratory-based science.
4. Four years of mathematics, including Algebra I, II, Geometry and Calculus;
5. Two years of a foreign language.

Applicable courses pertinent to the Freshman Admission Requirements may include the following:

## Mathematics

Advanced Topics, Algebra I, Algebra II, Analysis (or Elementary Analysis), Analytic Geometry, Calculus, Computer Math, Functions, Geometry, Mathematics II, Mathematics III. Mathematics IV, Matrices, Probabilities, Modern Geometry, Probability and Statistics, S.M.S.G., Modern Math, Trigonometry and Computer Science (only with a prerequisite of at least two years of Algebra/Geometry).

## Science

Anatomy, Physiology, Biology, Chemistry, Earth Science, Physical Science, General Science, Genetics, Geology, Laboratory Science, Physics, Zoology, Botany, Environmental Science and Astronomy.

Social Studies
Afro-American Studies, American History, Ancient History, Anthropology, Civics-Citizens, Contemporary Issues (C.I.S.S.), Cultural Areas, Cultural Heritage, Economics, Ethics (if considered to be Religion, not counted), European History, European History and Survey, Far East, Pan American, Geography, Government, Humanities, International Affairs, Medieval History, Modern History, Modern Problems, National Government, Philosophy, Political Science, Problems of Democracy, Problems of 20th Century, Psychology, Sociology, State History, U.S. History, World Civilization and World Cultures.

## High School General Equivalency Diploma (GED)

Applicants for admission who have earned a GED are accepted for admission provided they obtain an average standard score of 50 , with no score under 40 , or if all standard scores are above 45 on the standardized exam.

## Graduates of Non-Accredited Maryland High Schools

Applicants are required to have competitive SAT/ACT test scores and commendable grades. Students who do not meet entrance requirements can qualify for conditional admission. The conditional status is removed upon the completion of 24 semester hours with a GPA of 2.00 or higher.

## Admissions Procedures

Prospective students are required to complete an Application for Admission and pay a $\$ 25.00$ non-refundable application fee. Applicants must also have submitted official secondary and/or college transcripts and official SAT or ACT test scores.

## When to Apply

Applications must be received in sufficient time to be properly evaluated. The application priority date for the fall semester is April 15 with a deadline of July 15. For the spring semester, December 1 is the application priority deadline. Applications can be processed over the web at www.umes.edu/Admissions. Applications received beyond these dates will be considered on a space available basis. Decisions for admission are made on a rolling basis throughout the year.

## Senior High School Grades

Normally, cumulative grade point averages are based on grades earned through the eleventh grade. When it appears that mid-year grades for the senior year of high school may affect a student's admission status, the grades will be requested and considered before a final admission decision is made. Once admitted, all students must submit final transcripts verifying graduation.

## Categories of Undergraduate Admissions

## Freshmen

## Regular Admission

Applicants must have scored competitively on the SAT or ACT test and must have earned commendable grades in high school academic subjects. Exception: Students with these qualifications admitted from non-accredited Maryland high schools can qualify for conditional admission.

## Early Admission

Although UMES generally requires applicants to earn a high school diploma prior to their first registration, UMES will admit well-qualified students without this documentation provided the student:

- has a minimum " B "/(3.0) average in academic subjects;
- is within four semester courses (two Carnegie Units) of high school graduation, and
- has the endorsement of parents, the high school, and superintendent of schools, when appropriate.


## Concurrent Enrollment Admission

Local high school students who satisfy the requirements for an early admission, but wish to attend UMES while continuing to be enrolled at their high schools, may do so provided they have the approval of their parents and the high school principal. Fees are charged at the same rate as for undergraduate students.

## Special Students

Applicants who qualify for admission but do not desire to work towards a baccalaureate degree may be admitted as non-degree seeking, or special, students. These post-baccalaureate students may enroll in undergraduate courses for which they possess the necessary prerequisites, but may not enroll in courses restricted to degree seeking students only. Non-degree seeking (special) students who do not have a baccalaureate degree must submit transcripts and meet regular admission standards. Applicants who do not qualify for admissions, but desire to take
some skills courses may be allowed to enroll in such courses if prior permission from the chairperson of the department in which the courses are located is obtained.

## Veterans

UMES is fully accredited for accepting veteran students and assists them in their certification. Credit is given for any work done during the period of service which is related to the major field of study.

A Certificate of Eligibility must be submitted to the Office of Admissions and Registration when the veteran reports for registration. Benefits to which veterans are entitled will be sent each month directly to them by the Veterans.

Administration after proper certification has been obtained: Veterans are responsible for the payment of all fees and expenses at the same time as all other students. The Admissions Office coordinates veteran services, and veterans are advised to contact the office for further information on admissions, tutorials, and special programs.

## Transfer Students

A student who has attended any accredited institution of higher education and has earned at least one (1) or more credit hours will be considered as a transfer student.

An official high school transcript is required of students who have earned less than 28 semester hours. SAT or ACT scores are required unless students have been out of high school two years or more.

A student must be in good judicial, academic, and financial standing in order to be considered for admission to the University.

## International Students

UMES is certified by the Immigration Customs Enforcement (ICE) for acceptance and certification of international students, through the Student and Exchange Visitor Information System (SEVIS).

International students should apply well in advance (a six-month period is recommended) of the beginning of the fall or spring semester in the prescribed manner. The application must be completed in all respects and must be accompanied by proof of financial self-sufficiency and knowledge of English. Students from non-English speaking countries should forward the results of the Test of English as a Foreign Language (TOEFL). This test is administered by Educational Testing Service, Princeton, New Jersey 08450.

International students must request their high school, secondary school, and/or other institutions of higher education to forward copies of transcripts, mark sheets, diplomas, or degrees directly to the Office of Admissions. Documents attached to the application will not normally be accepted unless certified by United States Officials abroad. International students must receive permission from the Immigration, Customs and Enforcement in order to accept off-campus part-time employment in the United States.

An international student will receive an I-20 Form only after acceptance to the University, which will enable the securing of the proper visa from the Office of the American Consulates abroad. The twenty-five dollar (\$25.00) processing fee should be submitted with the application and should be in American check or currency.

## Direct Transfer and Articulation Agreements

UMES fully ascribes to the Maryland Higher Education Commission (MHEC) Articulation Agreement. UMES has direct transfer agreements with all Maryland community colleges, many out-of-state community colleges, and all University of System of Maryland institutions. Direct transfer allows automatic admission and transfer of all college level credits of a "C" or better. See Appendix 1 for full text of applicable MHEC regulations.

## TUITION, FEES AND EXPENSES

Fee charges are subject to change with approval by the Board of Regents. All charges are announced in advance. A schedule of charges is available from the Office of Administrative Affairs. Notwithstanding any other provision of this or any other University publication, the University reserves the right to make changes in tuition, fees, and other charges at any time such charges are deemed necessary by the University and the University System of Maryland Board of Regents. For the 2014-2015 academic year, the fee structure tentatively will be as follows:

## Full-Time Tuition and Fees ${ }^{1}$

Students enrolled for twelve (12) or more credit hours pay the full amount of fixed charges.

| Maryland Residents <br> Fixed Charges | Per Semester | Per Year |
| :--- | :--- | :--- |
| Tuition | $\$ 2,383.50$ | $\$ 4,767.00$ |
| Mandatory Fees | $\$ 450.00$ | $\$ 900.00$ |
| Athletic | $\$ 63.00$ | $\$ 126.00$ |
| Student Activities | $\$ 400.00$ | $\$ 800.00$ |
| Recreational Activities | $\$ 275.00$ | $\$ 550.00$ |
| Student Union | $\$ 72.00$ | $\$ 144.00$ |
| Technology Fee | $\$ 3,643.50$ | $\$ 7,287.00$ |


| Non-Maryland Resident ${ }^{\mathbf{1 , 2}}$ | Per Semester | Per Year |
| :--- | :--- | :--- |
| Tuition | $\$ 6,895.50$ | $\$ 13,791.00$ |
| Mandatory Fees | $\$ 1,260.00$ | $\$ 2,520.00$ |
| Total Non-MD Resident | $\$ 8,155.50$ | $\$ 16,311.00$ |

$\underline{\text { Additional Charges }{ }^{1,2}}$

| Room Type | Per Semester | Per Year |
| :--- | :---: | :---: |
| Traditional Double | $\$ 2,497.00$ | $\$ 4,994.00$ |
| Traditional Single | $\$ 2,908.50$ | $\$ 5,817.00$ |
| Apartment Single (Non-Efficiency) | $\$ 2,936.00$ | $\$ 5,872.00$ |
| Traditional Double (Semi-Private Bath) | $\$ 2,568.00$ | $\$ 5,136.00$ |
| Apartment Double (Efficiency) | $\$ 2,847.50$ | $\$ 5,695.00$ |
| Apartment Single (Efficiency) | $\$ 3,032.50$ | $\$ 6,065.00$ |
| Apartment Single Private Bath (Efficiency) | $\$ 3,117.50$ | $\$ 6,235.00$ |
| Apartment Single Lease (Efficiency \& Laundry) | $\$ 3,203.00$ | $\$ 6,406.00$ |


| Board (Meal Plan) ${ }^{3}$ | Per Semester | Per Year |
| :--- | :---: | :---: |
| 19 Meal Plan w/\$200 annual food points | $\$ 2,000.00$ | $\$ 4,000.00$ |
| 14 Meal Plan w/\$150 annual food points | $\$ 1,900.00$ | $\$ 3,800.00$ |
| 10 Meal Plan w/\$150 annual food points | $\$ 1,550.00$ | $\$ 3,100.00$ |
| *5 Meal Plan w/\$100 annual food points | $\$ 789.00$ | $\$ 1,578.00$ |
| *Commuters only |  |  |

NOTE: Students residing in the traditional Residence Halls and the Student Apartments are required to be on a board plan.

## Part-Time Tuition and Fees ${ }^{1}$

Part-time students are required to pay the undergraduate part-time rates per credit hour as listed below. Undergraduate rate per credit hour (11 credits or less)

| Maryland Residents |  |
| :--- | :--- |
| Graduate | $\$ 301.00$ per credit $\mathbf{~ h r}$. |
| Undergraduate (11 cr. hrs. or less) | $\$ 198.00$ per credit hr. |
| Student Fee | $\$ 33.00$ per semester |
| Technology Fee | $\$ 10.00$ per semester |


|  |  |
| :--- | :--- |
| Graduate | Non-Maryland Resident |
| Undergraduate | $\$ 537.00$ per credit hr. |
| Student Fee | $\$ 33.00$ per credit hr. |
| Technology Fee | $\$ 10.00$ per semester semester |


| School of Pharmacy - Pharmacy D Program |  |
| :--- | :--- |
| Maryland Resident | $\$ 26,535.00$ |
| Tuition |  |
| Mandatory Fees | $\$ 300.00$ |
| Pharmacy Activity Fee |  |
| Technology Fee | $\$ 144.00$ |
| Student Union | $\$ 550.00$ |
| Recreational Facilities | $\$ 800.00$ |
| Total MD Resident | $\$ 28,329.00$ |


| Non-Maryland Resident | Per Semester |
| :--- | :--- |
| Tuition | $\$ 51,587.00$ |
| Mandatory Fees | $\$ 1,794.00$ |
| Total Non-Maryland Resident | $\$ 53,381.00$ |

## Supplementary Charges/Fees (all students applicable)

| Commencement Fee | $\$ 35.00$ |
| :--- | :--- |
| Credit-by-examination Fee per Semester Hour Credit | $\$ 30.00$ |
| Application Fee (Undergraduate) | $\$ 25.00$ |
| Protested Check | $\$ 25.00$ |
| Laboratory Fees | $\$ 25.00$ |
| Library | Varies |
| Overdue Book (per day) | $\$ 0.50$ |
| Overdue Laptop (per $1 / 2$ hour) | $\$ 10.00$ |
| Lock Replacement Charge | $\$ 100.00$ |
| $\quad$ Lost Keys | $\$ 250.00$ |
| Total Lock Replacement | $\$ 30.00$ |
| Lost HAWKCARD | $\$ 15.00$ |
| Damaged HAWKCARD | $\$ 40.00$ |
| Motor Vehicle Registration | $\$ 3.00$ |

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## Payment by Check or Money Order

All checks and money orders should be made payable to UMES for the exact amount. In most cases, payment should be made at the Office of Student Accounts, unless otherwise instructed.

## Returned Checks

Any checks returned for any reason will result in a returned check fee of $\$ 25.00$. The student's account will thereafter be stamped "No Personal Checks" and all future payments must be paid by cash, money order, credit card (Visa, MasterCard, Discover, and American Express), or cashier's check.

## Payments from Scholarship Funds

A student awarded a scholarship and/or grant will have the amount of the award applied towards his/her account in the Office of Student Accounts once he or she has completed their payment confirmation. Any student who does not complete their payment confirmation will be dropped from their classes. This applies to veterans as well.

No student whose account is in arrears will be admitted to classes, the Dining Hall or in Residence Life. Any student indebted to the University is likewise prevented from having a degree conferred or a transcript released until the total debt is cleared.

## Collection Procedures of Past Due Accounts

In accordance with State of Maryland regulations, past due accounts are subject to a collection fee of $17 \%$ and are forwarded to the Maryland State Central Collection Unit for further action.

## Reduction of Fees for Change in Registration

Students who officially change their enrollment status from full-time to part-time (eight hours or less) by dropping a course or courses will be eligible for a reduction of fees in accordance with the following:

1. If the change in enrollment status occurs during the first two weeks following the beginning of classes, fees will be assessed on the basis of the appropriate part-time fees plus $25 \%$ of the difference between the full-time and the appropriate part-time fees.
2. The effective date of the change in registration is the date the change is filed in the Office of the Registrar. No refund will be processed for changes in registration, which occur after the first two weeks of classes.

## Property Damage Fees

Students will be charged for damage to property or equipment. Where the responsibility for the damage can be fixed, the student will be billed. Where responsibility cannot be fixed, the cost of repairing the damage or replacing equipment will be prorated among all individuals held responsible.

In-State Status

## General Policy

It is the policy of the University of Maryland Eastern Shore to grant in-state status for admission, tuition, and charge-differential purposes as defined by the University of Maryland Policy on Student Residency Classification for Admission, Tuition, and Charge-Differential Purposes (see complete policy below).

## Procedures for the Determination of In-State Status for Admissions, Tuition, and Charge-Differential Purposes

An initial determination of in-state status for admission, tuition, and charge-differential purposes will be made at the time a student's application for admission is under consideration. The determination made at that time, and any
determination made thereafter, shall prevail for each subsequent term unless the determination is successfully challenged in a timely manner.

A student may request a re-evaluation of residency status by filing an Application for Change in Residency Classification (hereinafter referred to as Application). A student must meet the requirements for in-state status and submit a completed Application (including all documents therein). THERE IS NO LONGER A LATE
REGISTRATION DATE for the term the student wishes to be classified as in-state. No change in status requested by the student shall be given retroactive effect prior to the term for which a timely Application was filed. A student may file only one Application per term.

A determination of in-state status is valid only if a student actually enrolls in the term in question. Determinations, which are made in cases where the student does not actually enroll, are not valid for a subsequent term, with respect to which, requirements must be independently satisfied and a new and timely Application submitted.

## Change of In-State Status

Students classified as in-state for admission tuition and charge-differential purposes are responsible for notifying the Office of Admissions in writing within 15 days of any change in their circumstances which might in any way affect their classification.

## University of Maryland Policy on Student Residency Classification for Admission, Tuition and ChargeDifferential Purposes.

## I. POLICY

A. It is the policy of the Board of Regents of the University of Maryland System to recognize the categories of in-state and out-of-state students for purposes of admission, tuition, and charge differentials at those institutions where such differentiation has been established. The student is responsible for providing the information necessary to establish eligibility for in-state status.

1. Students who are financially independent or financially dependent, as hereinafter defined, shall have their residency classification determined based on permanent residency. For purpose of this policy, a permanent residence is a person's permanent place of abode as determined by the following criteria. Such students will be assigned in-state status for admission, tuition, and charge differential purposes only if the student (if financially independent) or the student's parent, guardian or spouse (in the case of a financially dependent student):
2. Owns or rents and occupies living quarters in Maryland. There must exist a genuine deed or lease in the individual's name reflecting payments/rents and terms typical of those in the community at the time executed. Persons not having such a lease may submit an affidavit reflecting payments/rents and terms as well as the name and address of the person to whom payments are made which may be considered as meeting this condition. As an alternative to ownership or rental of living quarters in Maryland, a students may share living quarters in Maryland which are owned or rented and occupied by a parent, legal guardian, or spouse;
3. Maintains within Maryland substantially all personal property;
4. Pays Maryland income tax on all earned taxable income including all taxable income earned outside the State;
5. Registers all owned motor vehicles in Maryland in accordance with Maryland law;
6. Possesses a valid Maryland driver's license, if licensed, in accordance with Maryland law;
7. Is registered in Maryland, if registered to vote;
8. Receives no public assistance from a state other than the State of Maryland or from a city, county or municipal agency other than one in Maryland; and,
9. Has a legal ability under federal and Maryland law to reside permanently without interruption in Maryland.
10. Is not residing in the State of Maryland primarily to attend an educational institution.
B. In addition to meeting all of the criteria set forth in the preceding section, to qualify for in-state status on the basis of permanent residence, a student or, if the student is financially dependent, the parent, legal guardian, or spouse, must have resided in Maryland for at least twelve (12) consecutive months immediately prior to and including the last date available for late registration or the forthcoming semester or session and must have continuously resided in Maryland during the period.
C. If a student is financially dependent as hereinafter defined, the permanent residence of the parent, guardian, or spouse on whom he/she is dependent shall determine in-state status. If a student is financially independent, the permanent residence of the student shall determine in-state status.
D. In-state status based on permanent residence is lost at any time a financially independent student establishes a permanent residence outside the State of Maryland. If the parent, guardian, or spouse through whom a financially dependent student has attained in-state status establishes a permanent residence outside the State of Maryland, the in-state status is lost. In each instance, the student will then be assessed out-of-state tuition and charges beginning the next semester or session.
E. In addition, the following categories of students shall have in-state status:
11. A full-time or part-time (at least 50 percent time) permanent employee of the University of Maryland System;
12. The spouse or dependent child of a full-time or part-time (at least 50 percent time) permanent employee of the University of Maryland System;
13. A full-time active member of the Armed Forces of the United States whose home of residency is Maryland or one who resides or is stationed in Maryland, or the spouse or a financially dependent child of such a person; and
14. A graduate assistant.

Students not entitled to in-state status under the preceding paragraphs shall be assigned out-of-state status for admission, tuition, and charge-differential purposes.

## II. PROCEDURES

A. The date on which conditions for in-state classification must be met is the last published date to register for the forthcoming semester or session. In those instances where an entering class size is established and where an application deadline is stated, institutions may require that conditions for in-state classification must be satisfied as of the announced closing application date.
B. A change in status must be requested in writing by a student prior to the last published date of registration in order to be effective for the semester or session. A student applying for a change of in-state status must furnish appropriate documentation as required by the institution.
C. The student shall notify the institution in writing within fifteen (15) days of any change of circumstances which may alter in-state status.
D. In the event incomplete, false, or misleading information is presented, the institution may, at its discretion, revoke an assignment of in-state status, in addition to other disciplinary actions provided for by the institution's policy.
E. Each institution of the University of Maryland System shall develop and publish additional procedures to implement this policy. Procedures shall provide that on request the President or designee has the authority
to waive any residency requirement as set forth in IA and IB, if it is determined that the student is indeed a permanent resident and application of the criteria creates an unjust result. Such procedures must provide for appeal to the President or designee of any residency determination using a system-wide petition form. These procedures shall be filed with the office of the Chancellor.

## III. DEFINITIONS

A. Financially Dependent: For purposes of this policy, a financially dependent student is one who is claimed as a dependent for tax purposes, or who receives more than one-half or his or her support from a parent, legal guardian, or spouse during the twelve (12) month period immediately prior to the last published date for registration for the semester or session. If a student receives more than one-half of his or her support in the aggregate from a parent and/or legal guardian and/or spouse, the student shall be considered financially dependent on the person providing the greater amount of support.
B. Financially Independent: A financially independent student is one who (1) declares himself or herself to be financially independent as defined herein: (2) does not appear as a dependent on the Federal or State income tax return of any other person; (3) receives less than one-half of his or her support from any other person or persons; and (4) demonstrates that he or she provides through self-support one-half or more of his or her total expenses.
C. Parent: A parent may be a natural parent, or, if established by a court order recognized under the law of the State of Maryland, an adoptive parent.
D. Guardian: A guardian is a person so appointed by a court order recognized under the law of the State of Maryland.
E. Spouse: A spouse is a partner in a legally contract marriage.
F. Support: Except as set forth in (2) of this section, support shall mean financial or material support, including gifts, services, and trusts, including income or benefits derived from one's family. Support shall not include grants, stipends, awards, and benefits (including Federal and State student aid, grants, and loans) received for the purpose of education or by virtue of an individual's status or prospective status as a student. Such resources shall not be considered in calculating a student's financial dependence or independence.

## Financial Aid and Scholarships

The University is particularly sensitive to the financial needs of its student body. Operating on the premise that no student should be denied an education solely because of a lack of financial resources, the University's Office of Student Financial Aid renders assistance to as many students as possible in the form of employment, scholarships, grants, and student loans. Qualifying students may receive funds from one or more of the programs administered by the University and funded from federal, state, and institutional sources. Since student financial aid is not automatically renewed, students must re-apply each year in order to be considered for assistance.

Since it is the students who gain the benefits of a higher education, it is reasonable to expect students to contribute to the cost of their education to the fullest extent possible. For additional information, please contact the Office of Financial Aid at (410) 651-6172.

## How to Apply for Financial Assistance

There are essentially two types of financial assistance: need-based, which is determined by personal and/or family income levels, and merit scholarships, which are based on special achievements of the student rather than income.

Students applying for need-based financial assistance from federal, state, or institutional sources must submit the Free Application for Federal Student Aid (FAFSA) in order to qualify for the widest range of financial assistance. The Free Application for Federal Student Aid (FAFSA) should include the UMES school code (002106). The priority deadline is March 1 of each year for the upcoming fall semester. It is very important that all students seeking financial assistance contact the Office of Student Financial Aid and submit all necessary forms. Missing the priority deadline can seriously impact eligibility for financial assistance. Other information may be required on a case-by-case basis. If the Office of Student Financial Aid does not electronically receive information from the federal government, a hard copy of the Student Aid Report (SAR) must be submitted to the Office of Student Financial Aid.

## Scholarship Information

There are several types of scholarships, grants, loans, and other awards available to students at the University of Maryland Eastern Shore. Currently, more than 80 percent of all UMES students receive some degree of financial aid. Each type of aid has its own criteria, and award amounts vary from partial to complete financial aid. Scholarship and grant awards are funding sources that do not require repayment. Loans require repayment, usually at a reduced interest rate, and payments are usually deferred until six (6) months after graduation. Scholarships, grants and loans are offered through various offices, departments or areas. Offices with scholarships, grants and loans are listed below. Please use the respective web links to access a complete listing or contact the appropriate office.

Many scholarships, grants, loans, and other awards are available through the Office of Financial Aid. For further information, please contact the Office of Financial Aid at (410) 651-6172. Additional scholarship resources can be found at the following links:

- Financial Aid homepage: www.umes.edu/financialaid/
- Grants: www.umes.edu/financialaid/Default.aspx?id=6904
- Scholarships Resources: www.umes.edu/financialaid/Default.aspx?id=20942
- Institutional Scholarships: www.umes.edu/financialaid/Default.aspx?id=20960
- Loan program information: www.umes.edu/financialaid/Default.aspx?id=26524

Scholarships are offered through the Office of Institutional Advancement. For further information, please contact the Office of the Vice President at (410) 651-7773 or use the following link to access a list:
www.umes.edu/IA/Default.aspx?id=5106.

## Student Employment Opportunities

There are many opportunities available for students to work part-time on the UMES campus. Work schedules are centered around the student's class schedule for the semester, with a maximum of twenty (20) hours per workweek. Like scholarships, funding is generated from many sources; therefore, pay rates and procedures may vary.

College Workship Program: This is a state-funded program that employs students in various departments of the University. Student job opportunities depend on the availability of state funds. Hourly wage rates vary according
to job duties and department, but are at or above minimum wage. For additional information, please contact the Office of Human Resources at (410) 651-6400 or www.umes.edu.

Federal College Work-Study Program: This is a federally funded, need-based, program open to U.S. citizens or permanent residents who meet financial need guidelines and the priority deadline. Awards are based on need and availability of funds. Students are placed in on-campus departments. The rate of pay is at or slightly above minimum wage. If an award amount is granted students earn payment for work up to twenty (20) hours per week; however, most awards average seven (7) to ten (10) hours per week. For additional information, please contact the Office of Student Financial Aid at (410) 651-6172.

Resident Assistant Program: The Office of Residence Life regularly hires student assistants for the residence halls. This employment offers stipends that are deposited into the student's account with the University. Entrylevel payment equals approximately the housing cost each semester (this does not include meal costs). To qualify, a student must live in a residence hall for at least one semester and file a FAFSA. Selections are made by the Office of Residence Life. For additional information, please contact the Office of Residence Life at (410) 651-6144.

## Academic Information And Procedures

www.umes.edu/Academic/

Academic Clemency
It is the policy of UMES to allow undergraduate students returning to the campus after a separation of at least five years to petition for the removal of a limited number of unsatisfactory or failing grades earned previously at the Eastern Shore Campus. Contact your Department Chair immediately after being readmitted or reinstated since you must file your petition prior to the first day of classes of your first semester back on campus. To ensure prompt review of your petition, apply EARLY for readmission or reinstatement so that you will have ample time to select courses and register. Courses which are excluded will be identified on your transcript by the notation, "Academic Clemency."

Academic Honesty Policy for Graduate and Undergraduate Studies
Academic honesty and integrity lie at the heart of any educational enterprise. The University of Maryland Eastern Shore (UMES) is committed to the values of academic honesty and integrity, and ensuring that these values are reflected in behaviors of the students, faculty, and staff.

UMES is committed to the prevention of academic dishonesty. To reinforce that commitment, information, including definitions and examples of academic dishonesty, will be published in the UMES Student Handbook and the University catalog. The intention of this information is to prevent acts of academic dishonesty. Prevention is the primary goal of the University in general and the Division of Academic Affairs in particular.

When there is evidence that a student has disregarded the University's Academic Honesty Policy, that student will be subject to review and possible sanctions. Students are expected to do their own work and neither to give nor to receive assistance during quizzes, examinations, or other class exercises.

One form of academic dishonesty is plagiarism. Plagiarism is intellectual larceny: the theft of ideas or their manner of expression. Students are urged to consult individual faculty members when in doubt. Because faculty and students take academic honesty seriously, penalties for violation may be severe, depending upon the offense, as viewed by the committee selected by the appropriate Dean to review such matters. The minimum sanction for cases of proven cheating is failure of the course. Instructors will explain procedures for taking tests, writing
papers, and completing other course requirements so that students may understand fully their instructor's expectations.

One of the objectives of UMES is to promote the highest standards of professionalism among its students. The integrity of work performed is the cornerstone of professionalism. Acts of falsification, cheating, and plagiarism are acts of academic dishonesty, which show a failure of integrity and a violation of our educational objectives; these acts will not be accepted or tolerated. The following definitions and guidelines should be followed:

1. Falsification is unacceptable. Falsification includes but is not limited to
a. creating false records of academic achievement;
b. altering or forging records;
c. misusing, altering, forging, falsifying or transferring to another person, without proper authorization, any academic record;
d. conspiring or inducing others to forge or alter academic records.

## 2. Cheating is also unacceptable. Cheating includes but is not limited to

a. giving answers to others in a test situation without permission of the tester;
b. taking or receiving answers from others in a test situation without permission of the tester;
c. having possession of test materials without permission;
d. taking, giving, or receiving test materials prior to tests without permission;
e. having someone else take a test or complete one's assignment;
f. submitting as one's own work, work done by someone else;
g. permitting someone else to submit one's work under that person's name;
h. falsifying research data or other research material;
i. copying, with or without permission, any works, (e.g., essays, short stories, poems, etc.), from a computer hard drive or discs and presenting them as one's own.
3. Plagiarism as a form of cheating is also unacceptable. Plagiarism is the act of presenting as one's own creation works actually created by others. Plagiarism consists of
a. taking ideas from a source without clearly giving proper reference that identifies the original source of the ideas and distinguishes them from one's own;
b. quoting indirectly or paraphrasing material taken from a source without clearly giving proper reference that identifies the original source and distinguishes the paraphrased material from one's own compositions;
c. quoting directly or exactly copying material from a source without giving proper reference or otherwise presenting the copied material as one's own creation.

Acts of falsification, cheating, plagiarism and other forms of academic dishonesty are grounds for failure of a course. The University reserves the right to impose more severe penalties for any of these forms of academic dishonesty. The penalties may include, but are not limited to suspension from the University, probation, community service, expulsion from the University, or other disciplinary action the University believes to be appropriate.

## Procedures for Alleged Acts of Dishonesty

In accordance with existing policy in the University System of Maryland (USM), students accused of plagiarism and other forms of academic dishonesty will be given due process. When an instructor believes that a student has committed plagiarism or other acts of academic dishonesty, the following steps will be taken:

1. A faculty member who has sufficient reason to believe that a student is guilty of academic dishonesty will notify and subsequently meet with the student within ten calendar days from the time the alleged academic dishonesty is discovered.
2. Prior to the initial meeting of the faculty member and the accused student, the faculty member should check the files on academic dishonesty kept in the office of the Provost to determine whether the student has been previously disciplined for academic dishonesty. The University reserves the right to impose more severe disciplinary action against a student who is a repeat offender or who has previously been found guilty of egregious incidents of cheating.
3. At the initial meeting the student will be given the complete and detailed charges in writing, and an opportunity to respond to the faculty member regarding the charges.
4. If the student wishes, he/she may submit a written response to the charges. This response must be delivered to the aforementioned faculty member within five calendar days of the initial meeting.
5. If the student admits to the charge of academic dishonesty, and the offense is his/her first offense, he/she will be asked to sign a statement consenting to the punishment imposed. Consent statements will be filed with the appropriate records in the Office of the Provost. For first offenses, the punishment will be failure of the course.
a. If the case is a repeat offense, the faculty member is also required to send the matter forward to the next level of review.
b. The faculty member will notify the department chair and the Dean of his/her findings, and within five calendar days forward to the Dean a written explanation of the circumstances, along with copies of any pertinent evidence.
c. The Dean will review the explanation and any supporting evidence, and may, at his or her discretion, interview the accused student and/or the faculty member, for purposes of clarification and adherence to the University's Academic Honesty Policy.
d. The Dean will notify the Provost and Vice President for Academic Affairs of his/her findings and within five calendar days forward a written explanation of the circumstances, along with copies of any pertinent evidence.
e. The Provost and Vice President for Academic Affairs will review the explanation and any supporting evidence, and may, at his/her discretion, interview the accused student and/or faculty member, for purposes of clarification and adherence to the University's Academic Honesty Policy.
f. After the careful review by the Provost and Vice President for Academic Affairs has occurred, the final decision will be documented in writing, to the student, faculty member, department chair, dean and registrar.
g. If the student refuses to sign the consent form, the faculty member will proceed to the next step in the process.
6. The faculty member will notify the student whether or not the matter will be taken to the next step in the process within five calendar days of receiving from the student a written response to the charges. The student shall file his/her written response with the Office of the Provost.
7. If the student does not respond within the time indicated, the faculty member must proceed to the next step in the process. If, upon receiving the written response, the faculty member does not accept the student's explanation, the faculty member is required to send the matter forward to the next level of review.
a. If the case is not a repeat offense, and the student does not respond within the time indicated, the faculty member must proceed to the next step in the process.
b. If the case is not a repeat offense and upon receiving the written response the faculty member does not accept the student's explanation, the faculty member is required to send the matter forward to the next level of review.
8. Once the student has been duly notified of the charges, he/she will not be permitted to drop the course, but will continue as a student, completing and submitting all work required throughout the remainder of the semester.
9. The faculty member will notify the department chair and the Dean of his/her findings, and within five calendar days forward to the Dean a written explanation of the circumstances, along with copies of any pertinent evidence.
10. The Dean will review the explanation and any supporting evidence, and may, at his or her discretion, interview the accused student and/or the faculty member, for purposes of clarification and adherence to the University's Academic Honesty Policy. If the matter cannot be resolved at that level to the satisfaction of the faculty member bringing the charges, within five calendar days it will then be forwarded to the school's committee on academic dishonesty.
11. A five member committee on academic dishonesty will be appointed by the respective Dean of each school at the beginning of the academic year. It will be comprised of three full-time tenured faculty, one exempt employee of the University, and one junior or senior level student. In the event that the alleged dishonesty occurred on the graduate level, the student member will be a graduate student. The Dean will appoint the chair of the committee. In order for its actions to be official, at least three members of the committee must be present when decisions are made. The verdict will be decided by the majority, in this case two votes of three. If four or more members are present, the majority shall be three or more votes.
12. A faculty member, who has brought or is in the process of bringing charges against a student for academic dishonesty in the current academic year, will not be eligible to serve on the committee. The Dean will appoint a replacement.
13. The committee will meet to review cases and to hear any testimony it considers relevant to the matter on dates requested by the Dean. At the meeting, the student will be allowed the opportunity to appear and respond to the charges, and answer any additional questions from the committee. All proceedings will be tape recorded, and the recording will be entered into the academic dishonesty records maintained in the Office of the Provost. In the event of academic dishonesty allegedly occurring during summer sessions or during final work at the conclusion of a semester, the alleged dishonesty charge will be reviewed during the committee's first meeting in the fall. In the interim, the student will receive a grade of "I."
14. The committee review shall be informal, with neither party represented by an advocate. Witnesses may be asked and/or permitted to make a statement to the committee if the committee is informed prior to the meeting. The meeting shall not be open to the public. If the student wishes he or she may have an associate present for consultation purposes only. Lawyers, parents, or any form of professional advocate may not serve as an associate.
15. The committee shall meet privately at the close of the meeting to decide whether a majority believes a preponderance of evidence supports the allegation of falsification, cheating or plagiarism.
16. If the allegation is sustained, the committee will also determine whether the standard minimum penalty of failure in the course shall be accompanied by an additional penalty or penalties. If the allegation is not sustained, the student is not guilty of violating the Academic Honesty Policy.
17. The records of the proceedings, both written and electronically recorded, are to be kept in the files on academic dishonesty maintained in Office of the Provost.
18. The committee shall notify, in writing, the student, the instructor, and the Dean within ten calendar days of having reached its decision. The decisions of the committee may be appealed on procedural grounds only. All appeals should be made to the Provost and Vice President for Academic Affairs, who will then have the following options:
a. affirm the decision and the penalty imposed by the committee;
b. affirm the decision, but amend the penalty; or
c. vacate the decision and order a new hearing with a different committee.

After a careful review of the record of the proceedings, the Provost and Vice President for Academic Affairs will render the final decision of the University.

Academic Dismissal and Reinstatement
When a student is academically dismissed from UMES, he/she is not eligible to register with any campus or program of the University System of Maryland. To become eligible for registration once again, he/she must complete and file the Application for Reinstatement. For students who have sat out a semester or more and not currently enrolled, applications should be received by the following deadlines:

## Fall Semester

April 1 ${ }^{\text {st }}$ Students who have been out one or more semesters and want to return for the Fall Semester.
June 15 ${ }^{\text {th }}$ Current semester students on dismissal at the end of the Spring Semester and want to return for the Fall Semester.

## Spring Semester

November $1^{\text {st }}$ Students who have been out one or more semesters and want to return for the Spring Semester.
January 5 ${ }^{\text {th }} \quad$ Current semester students on dismissal at the end of the Fall Semester and want to return for the Spring Semester.

Applications received after the deadline indicated above will be considered for the next session. Applications may be obtained online at www.umes.edu/registrar or by writing to the Office of the Registrar, Student Development and Cultural Center, University of Maryland Eastern Shore, Princess Anne, Maryland 21853.

Deadlines for reinstatement applications will be indicated within the dismissal letter for currently enrolled students who are placed on dismissal at the end of a semester.

A student wishing to transfer to another program at UMES must wait until reinstatement has been granted before applying for admission to that program. The UMES Academic Dismissal and Reinstatement Appeals Committee will not normally grant reinstatement until at least one semester has elapsed from the time of the student's dismissal.

A student who is reinstated after academic dismissal will be on academic probation. The same conditions of probation may be imposed on any student who seeks admission by transfer from another university or college and whose record at the previous school warrants this action.

Any appeal concerning the regulations governing academic probation or academic dismissal shall be directed to the University's Academic Dismissal and Reinstatement Appeals Committee, which is empowered to grant relief in unusual cases if the circumstances warrant such action.

No student on academic probation is permitted to register for more than thirteen (13) semester hours. The student on academic probation should carry twelve (12) academic semester hours in order to absolve academic probation in one semester. Students on probation are urged to work with a faculty advisor before registering in order to take full advantage of the exceptions and special provisions.

## Classification

Class standing for purposes of taking upper level courses, voting in S.G.A. elections, selective service reports, etc., is determined on the following scale:

| Earned Credit Hours | Level |
| :---: | :---: |
| $0-27$ | Freshman |
| $28-55$ | Sophomore |
| $56-83$ | Junior |
| 84 and above | Senior |

Students should complete the general education courses and earn 56 academic hours before they enroll in upper level courses.

Academic Standing

## Good Academic Standing

Students are considered to be in good academic standing and performing satisfactorily at UMES if their cumulative GPA is at least 2.0.

| Unsatisfactory Performance <br> Total Hours <br> AttemptedAcademic Dismissal If Cum. <br> GPA is |  |  |  | Academic Probation If Cum. GPA is in <br> the range |
| :---: | :---: | :---: | :---: | :---: |
| $1-24$ | 1.549 or below | 1.550 to 1.999 |  |  |
| $25-48$ | 1.699 or below | 1.700 to 1.999 |  |  |
| $49-73$ | 1.799 or below | 1.800 to 1.999 |  |  |
| 74 and above | 1.949 or below | 1.950 to 1.999 |  |  |

All credit hours transferred to UMES are included in the Total Hours Attempted in the first column of the above table when determining the category of academic performance. The cumulative GPA is computed by using

- the number of credit hours attempted at UMES and corresponding grades earned, and
- the credit hours attempted elsewhere within the University System of Maryland and the corresponding grades earned, when the grades also transfer to UMES. If the grades do not transfer, the hours are not used in computing the GPA.


## Academic Probation

Any student will be placed on academic probation if he/she

1. fails to maintain the cumulative grade point average consistent with the number of credit hours attempted, or
2. has been reinstated to the University following academic dismissal.

Students on academic probation are restricted to no more than thirteen (13) credit hours per semester and are required to repeat all courses in which deficiencies have been received, as scheduling allows.

Students on academic probation are required to participate in prescribed academic crises intervention programs and activities provided by the major department and/or UMES Center for Access and Academic Success.

Students must abide by ALL regulations during the entire period of academic probation.

## Academic Dismissal

Students matriculating as first time freshmen will not be academically dismissed at the end of their first semester regardless of cumulative grade point average or number of credit hours earned. Beginning with their second semester, such students will be subject to the standards given in the table above.

A student, other than a first semester freshman, will be academically dismissed if he/she

1. fails to maintain the cumulative grade point average consistent with the number of credits attempted, or
2. falls in the category of Academic Probation for two consecutive semesters.

A student who has been academically dismissed and who is reinstated will still be subject to the standards set forth in the table above. For example, a student will be academically dismissed again at the end of the first semester after reinstatement if he/she remains in the Academic Dismissal category.

Alleged Arbitrary and Capricious Grading (Procedures for Review - Campus Policy \#III-1.20 (A) 1-1-92)

## A. Definitions

1. "Arbitrary and Capricious Grading:"
a. The assignment of a course grade to a student on some basis other than performance in the course, or
b. The assignment of a course grade to a student by unreasonable application of standards different from standards that were applied to other students that were in that course, or
c. The assignment of a course grade by a substantial and unreasonable departure from the instructor's initially articulated standards.
2. "Student" refers to any individual registered and in attendance at UMES, and includes both undergraduate and graduate levels.
3. "Instructor" Instructor refers to any tenured or non-tenured teacher or any Graduate Assistant teaching a course and assigning grades at UMES.
4. "Day to Day" Refers to the normal working day at UMES.

## B. Informal Procedures

5. A student who believes he or she has received an improper final grade in a course should inform the instructor promptly. The instructor shall meet with the student at a mutually convenient time and place within ten days of receipt of the information. The purpose of the meeting is to attempt to reach a resolution.
6. If the instructor has left the University, is on approved leave, or cannot be reached by the student, the student should contact the Department Chairperson. The Department Chairperson, or a designee, shall meet with the student as described above to solve the problem.

## C. Formal Appeal

A formal appeal is available only upon a showing that the informal process has been exhausted.

## 7. General Requirements

a. An appeal must be made in writing, addressed to the appropriate dean, and contain the following: the course title and number, the instructor's name, a statement detailing why the grade is believed to be arbitrary and capricious as defined in this policy, and all relevant supporting evidence.
b. An appeal must be received in the Dean's Office within 20 (twenty) days of the first day of instruction of the next semester (excluding summer).
8. Procedures
a. Each school shall have a standing committee of two tenured professors and one senior level student for the undergraduate school or graduate student for the graduate school to hear appeals of arbitrary and capricious grading. The appeal shall be heard within the academic unit offering the course. If the instructor of the course is a member of the committee, that instructor shall be replaced by an alternate designated by the dean.
b. Each written appeal is to be reviewed by the entire committee for a decision by the majority. The committee shall either dismiss the appeal or move it forward.
c. Grounds for dismissal: The student has submitted the same complaint to any other grievance procedure; the allegations, if true, would not constitute arbitrary and capricious grading; the appeal was not timely, or the informal process has not been exhausted.
d. If the appeal is dismissed, the committee shall notify the student in writing within ten days of the decision, and include the reason or reasons for the dismissal.
e. If the appeal is not dismissed, the committee shall submit a copy of the appeal to the instructor. The instructor must reply in writing to the committee within ten days.
f. If, based on the instructor's reply, the committee feels there is a viable solution, that solution should be pursued with the student and the instructor.
g. If no solution is reached, a fact-finding meeting with the student and the instructor shall be held promptly. It is to be non-adversarial and informal with neither party represented by an advocate. Witnesses may be asked to make a statement to the committee if the committee is informed prior to the meeting. The meeting shall not be open to the public.
h. The committee shall meet privately at the close of the fact-finding meeting to decide whether a majority believes the evidence supports the allegation of arbitrary and capricious grading beyond a reasonable doubt.
i. The committee shall notify the student, the instructor, and the Dean in writing of the decision within five days of the meeting.

## D. Authority of the Committee

9. The committee has the authority to take any action it believes will bring about substantial justice, including but not limited to:
a. directing the professor to grade the student's work anew;
b. directing the instructor to administer a new final exam or paper;
c. directing the cancellation of the student's registration in a course;
d. directing the award of a grade of "pass" in the course.
10. The committee does not have the authority to
a. assign a letter grade for the course, or
b. reprimand or take disciplinary action against the instructor.
11. The decision of the committee is final and binding on both parties. The decision may not be appealed to any other body with UMES or the University System of Maryland.

## E. Implementation

The Dean shall be responsible for implementing the decision of the committee.

## Alternative Credits

All undergraduate students who enroll in degree programs are encouraged to complete 12 alternative credits before graduating. Alternative credits can be earned by completing internships, summer and winter session courses, on-line courses, independent study, undergraduate research, credit by examination, and courses completed while studying abroad.

## USM Policy on Alternative Credit: University System of Maryland Policy on Alternative Means of Earning Academic Degree Credit

## www.usmd.edu/regents/bylaws/SectionIII/III801.html

## Catalog Governing Graduation Requirements

It is the policy and practice of the University of Maryland Eastern Shore that all participants in its graduation exercises must have completed all academic requirements as outlined in the catalog in effect at the time of initial enrollment at the University as a degree-seeking student.

Once a non-degree-seeking student declares a major, he or she must fulfill the requirements of the catalog in effect at the time they become degree-seeking. Or, the student may choose to meet requirements of the catalog in effect at the time of their initial enrollment at UMES as long as their initial enrollment and the date they become a degree-seeking student does not exceed five years, and provided that the student indicates this choice at that time by filing an application for catalog change with the Office of the Registrar.

Students transferring from Maryland colleges and universities are expected to fulfill graduation requirements under the catalog in effect at the time of initial enrollment at UMES. Or, the student may choose to fulfill requirements under the catalog in effect at the time of initial enrollment at the other Maryland institution provided the student indicates this choice at the time of initial enrollment at UMES by filing an application for catalog change with the Office of the Registrar.

Students transferring from colleges and universities outside of Maryland are required to fulfill graduation requirements under the catalog in effect at the time of initial enrollment at UMES.

The following applies to the provisions stated above:
If the University changes a program in a way that prevents the student from meeting any graduation requirement as stated in their catalog, the change may necessitate substitutions but will not result in any increase in the student's requirements.

Substitutions for any graduation requirement must be approved by the student's department chair and dean by filing the course substitution form with the Office of the Registrar.

If a major program undergoes revision after the year in which a student enrolls, the student may choose to substitute the new requirements in full for those which appear in the catalog of the student's initial enrollment.

The student must indicate his or her choice to follow the new requirements by filing the application for catalog change with the Office of the Registrar no later than one semester after the program revisions are in effect.

A student may complete the Permission to Change University Catalog form, found on the Academic Affairs forms page at www.umes.edu/Academic/index.aspx?id=26134. The request must be approved by the academic advisor, the department chair, and the dean.

## Graduation with Latin Honors

The faculty of UMES may recommend candidates for graduation with honors in a particular curriculum under the conditions listed below. To be considered for Latin honors, a student must have earned in residence at UMES a minimum of 60 semester hours upon graduation.
a) For the honor of Cum Laude (with distinction), the student must have earned a grade point average of not less than 3.3 in all courses pursued which are counted toward graduation.
b) For the honor of Magna Cum Laude (with great distinction), constituting a recognition of work of exceptional merit, a student must have earned a grade point average of not less than 3.5 in all courses pursued.

For the honor of Summa Cum Laude (with highest distinction), constituting a recognition of work of superior merit, a student must have earned a grade point average of not less than 3.7 in all courses pursued.

## Commencement

Commencement is held three times a year, the third Friday in December and May, and in September for the Doctor of Physical Therapy students only. Students who do not graduate as expected must reapply for graduation in order to have their degree conferred in a future Commencement Exercise.

## Participation in Commencement

It is the policy and practice of the University of Maryland Eastern Shore that all participants in its commencement exercises must have completed all academic requirements as presented in the catalog in effect at the time of initial enrollment at the University as a degree-seeking student and approved by the degree-granting department. Once a student interrupts his/her program for five years or more, it will be necessary to satisfy the degree requirements as outlined in the University catalog or published curriculum in effect at the time of re-enrollment as a degreeseeking candidate. A student who has an approved registration at another institution during the semester of anticipated graduation will receive his/her degree once an official transcript is received by the Registrar's Office and all academic and financial obligations are met. Each student is approved for graduation when the appropriate academic department, school, and the Office of the Registrar complete an official graduation audit.

## Application for Degree

## Winter Commencement

Students planning to graduate in December must complete their academic program requirements by the end of the fall semester. Students who expect to complete the degree requirements at the end of the fall semester should apply for graduation during the period designated on the Academic Calendar. Refer to the Academic Calendar for the deadline to apply for Winter Commencement. Students who do not graduate as expected must reapply for graduation in order for the degree to be conferred.

## Spring Commencement

Students planning to graduate in May must complete their academic program requirements by the end of the spring semester. Students who expect to complete the degree requirements at the end of the spring semester should apply for graduation during the period designated on the Academic Calendar. Refer to the Academic Calendar for the deadline to apply for Spring Commencement. Students who do not graduate as expected must reapply for graduation in order for the degree to be conferred.

## Summer Commencement - Physical Therapy Students Only

Students planning to graduate in September must complete their academic program requirements by the end of the summer session. Students who expect to complete the degree requirements at the end of the summer should file an application for degree during the time period designated. The deadline to apply for Summer Commencement is July 15. If this date falls on the weekend, the deadline will be the following Monday. Students who do not graduate as expected must reapply for graduation in order for the degree to be conferred.

## Other

All students will be charged a non-refundable diploma fee each semester the application for degree is filed. This fee and all financial obligations to the University must be satisfied in order to participate in commencement activities and prior to the release of the degree.

## For additional information, contact the Office of the Registrar at (410) 651-6413.

## Diploma Names

Your name will appear on your graduation diploma as it appears in your official student record. If you have legally changed your name due to adoption, court order, or a change in your marital status and you want to change how your name will appear on your diploma, please follow the procedures outlined below. Following this process will ensure that your name as it is printed on the diploma and in the Commencement Program is correct.

ALL name changes must occur no later than the end of the ADD Period of any semester. Check the Academic Calendar to identify the last day to ADD for a particular semester.

1. Take all pertinent documents showing the legal name change (i.e., driver's license, birth certificate, court order, marriage certificate, divorce decree, social security card, etc.) to the appropriate admissions office (see the list below).
2. Complete the Change of Name form and submit to the appropriate office.
3. Affix the new name on the Application for Degree only if it has been officially changed by the appropriate office.
4. If your application for degree was submitted prior to the name change, contact the Office of the Registrar immediately.

| Career | Office and Location |
| :---: | :---: |
| Undergraduate | Office of Admissions \& Recruitment <br> 1st Floor Suite 1140 <br> Student Development Center <br> (410) 651-7921 |
| Graduate | Office of Graduate Studies <br> Early Childhood Center <br> (410) 651-6507 |
| Professional (Pharmacy) | Office of Student Affairs <br> 116 Somerset Hall <br> (410) 651-2292 |

## Class Attendance

1. The University expects all students to take full individual responsibility for their academic work and progress. All students must meet the qualitative and quantitative requirements of each course in their curricula to progress satisfactorily. They are expected to attend classes regularly, for consistent attendance offers the most effective opportunity open to all students to gain command of the concepts and materials of their courses of
study. Absences (whether excused or unexcused) do not alter what is expected of students qualitatively and quantitatively.
2. In many courses, such as those requiring group discussion, laboratories, clinics, public speaking or language conversation, or performance of particular skills, in-class participation is an essential part of the work of the course. In other courses, occasional in-class assessments may occur without prior notice.
3. The University will excuse the absences of students that result from instances such as: illness (where the student is too ill to attend class), death in the immediate family (family members are defined as being one or more of the following persons: father, stepfather, grandfather, or legal guardian, mother, stepmother, grandmother, sister, brother, stepsister, stepbrother, any person living as an integral member of a student's home), religious observance (where the nature of the observance prevents the student from being present during the class period), participation in University activities at the request of University authorities, and compelling circumstances beyond the student's control. Students requesting excused absences must furnish acceptable documentation to their course instructors to support their assertion that absences were the result of one of these causes. However, the nature of some courses will preclude makeup of assessments missed. In these cases, students will not be penalized for excused absences; grades will be computed on actual assessment as explained in the course's syllabus. Otherwise, students with excused absences will be given an opportunity to make up missed assessments. The responsibility for granting excused absences and determining which assessments can be made up lies with the instructor of each individual course. Absences (whether excused or unexcused) do not relieve the students of their responsibility to complete the course assessments. Instructors are especially understanding in cases related to health and/or death, provided the student provides proper documentation.
4. Students must notify their instructors of the reason for any absence as soon as possible. Where the reason for an absence from a scheduled assessment is known in advance (for example, in cases of religious observance or participation in University activities at the request of University authorities), students must inform their instructors two weeks prior to the absence, if known that far in advance, or immediately upon discovering the impending absence. Prior notification is particularly important in connection with examinations and other major assessments, since failure to reschedule them before conclusion of the final examination period may result in loss of credits during the semester. When the reason is not known in advance (for example, in cases of health related emergencies or compelling circumstances beyond their control), students must inform their instructors as soon as possible after its development.
5. Each department and school may develop a general policy for class attendance as long as it conforms to this UMES Policy for Class Attendance.
6. Each instructor is responsible for distributing to each student a written statement as part of the course syllabus at the beginning of the semester in order to inform each class of the nature of in-class participation and assessments expected and what effect absences will have on the evaluation of the student's work in the course. This statement must include any department and school policies, which are applicable to the course. The instructor in accordance with this statement, the general policy of his or her department and school, and this UMES Policy for Class Attendance shall handle absences.
7. In cases of dispute, the student may appeal to the chair of the department offering the course within one week from the date of the refusal of the right to a make-up assignment. In those instances where the instructor is the chair, the appeal may be made to the dean. The dean's decision will be final in all cases. When permitted, a makeup assessment must be given on campus unless the published schedule or course description requires other arrangements. The makeup assessment must be held at a time and place mutually agreeable to the instructor and student. The makeup assessment must not interfere with the student's regularly scheduled classes. In the event that a group of students requires the same make-up assessment, one make-up assessment
time may be scheduled at the convenience of the instructor and the largest possible number of students involved, and a second make up for the remaining group.
8. All students are expected to attend all classes. Excessive unexcused absences for any reason may result in either a low grade or course failure. All students will be considered excessively absent from a class if they miss a class more hours during the semester or term than the class meets each week. For example a student should not miss (unexcused absence) a class that meets three hours per week more than three hours during the semester or term nor be absent from a class that meets one hour per week more than once during the semester or term. At the beginning of each semester or term, the class instructor will distribute this written policy and other relevant information as part of the course syllabus, regarding his/her expectations on absenteeism, attendance, warnings, requests for withdrawal, and make-up privileges.
9. Instructors are to document students' class attendance through the process of taking and maintaining daily attendance during each semester.

## Procedures for Student Absences

Although the University does not encourage constant absence from class, it is aware that situations may arise when a student will not be able to attend class for one or more reasons (i.e., death, illness, etc.). It is the responsibility of the student to inform the department of his/her major, if the student is unable to attend class. Once this information has been received from the student, the departmental office is to notify the faculty of all courses of which the student is enrolled of the student's absence. It will be the responsibility of the student and faculty to decide on how the missed assignments are to be handled. Upon the student's return, he/she must provide documentation to the departmental office.

If a student decides not to return to the University, then the student should refer to the policy on Withdrawal from the University. A form is required to complete this process.

Change of Grades
Grades that have been submitted to the Office of the Registrar can be changed only by submitting the official change of grade form certifying that either an error was made in recording the grade, the grade was omitted on the official grade roster, or work has been completed to remove the grade of 'I.' Courses in which students officially withdraw and the grade of ' $W$ ' has been recorded do not qualify for the change of grade process.

Grade changes must be initiated by the instructor on the required change of grade form available in the Office of the Registrar. Such petitions require the approval of the department head and the dean of the instructor's school before the Registrar will make changes on the student's record.

Any grade change must be received in the Office of the Registrar no later than 60 calendar days immediately following the beginning of classes in the semester succeeding the one in which the grade was given or omitted. For a winter term, the changes are due in the Office of the Registrar no later than 60 calendar days immediately following the beginning of classes in the succeeding Spring semester. For a summer term, the changes are due in the Office of the Registrar no later than 60 calendar days immediately following the beginning of classes in the succeeding Fall semester. If a student is not enrolled in the succeeding semester, then the grade change is due 60 calendar days following the beginning of classes in the next regular semester.

For courses in which the grade of 'I' (Incomplete) has been awarded, the work must be completed and the terminal grade must be submitted by the end of the next semester of enrollment, otherwise the "I" becomes "W."

Credit towards the bachelor's degree may be established by examination under the conditions below. For further information, please contact the Office of the Registrar at (410) 651-6414.

1. The applicant must have completed at least 12 semester credits at UMES with an average grade of " C " or better before making application for an examination to establish credit. The Department Chair and Dean may waive this regulation for entering freshmen who wish to pursue the examination to establish credit based on previous training.
2. The total number of credits that may be established by examination cannot exceed 60 semester credits. "Credit by Examination" cannot be used for a course in which the student has previously earned a letter grade (A, B, C, D, or F); or in which the student received a W or an "I" grade. Additionally, credit by examination cannot be awarded for a course which was audited during a previous semester. Usually credit by examination will not be accepted for any part of the final thirty (30) semester credits which must be completed in residence. However, if permission is granted by the Provost and Vice President for Academic Affairs, six (6) semester hours of the final thirty (30) may be established by examination. However, in no case does this permission waive the minimum residence requirement of 30 semester credits.
3. The fee for credit by examination is $\$ 30.00$ per semester credit hour for full-time students. A grade of " C " or higher must be obtained in order to establish credit by examination.
4. Applications to establish credit by examination must be approved on an individual course basis. Approval will not be granted at the same time for examinations in a sequence of courses. Approval to take an examination in any course will depend upon the student having established credit in all prerequisites or having received the approval of the Department Chair, the Dean and the Provost and Vice President for Academic Affairs. Application for credit by examination is equivalent to registration for a course with the following conditions:
a. A student may cancel an application at any time prior to completion of the examination with no entry on the permanent record. The examination instructor will make the results of the examination available to the student prior to formal submission of the grade. A student may elect not to have the grade recorded. In this case, a symbol of " W " will be recorded. No course may be attempted again in this manner.
b. Grades earned on examination to establish credit will be posted on the student's transcript and used in computing the student's grade point average. Such credits shall be accompanied by the phrase, "Test Credit," "By Exam" or "By CLEP," whichever is applicable.
c. The instructor must certify on the report of the examination that copies of the examination questions and the student's answers have been filed in the Office of the Registrar.
d. Part-time or special students are not eligible to establish credit by examination.

Note: Students are advised that UMCP and UMBC and many other institutions will not accept transfer credits taken through this process.

## Class Delivery

The University of Maryland Eastern Shore publicly discloses the mode of class delivery for all courses offered. This information can be found in the University catalog under Types of Class Delivery, online in the Schedule of Classes published each semester, and in our student administration system - PeopleSoft/HawkWeb within the enrollment and catalog components. The mode of class delivery at UMES includes: Assessment, Clinical, Discussion, Hybrid, Independent Study, Internship, IVN/Direct TV, Laboratory, Lecture, Online, Practicum, Research, Seminar, Studio, Tutorial, Web, and Workshop.

Types of Class Delivery

| Course Type/Component | Instruction Mode | Attendance Type |
| :---: | :---: | :---: |
| - Clinical | In Person/Field Study | Class Meeting/Conference |
| - Hybrid | Lecture/Online | Class Meeting/Online |
| - Independent Study | Instructor Consultation | Instructor Consult |
| - Internship | Field Study | Conference |
| - Laboratory | In Person | Class Meeting |
| - Lecture/ Discussion | In Person | Class Meeting |
| - Online | Online | Online |
| - Practicum | Field Study | Conference |
| - Research | In Person/Field Study | Class Meeting/Conference |
| - Seminar | In Person | Class Meeting |
| - Studio | In Person | Class Meeting |
| - Tutorial | In Person | Class Meeting |
| - Workshop | In Person | Class Meeting |

## Distance Education Policy

To ensure compliance with Section 495 of the Higher Education Opportunity Act Distance Education and Correspondence Education Policy, the University of Maryland Eastern Shore has specific measures in place. For a detailed explanation of the measures, please see Appendix 2.

## Credit Unit and Load

The semester hour, the unit of credit, is the equivalent of a subject pursued one 50 -minute period a week for approximately $14-15$ weeks. Two or three periods of laboratory are required for each credit hour in any course. In order for students to complete most curricula in four calendar years, their semester credit load must average 15 credits each semester or 30 hours each year toward their degree. Students are not allowed to register for courses in which a conflict will be created.

A student registering for more than 18 hours per semester must have special approval from the Provost and Vice President for Academic Affairs. Students having a cumulative grade point average of 3.0 or above must complete a Request for Additional Credit Unit Load in consultation with the Department Chair. The Department Chair will forward the request to the Dean who will request permission from the Vice President for the student to register for more than 18 semester hours. The Office of the Registrar will not accept the Registration Schedule if an overload of credit hours is requested without such approval. The request for more than 18 credits should be completed during the Academic Advising period. Established dates for Academic Advising are posted on the Academic Calendar. Under no circumstances will a student be allowed to carry more than 21 credit hours per semester. Semester hour credit may be converted to quarter hour credit by dividing by two-thirds.

## Disruptive Behavior in Academic and Social Settings

Students, faculty, and staff each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to behavioral standards established by the University of Maryland Eastern Shore may be subject to conduct intervention as documented in the University Of Maryland Eastern Shore Student Code Of Conduct.

Faculty and staff have the professional responsibility to set reasonable standards and behavioral expectations for their classrooms and campus facilities, and have the obligation to take the appropriate course of action when student behavior substantially interferes with their ability to execute their assigned duties.

Disruptive behavior is defined as conduct by a student that negatively impacts the University community. This behavior detracts from any student's ability to benefit from an environment that is conducive to academic, spiritual, emotional, and social growth. The University of Maryland Eastern Shore considers disruptive behavior to be inclusive of, but not limited to, speech or actions which: 1) are disrespectful, offensive, and/or threatening; 2) interfere with the learning and or social activities of other students; 3) impede the delivery of University services, and/or 4) have a negative impact in any learning environment - including department and staff; offices, the Library, the Computing Center, the Learning Assistance Centers, labs, clinical sites, services learning sites, classrooms, and residential facilities, etc. (See Student Code of Conduct). Disruptive students in the academic setting hinder the educational process. The purpose of this statement is to clarify what constitutes disruptive behavior in academic and social settings; what actions faculty, staff, and the Office of the Associate Vice President for Student Affairs and Enrollment Management may take in response to disruptive conduct; and the authority of University officials to initiate disciplinary proceedings against students for disruptive conduct.

Disruption, applied within the academic setting, means behavior that a reasonable faculty or staff member would view as interfering with normal university functions. Examples include, but are not limited to: persistently speaking without being recognized or interrupting other speakers; behavior that distracts the class from the subject matter or discussion (i.e. use of cell phone); or in extreme cases, physical threats, harassing behavior or personal insults, or refusal to comply with directions given by members of the faculty or staff.

Civil expression of disagreement with the course instructor, during times when the instructor permits discussion, is not in itself disruptive behavior and is not prohibited.

Some disruptive students may have emotional or mental disorders. Although such students may be considered disabled and are protected under the Rehabilitation Act/ADA, they are held to the same standards of conduct as any other student.

## Policy Statement

- Students are required to adhere to the behavior standards listed in the University Of Maryland Eastern Shore Student Code Of Conduct and to refrain from disrupting classes, university settings or sponsored events.
- If a student is disruptive, the faculty/staff member and/or the relevant chair's office may ask the student to stop the disruptive behavior and warn the student that such disruptive behavior can result in academic or disciplinary action.
- Faculty/staff members are authorized to ask a student to leave a classroom or other facility, if they deem it necessary. If the faculty/staff member does this, $\mathrm{s} /$ he shall file an Incident Report with the Conduct Administrator, the Office of the Associate Vice President for Student Affairs and Enrollment Management, and the Department Chair or Director within 24 hours. The incident report should contain the name of the student, a full detailed description of the behavior, location, date, and time of the incident, including the response, involvement and role of the faculty/staff member involved, as well as the names of witnesses. The Conduct Administrator shall provide the student with a copy of the report.
- Faculty/staff members may also exclude a student from the classrooms or other facility pending resolution of the matter by: (1) informing the student of the exclusion, (2) informing the student of his/her rights to request an expedited review of the exclusion, and (3) immediately referring the matter to the Conduct Administrator by submitting the Incident Report, and by informing the relevant departmental chair, the Office of the Associate Vice President for Student Affairs and Enrollment Management/Conduct Administrator. If such exclusion occurs, and if the student requests a review, the Conduct Administrator shall review the exclusion within five business days of the date the student requests the review.
- Nothing in this policy prohibits an immediate call to the University of Maryland Eastern Shore Office of Public Safety (Police Department), or referral of the matter to another policy office, as determined to be appropriate by the classroom instructor or staff member.


## Possible Sanctions

Authority of Instructor and Relevant Assistant/Associate Vice President for Student Affairs and Enrollment Management:

- Warning
- Exclusion from the instructor's classroom or academic area, pending expedited review by the Conduct Administrator
- Academic sanction, if course participation is a component of the final grade and is indicated in the course syllabus

Authority of the Conduct Administrator/Conduct Board

- Warning
- Educational Sanctions, such as class, papers or community service
- Disciplinary Probation
- Suspension
- Expulsion
- Exclusion from any part of or all of campus

Authority of the Vice Presidents or Assistant/Associate Vice Presidents

- Summary Suspension
- Exclusion from any part of or all of campus


## Documentation

Instructors should be aware that notes of the dates, times, witnesses and details of the incidents of disruption, and the impact of the disruption on those present, may be important in any future proceedings which may be necessary. Referrals to the Conduct Administrator require written documentation containing factual and descriptive information. The student is entitled to see this documentation.

## Disruptive Classroom Incident Report

The Disruptive Classroom Incident Report shall contain the following information:

- Date of Report:
- Student's Name:
- ID\#:
- Instructor's Name:
- Instructor's Phone Number:
- Instructor's E-Mail:
- Title of Course, Course Number and Section:
- Date/Time/Location of Incident:
- A detailed summary of the incident, including a description of the disruptive behavior:
- Witnesses:
- Action, if any, taken by the instructor (e.g. student warned, asked to leave the class, etc.):
- Recommended course of action and reasons for this recommendation?
- Instructor's Signature:


## English Proficiency Exam

The English Proficiency Examination (EPE) is a two-hour examination required by the University of Maryland Eastern Shore to meet a University System of Maryland (USM) requirement to assure that all undergraduate students are able to write at an acceptable level. In order to graduate, every student who enrolls at the University for the first time, beginning fall 1998, must pass the English Proficiency Examination. No student will be exempt. Subsequently, students are eligible to take the examination only after successful completion of English 101 and ENGL 102 or have current registration in ENGL 102.

## Final Examinations

A final examination shall be given in every course. Exceptions may be made with approval of the Department Chairperson and Dean. Normally the final examination, additional tests, quizzes, term papers, and reports are used to determine a student's comprehension of a course. The order of procedure in these matters is left to the discretion of the department and should be announced to the class at the beginning of the course. All final examinations must be held in conformity with the Official Final Examination Schedule. No final examination shall be given at a time other than that scheduled in the Official Examination Schedule without approval from the Provost and Vice President for Academic Affairs. The Department Chairperson and Dean must keep a file of all final examinations.

## Grades and Quality Points

The academic achievement of a student for a specific course is rated as follows:

| Letter Grade | Percentage | Quality Points Per Hour |
| :---: | :---: | :---: |
| A | $90-100$ | 4.0 |
| B | $80-89$ | 3.0 |
| C | $70-79$ | 2.0 |
| D | $60-69$ | 1.0 |
| F | below 60 | 0.0 |

Any deviation from the above grading scale must be included as part of the course syllabus distributed by the faculty member at the beginning of each semester.

Students must earn a grade of "C" or better in major and minor courses. All students must also earn at least a "C" or better in English 101 and 102 and MATH 101. All Teacher Education majors must earn a "C" or better in Teaching Internship. Grades of "D" in major and minor courses, English 101 and 102 or Teaching Internship do not count toward fulfilling the requirements for a degree.

In certain specified courses, the grading system involves only Pass or Fail ("P" or "F"), Satisfactory or Unsatisfactory ("S"/"U").

## Grade Point Average

To compute the grade point average (GPA), the number of credits for each course is multiplied by the quality points of the corresponding grade. The total number of quality points is divided by the total number of credits earned to obtain the grade point average for the semester. The cumulative grade point average is computed in a similar manner by including all courses earned at the University of Maryland. Courses transferred from other institutions are not included in the grade point average.

## Incomplete Grades

The grade of "I" (incomplete) is to be given only to students whose work in a course has been qualitatively satisfactory, when because of illness, or other circumstances beyond their control, they have been unable to complete the requirements for the course. In no case will the grade of "I" be recorded for a student who has not completed satisfactorily the major portion of the course work. In cases in which this grade is given, the student may not re-register for the course until the "I" is removed by completing work assigned by the instructor. Work must be completed and the terminal grade must be submitted by the end of the next semester of enrollment, otherwise the "I" becomes "W."

When a student receives a terminal grade, he may repeat the course, as provided for any course where repeats are authorized. The student's Department Chairperson and Dean may grant exception to the time period cited above on a written request by the student if circumstances warrant further delay. An "I" cannot be removed by earning "credit by examination."

In the computation of the cumulative grade point average, the course hours in which the grade of "I" is assigned are not included as hours attempted. When the grade of "I" is removed, the course hours are then included as hours attempted, and the Office of the Registrar makes an appropriate entry in the cumulative grade point average.

## Other Methods of Earning Credits

UMES grants college credit for non-traditional learning experiences, either from credit by examination, or a combination of examination, and credits earned on a Satisfactory/Unsatisfactory basis.

## Accepted Sources of Credit

Elective and Required credit is available for the following:

- ACE Non-Collegiate Courses
- Advanced Placement (AP)*
- CLEP*
- DANTES*
- International Baccalaureate (IB)
- Military Credit*

Complete information is available from the Office of Admissions and the Office of the Registrar.

## Registration

In order to attend classes at UMES, all students must officially enroll through HawkWeb, the online student administration system. Dates for course selection and enrollment are listed in the Academic Calendar for each semester or session.

Entering freshmen and transfer students will be registered for their first semester's courses during Enrollment 101 scheduled for each semester. Dates for Enrollment 101 are communicated to students from the Office of Admissions after a student has been admitted. Students are not permitted to attend a class if his or her name does not appear on the official class roster.

## Adding a Class

Students who are properly registered may add courses during the Add Period published in the Academic Calendar for each semester or session. Only in exceptional cases, and with the permission of the Dean, will a student be permitted to enter a class later than the Add Period.

## Auditing a Course

A student who wishes his record to show that he has attended a course regularly but does not wish credit for that course may register as an auditor. No grade is given for an audited course, nor are any credits attempted or earned. No quality points are calculated. Any student may change his initial registration in a course for credit to audit during the Add period only. He or she may drop an audited course during the drop period.

Fees for an audited course will be based on the regular credit value of the course. Once a student has audited a course, he or she cannot establish credit by examination in that course.

## Dropping a Class

Students may drop courses during the Drop Period published in the Academic Calendar for any semester or session. Only in exceptional cases, and with the permission of the Dean, will a student be permitted to drop a course later than the end of the drop period. Should a student officially exit a class prior to the end of the drop period, no grade will be recorded on the transcript.

## Registration at Other Institutions

Written permission must be obtained from the Department Chair and the Dean before students advance their hours earned toward a UMES degree through study at another institution of higher learning or at another campus of the University of Maryland. The appropriate forms may be obtained from the Office of the Registrar. After having obtained the approval of the Department Chair and the Dean, the permission form should be filed in the Office of the Registrar. The same rule applies for both the fall and spring semesters and for any summer or winter sessions.

Credits earned at institutions other than the University of Maryland campuses do not carry quality points and have no effect on the student's grade point average. The cumulative grade point average is based solely on credits attempted at the University of Maryland campuses (when enrolled through inter-institutional registration). A maximum of seventy (70) credits will be accepted from an accredited two-year community or junior college.

Students requesting permission to register in the summer or winter program of another school will not be permitted to take more semester hours than there are weeks in that school's summer or winter session. A student who earns a grade of "F" or "D" in residence at UMES MAY NOT advance credit hours earned toward a UMES degree by repeating the course at another institution.

Ordinarily, all students must take their final thirty (30) credit hours at UMES. Only under extraordinary circumstances, may the Dean grant permission to take a maximum of six hours of the final thirty (30) hours on another campus. However, in no case does this permission waive the minimum residence requirement of 30 semester hours.

## Inter-Institutional Enrollment with Salisbury University

Full-time students may register for approved courses at nearby Salisbury University (SU) for the fall or spring semesters and receive credits earned for the courses at full value. The same is true for SU students who wish to enroll in courses offered at UMES. Registration must be completed at the student's home campus according to scheduled dates. There are other institutions within the USM that participate in inter-institutional enrollment. Specific information is available from the Office of the Registrar.

## Withdrawals

## From A Class

Should a student officially exit a class after the drop period, but before the end of the withdrawal period, a grade of "W" will be recorded on the transcript. Withdrawal requires the signature of the Advisor and the Instructor of the course in which the student is withdrawing. The end of the withdrawal period is published in the Academic Calendar for each semester or term.

## From the Institution

If a student desires or is compelled to withdraw from UMES for any reason at any time during the academic year, the student should complete an application for withdrawal from the Office of the Registrar, obtain the proper signatures as indicated on the form, and file it with the Office of the Registrar. The Office of the Registrar will record a grade of " W " for all courses. The last day to withdraw from the institution will be in concurrence with the last day of class.

Withdrawal grades are not included in the computation of grade point averages or in the determination of the level of the total hours attempted. In the case of a minor, withdrawal will be permitted only with the written consent of the student's parent or guardian.

## Penalties for Unofficial Withdrawal

A student who fails to withdraw in the required manner will not be entitled to an honorable dismissal, will forfeit the right to any refund to which he/she might otherwise be entitled, and will receive marks of failure in all courses being carried.

## Withdrawal and Refund of Fees

## Fall and Spring Semesters

Any student who desires or is compelled to withdraw from the University for any cause at any time during the academic year should secure an application for withdrawal from the Office of the Registrar, obtain the proper signatures and file it in the Office the Registrar.

The effective date for withdrawals, with regard to refunds and grades, is the date the form is filed at the Office of the Registrar. No student may withdraw after the last scheduled day of classes in a given semester. Exceptions will be referred to the Academic Appeals Board.

Students withdrawing from the University during a semester will be credited for all academic fees charged to them, in accordance with the following schedule.

| Period from First Day of Instruction | Refundable Percentage |
| :---: | :---: |
| Two weeks or less | 80 |
| Between two and three weeks | 60 |
| Between three and four weeks | 40 |
| After four week | No refund |

No part of the charges for room and board is refundable, except when the student officially withdraws from the University or is given permission by the appropriate officials of the University to move from the residence facility and/or to discontinue dining hall privileges. When permission is given to discontinue dining hall privileges, the meal card must be turned in to the Office of the Vice President for Administrative Affairs. In these cases, the room refund will be computed by deducting ten percent ( $10 \%$ ) of the charge for the semester as a service charge and the remainder will be prorated on a weekly basis. Refunds to students for board (dining hall) charges will be calculated in the same manner. No room and/or board refunds will be made after the fourteenth week of the semester. Weekly basis shall be defined as a complete week or any fraction thereof.

Title IV Recipients (UMES Refunds and the "Return of Title IV Funds" Policy)
If a student withdraws or is expelled from UMES, then the school or the student may be required to return some of the federal funds awarded to the student. The student may also be eligible for a refund of a portion of tuition, fees, and room and board paid to UMES for the semester. If the student received financial assistance from outside of the student's family, then a portion of the refund will be returned to the grant, scholarship, or loan source from which the assistance was received.

If a student will be withdrawing, then the student should visit the Office of the Registrar and complete a "Notification of Withdrawal" form to begin the withdrawal process. This procedure will enable UMES to refund the maximum possible institutional charges. The withdrawal will not be complete until the student has returned the Notification of Withdrawal form (with all appropriate signatures) to the Office of the Registrar.

UMES' refund policy exists for calculating the refund of institutional charges. The federal "Return of Title IV Funds" formula dictates the amount of Federal Title IV aid that must be returned to the federal government by the school and the student. The federal formula is applicable to a student receiving a federal Pell grant or federal aid other than Federal Work-study, if that student withdraws on or before the $60 \%$ point in time in the semester. The student may also receive a refund of institutional charges through UMES' refund policy (see above). Room and/or Board charges will be pro-rated according to the policy of the Office of Residence Life.

The federal formula requires a return of Title IV aid if the student received federal assistance in the form of a Pell Grant, Supplemental Educational Opportunity Grant (SEOG), Federal Direct Student Loan or PLUS Loan and withdrew on or before completing $60 \%$ of the semester. The percentage of Title IV aid to be returned is equal to the number of calendar days remaining in the semester divided by the number of calendar days in the semester. Scheduled breaks of more than four consecutive days are excluded.

If any funds are to be returned after the return of Title IV aid, they will be used to repay UMES funds, state funds, other private sources, and the student in proportion to the amount received from each non-federal source, as long as there is no unpaid balance at the time of withdrawal. If there is an unpaid balance, then all aid sources will be repaid before any funds are returned to the student.

NOTE: If funds are released to a student because of a credit balance on a student's account, then the student may be required to repay some of the federal grants if the student withdraws. A work sheet used to determine the amount of refund or Return of Title IV Aid is available upon request.

## Readmission after Voluntary Withdrawal

A student who voluntarily withdraws or who is administratively withdrawn from the University for reasons such as medical, judicial, personal, financial, lack of interest, military and employment may apply for readmission to the University by completing and filing an Application for Readmission with the Office of the Registrar. Applications for readmission must be filed by the following deadlines: November $\mathbf{1}^{\text {st }}-$ Students wanting to return for the Winter or Spring Session. April $1^{\text {st }}-$ Students wanting to return for the Summer and Fall sessions.

Applications may be found online under Frequently Used Forms at www.umes.edu/registrar or in the Office of the Registrar, Student Development, Cultural and Recreation Center, University of Maryland Eastern Shore, Princess Anne, MD 21853-1299.

## Reinstatement Following Academic Dismissal

When a student is academically dismissed from UMES, he/she must complete the Application for Reinstatement prior to the desired date of reinstatement. Reinstatement will not normally be granted by the UMES Academic Appeals Board until at least one semester has elapsed from the time of the student's dismissal. Reinstatement is not automatic; however, if the Application for Reinstatement is denied, a student may again apply for reinstatement after a lapse of an additional semester.

Upon being reinstated following Academic Dismissal, the student will be placed on Academic Probation and will be subject to the conditions of Academic Probation.

Any appeal concerning the regulation governing academic probation or academic dismissal shall be directed to the School's specific Academic Appeals Board, which is empowered to grant relief in unusual cases if the circumstances warrant such action.

## Repeating of Classes

Any course may be repeated, but if a student repeats a course in which he or she has already earned a passing grade, the subsequent attempt shall not increase the total hours earned toward the degree. Credits for repeated courses will be counted only once toward graduation requirements and in computation of the cumulative grade point average. Only the highest grade will be used in the computation of the cumulative grade point average; however, all grades earned remain on the permanent record with repeated courses identified. Repeat credits and corresponding grades are used when computing the semester grade point average. If a course a student wishes to repeat has been discontinued or has not been offered for two semesters, the student should request the department Chairperson and Dean to designate a substitute course, which when taken, will remove the grade of the discontinued course. Courses failed at UMES with the grade of ' $F$ ' or ' $D$ ' should be repeated at UMES. The course so named and the student involved should be reported in writing to the Office of the Registrar.

Only in extenuating circumstances will the Provost and Vice President for Academic Affairs consider requests to repeat a course at a USM institution that was failed at UMES. In this case, the department chair of the failed course will need to certify the equivalency of the course at the other institution and communicate this in writing to the Provost and Vice President for Academic Affairs.

Academic departments have the prerogative to limit the number of times a student may attempt to successfully complete major core courses.

## Selecting a Major

In selecting a major or a minor, students must consult with the chairs of the department(s) involved no later than the beginning of their junior year. Students may declare a major at any time up to the beginning of their junior year. At that time they will be assigned a faculty advisor and fill out an official Request for Change of Major, Minor or Concentration Form. Declaring a major does not in any way bind a student permanently to that program.

## Freshmen Who Do Not Declare a Major

For those students who enter as freshmen and do not declare a major, General Education Requirement courses may be taken; however a major must be declared before the second semester of the sophomore year. It is highly recommended that students become familiar with the requirements for different majors which interest them, and be aware of all the introductory level courses needed, and the frequency which departments offer these and other courses for those majors. Schedules should be planned strategically and in consultation with the academic advisor.

## Changing a Major

It is not unusual for a student to change a major after entering college. Students are encouraged to explore several programs within the disciplines involved before deciding upon their major programs and to consult with faculty members and counselors concerning their future plan. A student may change a major at any time simply by completing a new Request for Change of Major, Minor or Concentration Form. Major changes are processed prior to the beginning of the fall and spring semesters. These forms may be obtained from the Office of the Registrar.

## Transfer Credit

## Transfer of General Education

Students transferring from Maryland institutions of higher education who have completed the General Education requirements at the sending institution shall have met the general education requirements at UMES, except in cases where the general education requirements at UMES exceed those of the sending institution. The transfer
student will be required to take no more than the same number of general education credits required of the native student, and will not exceed an additional 10-16 credit hours. The additional courses will be according to the distribution requirements at UMES. For a detailed explanation on course transfer policy, see Appendix 1.

## Transfer from Colleges and Universities

A maximum of seventy ( $\mathbf{7 0}$ ) credits will be accepted from an accredited two-year community or junior college. UMES does not limit the number of credits transferable for work completed at four-year colleges. However, in order to graduate, a student must complete the last 30 semester hours at UMES.

## Maryland Community College Articulated Programs

An articulated transfer program is a list of community college courses that best prepare the applicant for a particular course of study at the University of Maryland Eastern Shore. If the applicant takes appropriate courses that are specified in the articulated program guide and earns an acceptable grade, he/she is guaranteed transfer with no loss of credit. Articulated career program guides help students plan their new programs after changing career objectives. The guides are available at the Office of Undergraduate Admissions at the University of Maryland Eastern Shore and in the transfer advisor's office at each of the community colleges. Applicants can eliminate all doubt concerning transfer of courses by following programs outlined in the guide.

## Credit from Other Universities and Colleges

In most cases credit will transfer from institutions of higher education accredited by a regional accrediting association (e.g., Middle States Association of Colleges and Schools; New England Association of Schools and Colleges; North Central Association of Colleges and Schools; Northwest Association of Schools and Colleges; Southern Association of Colleges and Schools; Western Association of Schools and Colleges), provided that the course is completed with at least a grade of C and the course is similar in content and level to work offered at UMES. The applicability of these courses to the particular course of study at UMES will be determined by an academic advisor/evaluator in the office of the appropriate department.

## Appealing Credit Denials

Students may appeal credit determinations by submitting a written appeal to the Office of the Registrar. The appeal must include the student's name, ID\#, major, contact information, and specific concerns as it relates to the awarding of academic credit. The Office of the Registrar will review the appeal and render a decision for general education courses. For non-general education courses, the Office of the Registrar will forward the appeal to the respective academic department for review and an articulation decision. In the event a consensus is not reached between the Registrar and Departmental review, the Office of the Provost will make the final decision regarding the awarding of credit. The decision will be communicated in writing by the Registrar to the student within ten business days after receipt of the appeal.

## Winter Session and Summer School

The Office of Academic Affairs provides the opportunity to take advantage of a wide range of winter and summer learning experiences in condensed format that support educational, career and personal enrichment goals. These activities are designed to reach the total community with courses, workshops and programs that are offered to populations of all ages from children to retirees. The standards of academic achievement and the quality of work required are maintained at the same level as during the regular term.

The winter session is a three-week session which runs from the first full week of January through the third week of January. Courses are not offered on Fridays, unless a make-up day is required. Students cannot take more than three (3) credits, or one four (4) credit course, or a three (3) credit lecture and a one (1) credit laboratory during the Winter Session.

The summer session features several convenient sessions including two five-week sessions and one ten-week session, which runs from the beginning through the end of the third session. Students can take up to nine (9) credits in Session I, and six (6) credits in Summer Sessions II and III (exception is a 4 credit course or a 3 credit lecture and 1 credit laboratory). If a student takes a four (4) credit course or a (3) credit lecture and (1) credit laboratory as well as a three (3) credit course in Summer II or III, he or she must complete the Additional Credit Load Unit Request form. The total maximum number of credit hours for the entire Summer is twelve. (Example: if you take nine credits in Session I, you can only take one three-credit course in Sessions II or III).

Students requesting permission to register in the summer or winter program of another school will not be permitted to take more semester hours than there are weeks in that school's summer or winter session. A student who earns a grade of " $F$ " or " $D$ " in residence at UMES may not advance credit hours earned toward a UMES degree by repeating the course at another institution.

Students who are academically dismissed during the Fall or Spring semesters are not permitted to enroll in the Winter or Summer Sessions. If a student is enrolled in either the Winter or Summer Sessions and is placed on academic dismissal that student shall be dropped from those courses.

## Session Information and Procedures

Below are the policies governing the Winter and Summer sessions:

1. "Deferments" for the Winter and Summer Sessions for undergraduate and graduate students only can be found at www.umes.edu. Students with an unpaid balance from the previous semester are not eligible for "Deferments."
2. As always, students are responsible for adding and dropping courses that have not been cancelled by the Office of Academic Affairs.
3. All Winter and Summer Session balances must be paid by the last day of class, to avoid problems with the next semester.
4. Students should not drop a course that is to be cancelled.
5. Courses with enrollment of less than seven (7) students in either the Winter or Summer sessions are subject to cancellation.
6. Students cannot receive a "Deferment," for the second Summer Session until the first and/or session(s) have been paid in full.
7. If a student who has pre-registered decides not to take the course in either of these sessions, the student must withdraw from the University to avoid being billed for that course and receiving a failing grade. Contact the Office of the Registrar at (410) 651-6143 regarding completion of the appropriate paperwork.
8. All students are required to complete a Payment Confirmation form for the Winter and Summer sessions. Failure to do so will result in students being DROPPED from courses for non-payment of fees. Contact the Office of Student Accounts at (410) 651-6092/6093, for further information.

The Schedule, containing detailed information concerning the number of sessions and course offerings, is located on the UMES webpage at www.umes.edu under Academic Affairs.

## Withdrawal Refund Policy

Academic Affairs is committed to pay faculty even if the student withdraws and gets a refund beyond the first week of classes. Courses with an enrollment of less than seven are subject to cancellation by the Office of the Provost. Students should not DROP courses that are scheduled for cancellation.
Winter Session - (Three-Week Session)Begins First Day of InstructionLess than Three days
Refundable Percentage70\%
Three to Four days ..... 50\%
Five days ..... 30\%Greater than five days
Summer Sessions - (Five-Week Sessions)Begins First Day of InstructionLess than Four daysFour days
No RefundFive to Ten daysAfter Ten days
Refundable Percentage ..... 70\% ..... 50\% ..... No Refund
(Ten-Week Session)
Begins First Day of InstructionLess than Eleven daysRefundable Percentage70\%
Eleven to Fifteen days ..... 50\%
Sixteen to Twenty days ..... 30\%
After Twenty days ..... No Refund

## General Requirements for Academic Majors and Minors

The University's individual academic departments have set forth requirements that must be met in order to complete a major in a given area of study. For specific major requirements, students should consult the appropriate departmental section of this catalog and their academic advisors.

Each major and minor has its own minimum number of required hours. To fulfill a major generally involves a minimum of 36 credit hours of course work. To earn a minor in a subject, a minimum of 18 semester hours, according to departmental specifications, must be met. For courses completed outside the major or minor, an overall grade point average of " C " is necessary for graduation. PSYC 305 and HUEC 203 are similar courses, taught in different departments for their majors. Students may have credit for one or the other but not both courses.

## Major Core Requirements

A grade of " C " or better is required in every course counted toward the major and/or minor.

## Supporting Area Requirements

A grade point average of " C " or better is required for the group of courses representing the supportive area requirements.

## General Education Requirements ${ }^{1}$ (Gen Ed Curriculum Area)

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base that will effectively support a student's choice of a major concentration. Deviations from the General Education Requirements may occur in certain areas owing to specific requirements of the major. Therefore, students should consult with their freshman or departmental advisors when making course selections. See Course Descriptions for descriptions of courses in General Education. Fundamentals courses and MATH 101 do not meet the General Education

Requirement and do not apply toward graduation requirements. General Education Requirements are distributed as follows:

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select ENGL $203^{2}$ plus one course in each of two disciplines.
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109, MUSI 161
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
ARAB 101, CHIN 101, FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203²
${ }^{1}$ A minimum of 40 credits is required.
${ }^{2}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above
before taking ENGL 203
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
AGEC 213 or AGEC 213H
ECON 200 or ECON 200H
ECON 201 or ECON 201H
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7-8
Students must select two science courses and one science laboratory course from the following. ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PLSC 184, PLSC 185 (lab)
PHYS 101, PHYS 103 (lab)

Students in Agriculture, Engineering, Exercise Science, Human Ecology Physician Assistant and Rehabilitation Services only must select from the following:

- Student must have a strong background in Chemistry and Biology to take CHEM 111 and CHEM 112 or BIOL 111 and BIOL 112.
- Students CANNOT take CHEM 111 if they are currently taking MATH 101.

ANPT 114, ANPT 114H, BIOL 101, BIOL 103 (lab),
BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab), CHEM 111, CHEM 113 (lab)
ENVS 101, NUDT 210
PHYS 121, PHYS 121H, PHYS 122, PHYS 124 (lab), PHYS 161, PHYS 163 (lab)
PHYS 182H, PHYS 182, PHYS 184 (lab) PHYS 263
PLSC 184, PLSC 185 (lab)
Curriculum Area IV - MATHEMATICS ${ }^{2}$
Credits 3-8
One course at or above the level of College Algebra
MATH 102, if student needs MATH $101^{3}$, he/she must take MATH 101 before MATH 102;
MATH 109, if a student needs MATH $101^{3}$, he/she must take before Math 109 ;
MATH 110, MATH 111 H, MATH 112.
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ Credits 9
ENGL 101 or ENGL 101/H
ENGL 102 or ENGL 102/H
ENGL 305/H or ENGL 310/H

[^1]
## Curriculum Area VI - EMERGING ISSUES

Credits 1-7
Courses identified as being essential to a full program of general education for UMES students. This course is required of all students:

GNST 100 First Year Experience or departmental first year experience course

## Credits 1

In addition, students must consult with their departmental advisor for any additional Emerging Issues course requirement (up to 6 additional credits). Students may select from the following three-credit courses:

EXSC 111 - Personalized Health Fitness ${ }^{1}$
EDTE 111 - Technology and Society
HUEC 230 - Multicultural Perspectives on Families in the U.S.
TMGT 306 - Ecology and Cultural Tourism

## Total Required for General Education

Credits 40-43
${ }^{1}$ EXSC 111 cannot be repeated for credit.

## Degree Requirements

It is the responsibility of departments to publish clearly defined degree requirements. Responsibility for knowing and meeting all degree requirements for graduation in any curriculum rests with the student. Students should check with the departmental academic advisor to ascertain their standing in this respect no later than the close of
the junior year. For this purpose, the student should review their academic requirement report and print an unofficial transcript from HawkWeb at the end of each semester.

Ordinarily, all students must take their final thirty (30) credit hours at UMES. Under extraordinary circumstances, the Provost may grant permission to take a maximum of six hours of the final thirty (30) hours on another campus. However, in no case does this permission waive the minimum residence requirement of 30 semester hours.

Academic requirements for graduation are a minimum of 120 semester credit hours (some programs may require additional credit hours) with a "C" (2.00) cumulative average, excluding remedial courses and MATH 101.

## Second and Double Baccalaureate Degree Requirements

A student who has already received one baccalaureate degree may receive a second degree from UMES by completing 30 credits at UMES, provided the total number of credits of the first and second degrees combined is at least 150 credits. In no case will a second baccalaureate be awarded to a student who has not completed the last 30 hours at UMES.

A student who wishes to receive two baccalaureate degrees from UMES simultaneously must complete the regularly prescribed degree requirements of each program and complete a minimum of 150 credits. Candidates for a double degree must file a formal program outline with the departments involved. The program outline must include the courses required to fulfill each major and supporting area, as well as the general education and elective requirements of both curricula. A copy of the program outline showing all requirements for each degree must be filed with the Office of the Registrar. If the double degree involves two different departments, the student must designate which department is responsible for maintenance of records.

No course in either curriculum used to satisfy a major or supporting area requirement may be used to satisfy the General Education Requirements.

## Undergraduate Degree Programs

UMES offers the Bachelor of Science (B.S.), Bachelor of General Studies (B.G.S), and the Bachelor of Arts (B.A.) degrees. In addition, there are many options and specialties that are described in the catalog sections pertaining to each academic program.

All four-year degree programs at the University require a minimum of 120 semester hours with the exception of Professional Golf Management. Semester hour requirements beyond 120 credits have already received prior approval from the USM Board of Regents.

Students who complete one or more of the courses of study offered by the University will be awarded the degree as indicated by the academic department.

## Accreditation and Professional Memberships

The University of Maryland Eastern Shore (UMES) is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19104. (267-284-5000). The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation. UMES is accredited by or hold membership in the following agencies:

- American Chemical Society Committee on Professional Training (ACSCPT);
- American Council for Construction Education (ACCE);
- The Association to Advance Collegiate Schools of Business (AACSB International);
- Commission on Accreditation for Dietetics Education (CADE) of the American Dietetic Association;
- Commission on Accreditation in Physical Therapy Education (CAPTE);
- Maryland State Department of Education (MSDE);
- National Council for Accreditation of Teacher Education (NCATE);
- National Council for Social Sciences (NCSS);
- National Council on Rehabilitation Education (CORE);
- National Science Teachers Association (NSTA); and,
- Professional Golfers’ Association of America;
- Accreditation Commission on Programs in Hospitality Administration (ACPHA), and

UMES recently received full accreditation from the Accreditation Council for Pharmacy Education (ACPE).
The University is recognized by the University Aviation Association (UAA) and the Federal Aviation Administration (FAA). Membership is held by the University with the Maryland Higher Education Commission (MHEC), the National Council of Educational Opportunity Association (NCEOA), the National Association for Equal Opportunity in Higher Education (NAEOHE), the Association of Public and Land-Grant Universities (APLU), the American Council on Education (ACE), and the National American Association of Summer Sessions, the American Association for Teacher Education (AACTE), and the National Council for Science and the Environment (NCSE).

## The Honors Program

## Mission

The primary mission of the Honors Program at the University of Maryland Eastern Shore is to offer high achieving and motivated undergraduates the opportunity to participate in student-centered learning experiences that promote intellectual growth, cultural appreciation, professional focus, leadership development and civic participation.

The Honors Program also serves the entire University by enhancing the intellectual life of the campus, helping students prepare for graduate and professional school, and providing a locus for curricular experimentation.

Facilitating the entry of those from underrepresented groups within the state of Maryland is a further priority.

## Admission

Admission to the Honors Program is competitive and by separate application. Students may apply for admission into the Honors Program as incoming freshmen, transfer students, or as a student already matriculated at the University who has earned fifty-five (55) or fewer credit hours. Interested students must first complete an application and be admitted to UMES. Following admission to the University, students seeking admission to the Honors Program must complete an application and provide supporting materials, including transcript(s); SAT/ACT test scores; letters of recommendation; a résumé detailing leadership roles, service contributions, awards and honors earned, and co-curricular activities; and an essay that addresses how the student intends to benefit by membership in the Honors Program and what talents, expertise and experiences the student hopes to contribute to the campus community. Students must also sign and return the Honors Membership Agreement. Eligibility criteria, application forms and membership agreements may be obtained from the Honors Program office or the "Forms Library" of its website at www.umes.edu/honors. All applicants admitted to the program are eligible and may apply for one of several merit-based scholarships. Application deadlines for program admission and scholarships are also posted on the website.

## Program of Study

To qualify for graduation with University Honors, students must satisfy all terms of the Honors Program Membership Agreement and complete the requisite coursework, as detailed in the Honors Program of Study. The following academic criteria ("Program of Study") must be satisfied:

## Completion of at least twenty-four (24) total hours of Honors coursework, to include:

| Credits | Courses |
| :---: | :--- |
| 3 | HONR 101: Honors Freshman Seminar ; |
| 3-6 | HONR 201: Honors Sophomore Seminar; or |
|  | HONR 301: Honors Junior Seminar; |
| 3-9 | HONR 496: Senior Honors Thesis / Capstone; |
| 6 | Major department honors course credits (excluding HONR 490) |

The balance of course credits may be obtained by satisfactory completion of:

- honors sections of general education courses;
- honors versions of major/minor degree courses;
- additional HONR seminars (HONR 201: Honors Sophomore Seminar; HONR 301: Honors Junior Seminar);
- graduate coursework completed for undergraduate credit;
- a pre-approved international experience (with prior written approval of the Director of the Honors Program, one-half of hours earned through participation in a credit-bearing study abroad program will articulate as honors credits).

Students are also eligible to receive "Honors Course Credit by Contract," a process by which the student earns honors credit for completion of a standard curriculum course. This process is by application and pre-approval only. Guidelines and forms are available on the Honors website. Students may complete a maximum of six (6) contracted honors hours in fulfillment of their honors Program of Study.

The Honors Program has scholarship available to students who have been selected to participate in the program. For further information, please contact the Honors Program at (410) 651-6082 or use the following link to access a list: www.umes.edu/Honors/Default.aspx?id=34524

## Honors Program Course Descriptions

## HONR 101: Honors Freshman Seminar: Selves and Others

Credit 3
An interdisciplinary seminar centered on themes of identity: race/ethnicity, gender, class, faith, and sexuality, this course explores definitions of "Self" and "Other" as constructs in psychological, social, political, and other realms through an examination of literature, film, arts, and mass media. A service-learning component embedded into the course introduces students to- and engages them with - local, regional, state, and federal resources and partners for purposes of professional development and philanthropic service. This course will strengthen students' oral and written communication skills, advance critical thinking and inquiry, and heighten awareness of their diverse roles as individuals who contribute to collective efforts and enterprises.

## HONR 201: Honors Sophomore Seminar: Leadership: From Theory into Practice Credit 3

This seminar is designed to introduce students to diverse styles, strategies, ethical concepts and philosophies of leadership; to advance students' understanding of and appreciation for the complexities of organizational leadership; to increase students' awareness of personal strengths and identify areas for future professional improvement; and to provide students venues for training as leaders on campus, in the community, and beyond.

Content may vary by semester. Prerequisites: HONR 101: Honors Freshman Seminar (or approved substitution for transfer students and students admitted to the Honors Program with more than 28 earned credit hours). Sophomore standing.

HONR 301: Honors Junior Seminar: Global Problems, Local Solutions
Credit 3
This discussion-based and research-intensive, interdisciplinary course provides an overview of significant problems plaguing today's planet and the advances being made toward resolution of these issues. Students will demonstrate knowledge of global politics, phenomena and processes in their cultural contexts. Students will have on- and/or off-campus co-curricular experiences that contribute to the understanding of how and to what extent solutions to world issues are approached by the US, especially at our most local levels. Topics may vary by semester. Prerequisites: HONR 101: Honors Freshman Seminar (or approved substitution for transfer students and students admitted to the Honors Program with more than 28 earned credit hours). Junior standing.

## HONR 496: Senior Honors Thesis / Capstone Project

Credit 1-4
The student will plan, research, prepare, produce and formally present a substantial and original scholarly work or creative endeavor in his/her major program(s) of study or on a topic pre-approved by an appointed committee. Course format and requirements vary and are determined by the department. Available by application only to students of the University's Honors Program. Directed and graded by a faculty member in the student's thesis/project area with at least one additional faculty serving as a second reader. May be taken concurrently for credit in a student's major department, if applicable. Student must complete a minimum of three (3) total thesis hours and earn a composite grade of B or higher to satisfy University Honors requirements. May be repeated up to a maximum of nine (9) total credit hours. Prerequisite: Junior or senior status.

## The School of Agricultural and Natural Sciences

The School of Agricultural and Natural Sciences (SANS) has three academic departments: Agriculture, Food and Resource Sciences; Human Ecology; and Natural Sciences. Undergraduate programs in pre-veterinary medicine, plant and soil science, animal and poultry science, agribusiness, agricultural studies, nutrition, dietetics, fashion merchandising, early child development, family and consumer sciences, biology, chemistry, and environmental science are representative of the School's varied curricula. Graduate programs, at both the masters and doctoral levels, are offered in marine estuarine and environmental sciences (M.S., Ph.D.) food and agricultural sciences (M.S.), food science and technology (Ph.D.), and toxicology (Ph.D.). Strong research and extension programs are integrated with the school's academic programming.

## Departments:

The Department of Agriculture, Food, and Resource Sciences provides experiential learning opportunities through state-of-the-art research, education, and farm facilities. Consequently, students are prepared for careers in veterinary medicine, animal management and production, agricultural education, plant breeding and biotechnology, greenhouse and nursery management, landscape design, water quality, nutrient management, food and fiber processing, natural resource sciences, food safety, marketing and management, international trade and development, urban forestry, and economic research. The department offers two undergraduate degrees in agribusiness and general agriculture. Graduate degree programs are offered at the master's level for food and agricultural sciences and at the doctoral level for food science and technology.

The Department of Human Ecology provides exemplary education, outreach, and research programs that are integrative and ecologically focused. Faculty are actively involved in professional organizations, ensuring that the curricula are progressive and applicable. State-of-the-art labs provide hands-on experiences for students in textiles, apparel construction, nutrition and dietetics, and child development. The department offers an undergraduate degree program in human ecology with options in the following areas: child development, dietetics, nutrition, family and consumer sciences, family and consumer sciences education, and fashion merchandising.

The Department of Natural Sciences offers programs for students majoring in biology, biochemistry, chemistry, and environmental science as well as minors in biology, chemistry, and physics. Teaching programs are offered in biology and chemistry, which is certified by the American Chemical Society. The department also offers a twoyear pre-pharmacy program, with minor concentrations in biology, chemistry, environmental science, and physics. In cooperation with the Maryland Center for Environmental and Estuarine Studies (CEES), combined four-year bachelor of science/five-year master of science degree programs in marine sciences and environmental chemistry are available. Courses leading to masters and doctoral degrees in toxicology along with a universitywide graduate program in marine-estuarine-environmental sciences are offered as well.

## Department of Agriculture, Food and Resource Sciences

www.umes.edu/SANS

Dr. Jurgen Schwarz, Chairperson

## MISSION

The mission of the Department of Agriculture, Food and Resource Sciences is to provide students with an active learning environment that will prepare them to compete successfully in a global society. Graduates of our programs will be poised to make significant, positive contributions to the food and agricultural sciences, which is in keeping with the land-grant philosophy of learning, discovery, and engagement. Thus, it is our never-ending task to provide students with a nurturing environment that offers opportunities for discovery through experiential learning. Accomplishment of our task will result in graduates who have:

- skills in information management;
- critical and analytical thinking skills necessary to integrate theory and real-world situations for making management decisions;
- the ability to communicate effectively; and
- the ability to compete in a highly technological, computer-information oriented, global society.

Additionally, we strive to prepare students who can interact successfully in an ethnically diverse workforce that is comprised of people of socially and culturally diverse backgrounds.

## OBJECTIVES

The objectives of the Department of Agriculture, Food and Resource Sciences are as follows:

1. To provide an interdisciplinary program inclusive of mathematical, biological, physical and social sciences, and humanities to support areas of concentration in the food and agricultural sciences, including conservation and preservation of our natural resources,
2. To prepare students to interpret and apply scientific principles and techniques in the ever-evolving food, agricultural, and environmental sciences, on a global basis,
3. To promote civic responsibilities of students through community interactions, and
4. To provide students with the applied information technology skills necessary to compete successfully in today's workforce.

## DEGREES OFFERED

Bachelor of Science - Agribusiness
Bachelor of Science - General Agriculture
Bachelor of Science - Urban Forestry
Master of Science ${ }^{1-}$ Food and Agricultural Sciences
Doctor of Philosophy ${ }^{1 \text { - Food Science and Technology }}$

## DEPARTMENTAL REQUIREMENTS

The admission of students to the undergraduate programs in the Department of Agriculture, Food and Resource Sciences is based upon the general admission requirements of the University. Successful completion of PRAXIS I and a minimum GPA of 2.75 are required for admission to the Agriculture Education concentration offered in the General Agriculture degree program.

Agribusiness major - Students majoring in Agribusiness must complete a total of 120 credit hours of University courses. This includes a minimum of 42-43 semester hours of General Education Requirements, 14 semester hours of Departmental Core courses ${ }^{1}, 48$ semester hours of Major Core courses ${ }^{1}, 6$ semester hours of Supportive courses ${ }^{1}$, and 10 semester hours of free electives.

General Agriculture major - Students majoring in General Agriculture must complete a total of 120 credit hours of University courses. This includes a minimum of 41-43 semester hours of General Education Requirements, 14 semester hours of Departmental Core courses ${ }^{1}$, 24-48 semester hours of Major Core courses ${ }^{1}$, 18-35 semester hours of supportive courses ${ }^{1}$, and 3-5 semester hours of free electives, depending on the Option Area chosen. The

Option Areas include:
Agriculture Education Option: 42, 14, 45, and 19 semester hours of General Education Requirements, Departmental Core Courses ${ }^{1}$, Major Core Courses ${ }^{1}$ and Supportive Courses ${ }^{1}$, respectively.

Agricultural Studies Option: 41, 14, 27, and 38 semester hours of General Education Requirements, Departmental Core Courses ${ }^{1}$, Major Core Courses ${ }^{1}$, and Supportive Courses ${ }^{1}$, respectively.

Animal and Poultry Science Business/Technology Option I: 43, 14, 27, 30 and 6 semester hours of General Education Requirements, Departmental Core Courses ${ }^{1}$, Major Core Courses ${ }^{1}$, Supportive Courses ${ }^{1}$ and Free Elective Courses, respectively.

Animal and Poultry Science Pre-Veterinary/Pre-Professional Option II: 43, 14, 24, 35 and 4semester hours of General Education Requirements, Departmental Core Courses ${ }^{1}$, Major Core Courses ${ }^{1}$, Supportive Courses ${ }^{1}$ and Free Elective Courses, respectively.

Plant and Soil Science Option: 43, 14, 25, 34 and 4 semester hours of General Education Requirements, Departmental Core Courses ${ }^{1}$, Major Core Courses ${ }^{1}$, Supportive Courses ${ }^{1}$ and Free Elective Courses, respectively.

Urban Forestry major -Students majoring in Urban Forestry must complete a total of 120 credit hours. This includes a minimum of 42 credit hours of General Education Requirements, 14 credit hours of core courses, 47 credit hours of Major Courses, and 17 credit hours of Support Courses.
*Students must select AGRI 400 Senior Capstone Experience under Emerging Issues as a part of the General Education Requirement.

[^2]
## AGRIBUSINESS

## CAREER OPPORTUNITIES

A degree in Agribusiness prepares students to teach, to conduct research, to pursue graduate and professional degrees, to work in government and business, and numerous other related jobs such as: Business and Technology, Marketing and Management, International Trade and Development, Economic Research, Commodity Brokerage, Computer Science, Public Relations Specialist, Market Forecaster, Technical Representative, Extension Educator, Market Reporter, Financial Analyst, and Financial Representative.

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 201 Principles of Macroeconomics

## Discipline B: BEHAVIORAL SCIENCES

CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 8
Students must select two science courses and one science laboratory course from the following.
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
Curriculum Area IV - MATHEMATICS
Credits 6-7
MATH 109 or MATH 111H;
MATH 2110

[^3]ENGL 305/H/Online or ENGL 310/H/Online

| Curriculum Area VI | EMERGING ISSUES | Credits 4 |
| :--- | :--- | :--- |
| AGNR 111 | First Year Experience |  |
| AGRI 400 | Senior Capstone Experience |  |

# Total Required for General Education PROGRAM CORE REQUIREMENTS 

AGEC 213 Introduction to Agricultural Economics
Credits 42-43
AGME 283 En. 3

AGME 283 Engineering Principles Applied to Agriculture 3
ANPT 114 Introduction to Animal Science 4
$\begin{array}{llll}\text { PLSC } & 184 & \text { Introduction to Plant Science } & 3\end{array}$
PLSC 185 Introduction to Plant Science Laboratory 1

## MAJOR CORE REQUIREMENTS

ACCT 201 Introductory Financial Accounting 3
ACCT 202 Introductory Corporate \& Managerial Accounting 3
AGBU 223 Introduction to Agribusiness 3
AGBU 313 Quantitative Methods in Agribusiness 3
AGBU 323 Agribusiness Management 3
AGBU 471 Agribusiness Seminar II 1
AGEC 333 Agricultural Price Analysis 3
AGEC 423 Marketing Agricultural Products 3
AGEC 433 International Agricultural Markets, Trade \& Dev 3
AGEC 443 Farm Management 3
AGEC 453 Agricultural Finance 3
AGEC 463 Agricultural Policy 3
CSDP 220 Introduction to Computer Use 4
ECON 200/H Principles of Microeconomics 3
ECON 300 Intermediate Micro Economic Theory 3
MATH 112 Calculus I 4
SUPPORTIVE REQUIREMENTS
ACCT 301 Cost and Budgetary Control 3
AGBU 300 Internship I 3
AGBU 371 Agribusiness Seminar I 1
AGBU 400 Internship II 3
AGEC 419 Agricultural Cooperatives 3
BUAD 302 Organizational and Accounting Management 3
BUAD 307 Industrial Relations 3
BUAD 411 Operations Research \& Design Theory 3
BUAD 412 Business Law 3
CSDP 240 Principles of Data Processing 3
ECON 301 Intermediate Macro Economic Theory 3
ECON 302 Money and Banking 3
ECON 303 Labor Economics 3
ECON 304 The Economics of Black America 3

A minimum cumulative grade of "C" (GPA 2.0) or better is required for supportive courses.
ELECTIVES
Credits 10
Students may take any course offered at the University for which the student has the required prerequisites.

## CURRICULUM GUIDE FOR AGRIBUSINESS

|  | FRESHMAN YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| ANPT 114 | 4 | AGME 283 | 3 |
| ENGL 101/H | 3 | ECON 200/H | 3 |
| MATH 109 | 3 | MATH 112 | 4 |
| ECON 201/H | 3 | ENGL 102/H | 3 |
| AGNR 111 | 1 | ENGL 001 ${ }^{1}$ | 0 |
|  | 14 |  | 13 |

## SOPHOMORE YEAR



SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| AGEC 433 | 3 | AGEC 423 | 3 |
| AGEC 463 | 3 | AGEC 443 | 3 |
| AGEC 453 | 3 | Supportive Course | 3 |
| Supportive Course ${ }^{2}$ | 3 | Elective | 4 |
| Elective | 3 | AGBU | 1 |
| GEN ED CURR AREA VI | 3 |  | 14 |

Total Credit Hours: 120
${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102

## GENERAL AGRICULTURE

## CAREER OPPORTUNITIES

A degree in General Agriculture prepares students to teach, to conduct research, to pursue graduate and professional degrees, to work in government and business, and numerous other related careers or jobs such as: Agricultural Education, Veterinary Medicine, Animal Management and Production, Livestock Production Management, Animal Health Product Sales, Feed Sales/Management, Livestock Equipment Sales/Mgt, Livestock Procurement, A.I. Breeding Technician, Livestock Feedlot Operations, Market Forecasting, Food Safety, Plant Breeding and Biotechnology, Greenhouse \& Nursery Management, Landscape Design, Water Quality, Nutrient Management, Food and Fiber Processing, Natural Resource Sciences, Extension Education, Housing \& Environmental Quality, Livestock Insurance, Quality Assurance, Farm Management, Stable Management, Market Reporting, Meat Grading, geospatial information technologies, soil chemists, soil biologists, plant biochemists, plant pathologists, entomologists, horticulturists, agronomists, soil hydrologists, and soil microbiologists.

## GENERAL AGRICULTURE AGRICULTURE EDUCATION Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

Students must select three science courses and two laboratory courses:
BIOL 111
BIOL 113 (lab)
CHEM 111
CHEM 113 (lab)
ENVS 101

Curriculum Area IV - MATHEMATICS Credits 3<br>MATH 109 or higher<br>Curriculum Area V - ENGLISH COMPOSITION Credits 9<br>ENGL 101 or ENGL 101H<br>ENGL 102 or ENGL 102H<br>ENGL 001<br>ENGL 305/H/Online or ENGL 310/H/Online<br>Curriculum Area VI - EMERGING ISSUES<br>Credits 4<br>AGNR 111 First Year Experience<br>AGRI 400 Senior Capstone Experience

## Total Required for General Education

Credits 42

## PROGRAM CORE REQUIREMENTS

## Credits 14

AGEC 213 Introduction to Agricultural Economics 3
AGME 283 Engineering Principles Applied to Agriculture 3
ANPT 114 Introduction to Animal Science 4
$\begin{array}{llll}\text { PLSC } & 184 & \text { Introduction to Plant Science } & 3\end{array}$
PLSC 185 Introduction to Plant Science Laboratory 1
MAJOR CORE REQUIREMENTS

## Credits 45

AGED 313 Supervised Experience Programs
EDCI 200 Introductory to Contemporary Education
3
EDCI 201 PRAXIS Preparation 1
EDCI 311 Comprehensive Assessment in Education 3
EDCI 400 Senior Seminar in Education 3
EDCI 406 Classroom Management 3
EDCI 409 Teaching Reading in the Content Areas: Part I 3
EDCI 410 Teaching Reading in the Content Areas: Part II 3
EDCI 427 Curriculum and Instruction in Agriculture 3
EDCI 480 Teaching Internship 6
EDCI 490 Teaching Internship 6
EDSP 428 Communication \& Collaboration in Special Education 3
PSYC 303 Adolescent Psychology 3
PSYC 307 Educational Psychology 3

## SUPPORTIVE REQUIREMENTS

Credits 19
BUED 212 Computer Concepts/Applications I
3
Select 200-400 level Agriculture courses with permission of advisor 16
A minimum cumulative grade of "C" (GPA 2.0) or better is required for supportive courses.

## CURRICULUM GUIDE FOR GENERAL AGRICULTURE AGRICULTURE EDUCATION (Grades 7-12) ${ }^{1 \& 2}$



SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| EDCI 311 | 3 | EDCI 400 | 3 |
| EDCI 427 | 3 | EDCI 480 | 6 |
| EDCI 410 | 3 | EDCI 490 | 6 |
| EDSP 428 | 3 |  |  |
| AGRI 400 | 3 |  | 15 |

Total Credit Hours: 120

[^4]
## GENERAL AGRICULTURE <br> AGRICULTURAL STUDIES OPTION <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES <br> Credits 7-8

Students must select two science courses and one science laboratory course from the following.
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 109 or higher
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

[^5]
## Curriculum Area VI - EMERGING ISSUES

## Credits 7

AGNR 111 First Year Experience
AGRI 400 Senior Capstone Experience
Free Elective
Total Required for General Education
Credits 41
PROGRAM CORE REQUIREMENTS
Credits 14
AGEC 213 Introduction to Agricultural Economics 3
AGME 283 Engineering Principles Applied to Agriculture 3
ANPT 114 Introduction to Animal Science 4
PLSC 184 Introduction to Plant Science 3
PLSC 185 Introduction to Plant Science Laboratory1
MAJOR CORE REQUIREMENTS
Credits 27
Students must select a minimum of 27 credit hours of which one three credit-hour course must be selected from at least three Department Programs.

SUPPORTIVE REQUIREMENTS
Credits 38
Student must select 38 credit hours, of which a minimum of 20 credit hours must be from the 200-400 level, to enhance and strengthen the student's chosen Food \& Agricultural Science interest area.

A minimum cumulative grade of "C" (GPA 2.0) or better is required for supportive courses.

## CURRICULUM GUIDE FOR GENERAL AGRICULTURE AGRICULTURAL STUDIES

FRESHMAN YEAR

| First Semester | Credit | FRESHMAN YEAR | Credit |
| :--- | :--- | :--- | :--- |
| ANPT 114 | 4 | Second Semester | 3 |
| ENGL 101/H | 3 | ENGportive Course | 3 |
| MATH 109 | 3 | ENGL 001 ${ }^{1}$ | 0 |
| PLSC 184 | 3 | GEN ED CURR AREA VI | 3 |
| PLSC 185 | 1 | GEN ED CURR AREA III | 3 |
| AGNR 111 | 1 | GEN ED CURR AREA III | 1 |
|  |  | ECON 200/H | 3 |
|  | 15 |  | 16 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| AGME 283 | 3 | GEN ED CURR AREA II | 3 |
| ENGL 203 | 3 | Agricultural Studies Core Course | 3 |
| AGEC 213 | 3 | Agricultural Studies Core Course | 3 |
| Agricultural Studies Core | 3 | GER ED CURR AREA I | 3 |
| GEN ED CURR. AREA III | 3 | 200-400 Level Supportive Course | 3 |
|  | 15 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or 310 | 3 | Agricultural Studies Core Course | 6 |
| Agricultural Studies Core Course | 3 | 200-400 Level Supportive Course | 3 |
| Supportive Area Course | 3 | Supportive Course | 3 |
| Supportive Area Course | 3 | GEN ED CURR. AREA I | 3 |
| 200-400 Level Supportive Course | 2 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| Agricultural Studies Core Course | 3 | Agricultural Studies Core Course | 3 |
| 200-400 Level Supportive Course | 3 | Agricultural Studies Core Course | 3 |
| 200-400 Level Supportive Course | 3 | Supportive Course | 3 |
| 200-400 Level Supportive Course | 3 | Supportive Course | 3 |
| Supportive Course | 3 | 200-400 Level Supportive Course | 3 |
|  | 15 |  | 15 |

## Total Credit Hours: 120

[^6]
## GENERAL AGRICULTURE ANIMAL AND POULTRY SCIENCE BUSINESS TECHNOLOGY OPTION ${ }^{1}$ Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 12
Students must select two science courses and one science laboratory course from the following. BIOL 111, BIOL 113 (lab)
CHEM 111, CHEM 113
CHEM 112, CHEM 114 (lab)
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 110 or higher
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

[^7]Curriculum Area VI - EMERGING ISSUESAGNR 111 First Year Experience
AGRI 400 Senior Capstone Experience
Total Required for General Education ..... Credits 43
PROGRAM CORE REQUIREMENTS
AGEC 213 Introduction to Agricultural Economics ..... Credits 14
AGME 283 Engineering Principles Applied to Agriculture ..... 3
ANPT 114 Introduction to Animal Science ..... 4
PLSC 184 Introduction to Plant Science ..... 3
PLSC 185 Introduction to Plant Science Laboratory ..... 1
MAJOR CORE REQUIREMENTS Credits 27
ANPT 214 Animal and Avian Physiology ..... 4
ANPT 223 Intro to Poultry Technology \& Management ..... 3
ANPT 304 Reproductive Physiology ..... 4
ANPT 313 Introduction to Animal \& Avian Nutrition ..... 3
ANPT 424 Animal and Avian Health and Diseases ..... 4
Student must select three (3) 400 level ANPT production courses ..... 9
SUPPORTIVE REQUIREMENTS
ACCT 201 Introduction to Financial Accounting ..... 3
ACCT 202 Intro to Corporate \& Managerial Accounting ..... 3
BIOL 222 Genetics ..... 3
BIOL 223 Genetics Laboratory ..... 1
BIOL 301 Microbiology and ..... 3
BIOL 303 Microbiology Laboratory or ..... 3
AMIC 324 Agricultural Microbiology ..... 4
BUAD 132 Introduction to Business3
BUED 212 Computer Concepts/Applications I ..... 3
CHEM 211 Fundamentals of Organic Chemistry I and ..... 3
CHEM 213 Fundamentals of Organic Chemistry I Laboratory ..... 1
Student must select two 300-400 level courses from:
BUAD, ACCT, ECON, AGBU or AGEC ..... 6

A minimum cumulative grade of "C" (GPA 2.0) or better is required for supportive courses.

## ELECTIVES

## Credits 6

Students may take any course offered at the University for which the student has the required prerequisites.

## GENERAL AGRICULTURE ${ }^{1}$ ANIMAL AND POULTRY SCIENCE BUSINESS AND TECHNOLOGY OPTION I

| First Semester | Credit | FRESHMAN YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ANPT 114 | 4 | Free Elective | 3 |
| ENGL 101/H | 3 | ECON 200/H | 3 |
| BIOL 111 | 3 | BUAD 132 | 3 |
| BIOL 113 | 1 | MATH 110 or Higher | 3 |
| AGNR 111 | 1 | ENGL 102 | 3 |
| GEN ED CURR AREA I | 3 | ENGL 001 | 0 |
|  | 15 |  | 15 |
|  |  |  |  |
| First Semester | Credit | SOPHOMORE YEAR | Credit |
| ANPT 223 | 3 | Second Semester | 3 |
| CHEM 111 | 3 | AGME 283 | 3 |
| CHEM 113 | 1 | CHEM 112 | 1 |
| PLSC 184 | 3 | BIOL 222 | 3 |
| PLSC 185 | 1 | BIOL 223 | 1 |
| GEN ED CURR AREA I | 3 | ANPT 214 | 4 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| AGEC 213 | 3 | ACCT 202 | 3 |
| ACCT 201 | 3 | ANPT 304 | 4 |
| CHEM 331 or |  | BIOL 301 and BIOL 303 or |  |
| CHEM 211 and CHEM 213 | 4 | AMIC 324 | 4 |
| ANPT 313 | 3 | ANPT 400 Level Elective ${ }^{3}$ | 3 |
| ENGL 203 | 3 |  | 14 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUED 212 | 3 | ENGL 305 | 3 |
| ANPT 400 Level Elective | 3 | ANPT 424 | 4 |
| GEN ED CURR AREA II | 3 | ANPT 400 Level Elective ${ }^{3}$ | 3 |
| Free Elective $_{300-400 ~ l e v e l ~ c o u r s e ~}{ }^{4}$ | 3 | $300-400$ level course ${ }^{4}$ | 3 |
|  | 3 | AGRI 400 | 3 |
|  | 15 |  | 16 |

## Total Credit Hours: 120

[^8]
## GENERAL AGRICULTURE <br> ANIMAL AND POULTRY SCIENCE PRE-VETERINARY/PRE-PROFESSIONAL OPTION II Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H , POLI 220 H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 12
Students must select the courses below:
BIOL 111, BIOL 113 (lab)
CHEM 111, CHEM 113(lab)
CHEM 112, CHEM 114 (lab)
Curriculum Area IV - MATHEMATICS
MATH 110, or MATH 112.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001/002/003
ENGL 305/H/Online or ENGL 310/H/Online

[^9]
## Curriculum Area VI - EMERGING ISSUES

AGNR 111 First Year Experience
AGRI 400
Senior Capstone Experience
Total Required for General Education
Credits 43
PROGRAM CORE REQUIREMENTS
Credits 14
AGEC 213 Introduction to Agricultural Economics 3
AGME 283 Engineering Principles Applied to Agriculture 3
ANPT 114 Introduction to Animal Science 4
PLSC 184 Introduction to Plant Science 3
PLSC 185 Introduction to Plant Science Laboratory1
MAJOR CORE REQUIREMENTS

## Credits 24

ANPT 214 Animal and Avian Physiology 3
ANPT 223 Intro to Poultry Technology and Management 4
ANPT 304 Reproduction Physiology 3
ANPT 313 Intro to Animal \& Avian Nutrition 4
ANPT 424 Animal and Avian Health and Diseases 4
ANPT Student must select two 400 level ANPT production courses 6
SUPPORTIVE REQUIREMENTS
BIOL 222 Genetics
BIOL 223 Genetics Laboratory
CHEM 211 Fundamentals of Organic Chemistry I 3
CHEM 213 Fundamentals of Organic Chemistry I Laboratory 1
CHEM 212 Fundamentals of Organic Chemistry II 3
CHEM 214 Fundamentals of Organic Chemistry II Laboratory 3
CHEM 341 Biochemistry I 3
CHEM 343 Biochemistry I Laboratory 3
PHYS 121 Introductory Physics I 3
PHYS 123 Introductory Physics I Laboratory 3
PHYS 122 Introductory Physics II 3
PHYS 124 Introductory Physics II Laboratory 3
Student must select from MATH 210, MATH 260 or BUED 2123
Student must select BIOL 301 and BIOL 303 or AMIC 324
Student must select from BIOL 311, BIOL 322, BIOL 326/327,
BIOL 420/421, or BIOL 426M
4
A minimum cumulative grade of "C" (GPA 2.0) or better is required for supportive courses.

## ELECTIVES

## Credits 4

Students may take any course offered at the University for which the student has the required prerequisites.

[^10]
## GENERAL AGRICULTURE ANIMAL AND POULTRY SCIENCE PRE-VETERINARY/PRE-PROFESSIONAL OPTION $\mathbf{I I}^{1}$ <br> FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ANPT 114 | 4 | ENGL 102/H | 3 |
| ENGL 101 | 3 | ENGL 001 ${ }^{2}$ | 0 |
| BIOL 111 | 3 | MATH 110 or Higher | 3 |
| BIOL 113 | 1 | CHEM 112 | 3 |
| AGNR 111 | 1 | CHEM 114 | 1 |
| CHEM 111 | 3 | ECON 200/H | 3 |
| CHEM 113 | 1 |  | 13 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 203 | 3 | ANPT 214 | 4 |
| CHEM 211 | 3 | CHEM 212 | 3 |
| CHEM 213 | 1 | CHEM 214 | 1 |
| PLSC 184 | 3 | BIOL 222 | 3 |
| PLSC 185 | 1 | BIOL 223 | 1 |
| AGEC 213 | 3 | AGME 283 | 3 |
| ANPT 223 | 3 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| PHYS 121 | 3 | PHYS 122 | 3 |
| PHYS 123 | 1 | PHYS 124 | 1 |
| ANPT 313 | 3 | ANPT 304 | 4 |
| GEN ED CURR. AREA I | 3 | BIOL 301and BIOL 303 or |  |
| GEN ED CURR. AREA II | 3 | AMIC 324 | 4 |
| MATH 210, MATH 260 or |  | Free Elective | 4 |
| AGNR Equivalent | 3 |  | 16 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or |  | ANPT 424 | 4 |
| ENGL 310 | 3 | ANPT 400 Level Elective | 3 |
| CHEM 341 | 3 | AGRI 400 | 3 |
| CHEM 343 | 1 | Supportive Course ${ }^{7}$ | 4 |
| ANPT 400 Level Elective | 3 |  |  |
| GEN ED CURR AREA I | 3 |  | 14 |

Total Credit Hours: 120

[^11]
## GENERAL AGRICULTURE

PLANT AND SOIL SCIENCE

## Required Courses

GENERAL EDUCATION REQUIREMENTS
All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: ECON 201/H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES <br> Credits 12

Students must select the following courses:
BIOL 111 and BIOL 113 (lab)
CHEM 111 and CHEM 113 (lab)
CHEM 112 and CHEM 114 (lab)
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 109 or higher, if a student needs MATH 101, he/she must take before Math 109

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES
Credits 4
AGNR 111 First Year Experience
AGRI 400 Senior Capstone Experience

## Total Required for General Education

## Credits 43

[^12]| PROGRAM CORE REQUIREMENTS |  | Credits 14 |
| :---: | :---: | :---: |
| AGEC 213 | Introduction to Agricultural Economics | 3 |
| AGME 283 | Engineering Principles Applied to Agriculture | 3 |
| ANPT 114 | Introduction to Animal Science | 4 |
| PLSC 184 | Introduction to Plant Science | 3 |
| PLSC 185 | Introduction to Plant Science Laboratory | 1 |
| MAJOR CORE REQUIREMENTS |  | Credits 25 |
| AGRN 423 | Plant Nutrition \& Soil Fertility | 3 |
| AMIC 324 | Agricultural Microbiology | 4 |
| BIOL 112/H | Principles of Biology II | 3 |
| BIOL 114/H | Principles of Biology II Laboratory | 1 |
| BUED 212 | Computer Concepts/Applications I | 3 |
| CHEM 211/H | Fundamentals of Organic Chemistry I | 3 |
| CHEM 213/H | Fundamentals of Organic Chemistry I Laboratory | 1 |
| HORT 203 | Introduction to Horticultural Science | 3 |
| SOIL 203 | Introduction to Soil Science | 3 |
| SOIL 204 | Introduction to Soil Science Laboratory | 1 |
| SUPPORTIVE REQUIREMENTS |  | Credits 34 |
| Select a minimum of 23 credit hours |  |  |
| AGME | Select courses with advisor's approval |  |
| AGRI 483 | Recombinant DNA Technology | 3 |
| AGRI 490 | Technical Writing in Agricultural Sciences | 3 |
| AGRI 499 | Special Topics in Agriculture | 3 |
| AGNR 283 | Agriculture and the Environment | 3 |
| AGNR 353 | Natural Resources Conservation | 3 |
| AGNR 483 | Principles of Geographic Information Systems | 3 |
| AGNR 490 | Current Issues in Sustainable Agriculture | 3 |
| AGRN 333 | Weed Science | 3 |
| AGRN 413 | Global Agronomic Crops | 3 |
| AGRN 463 | Plant Genetics and Breeding | 3 |
| AGRN 499 | Independent Study in Plant \& Soil Science | 1-4 |
| ENTO 313 | General and Applied Entomology | 3 |
| FDST 493 | Food Chemistry | 3 |
| HORT 313 | Floriculture \& Ornamental Horticulture | 3 |
| HORT 333 | Landscape Design Theory | 3 |
| HORT 353 | Turf Maintenance and Management | 3 |
| HORT 383 | Horticultural Therapy | 3 |
| HORT 423 | Horticultural Crops | 3 |
| HORT 463 | Plant Tissue Culture | 3 |
| NRES 404 | Conservation Biology | 3 |
| PLSC 283 | Agriculture and the Environment | 3 |
| PLSC 406 | Crop Physiology and Ecology | 3 |
| PLSC 440 | Plant Physiology | 4 |
| PLSC 474 | Plant Pathology | 4 |
| PLSC 476 | Plant Propagation | 3 |
| PLSC 484 | Internship in Agriculture \& Natural Resources | 3-6 |
| SOIL 443 | Soil Chemistry | 3 |

Select a minimum of 11 credit hours

| BIOL 222 | Genetics | 3 |
| :--- | :--- | :--- |
| BIOL 223 | Genetics Laboratory | 1 |
| BIOL 402 | Ecology | 4 |
| BUAD | Select courses with advisor's approval |  |
| BUED | Select courses with advisor's approval | 3 |
| CHEM 212 | Fundamentals of Organic Chemistry II | 1 |
| CHEM 214 | Fundamentals of Organic Chemistry II Laboratory | 4 |
| CHEM 311 | Analytical Chemistry I | 4 |
| CHEM 312 | Analytical Chemistry II | 3 |
| CHEM 341 | Biochemistry I | 1 |
| CHEM 343 | Biochemistry I Laboratory |  |
| ENVS | Select courses with advisor's approval |  |
| HUEC | Select courses with advisor's approval |  |
| MATH | Select courses with advisor's approval |  |
| PHYS | Select courses with advisor's approval |  |

A minimum cumulative grade of "C" (GPA 2.0) or better is required for supportive courses.
ELECTIVES
Credits 4
Students may take any course offered at the University for which the student has the required prerequisites.

## CURRICULUM GUIDE FOR GENERAL AGRICULTURE PLANT AND SOIL SCIENCE ${ }^{1}$

|  | FRESHMAN YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| AGNR 111 | 1 | ECON 201/H | 3 |
| ENGL 101/H | 3 | BIOL 111/H | 3 |
| MATH 109 or Higher | 3 | BIOL 113/H | 1 |
| CHEM 111/H | 3 | CHEM 112 | 3 |
| CHEM 113/H | 1 | CHEM 114 | 1 |
| PLSC 184 | 3 | ENGL 102/H | 3 |
| PLSC 185 | 1 | ENGL 001 | 0 |
|  | 15 |  | 14 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ANPT 114/H | 4 | SOIL 203 | 3 |
| AGEC 213/H | 3 | AGME 283 | 3 |
| HORT 203 | 3 | BIOL 112/H | 3 |
| ENGL 203 | 3 | BIOL 114/H | 1 |
| CHEM 211/H | 3 | BUED 212 | 3 |
| CHEM 213/H | 1 | GEN ED CURR AREA I | 3 |
|  |  | SOIL 204 | 1 |
|  | 17 |  | 17 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305/Online | 3 | AMIC 324 | 4 |
| GEN ED CURR AREA I | 3 | Supportive Course | 3 |
| Supportive Course | 3 | Supportive Course | 3 |
| Supportive Course | 3 | GEN ED CURR AREA II | 3 |
| Plant \& Soil Sci Elec | 3 |  | 13 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| AGRN 423/H | 3 | Plant and Soil Science Electives | 5 |
| Supportive Course | 3 | Plant and Soil Science Electives | 3 |
| Supportive Course | 4 | Free Elective | 4 |
| Supportive Course | 4 | AGRI 400 | 3 |
|  | 14 |  | 15 |

Total Credit Hours: 120

[^13]
## URBAN FORESTRY <br> DEPARTMENTAL REQUIREMENTS

Students majoring in Urban Forestry must complete a total of 120 credit hours of University courses. This includes a minimum of 42 credit hours of General Education Requirements, 14 credit hours of Departmental Core courses, 47 credit hours of Major Core courses, and 17 credit hours of supportive courses.

## CAREER OPPORTUNITIES

A degree in Urban Forestry pre students to teach, to conduct research, to pursue graduate and professional degrees, to work in government and business, and numerous other related careers or jobs such as: urban forest management, commercial tree care, nutrient management, food and fiber processing, natural resource sciences, and Extension education.

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 201
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES
Students must select these courses:
CHEM 111and CHEM 113 (lab); CHEM 112and CHEM 114 (lab)
Curriculum Area IV - MATHEMATICS
MATH 110 or MATH 111

Credits 8

Credits 3

[^14]Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101HENGL 102 or ENGL 102H
ENGL 001ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES ..... Credits 7AGNR 111 First Year Experience
AGRI ..... 400Senior Capstone ExperienceFree Elective
Total Required for General Education
Credits 42
PROGRAM CORE REQUIREMENTS
AGEC 213 Introduction to Agricultural Economics ..... 3Credits 14
AGME 283 Engineering Principles Applied to Agriculture ..... 3
ANPT 114 Introduction to Animal Science ..... 4
PLSC 184 Introduction to Plant Science ..... 3
PLSC 185 Introduction to Plant Science Laboratory ..... 1
MAJOR CORE REQUIREMENTS
AGNR 323 Introductory to Biostatistics ..... 3
AGRN 423 Plant Nutrition and Soil Fertility ..... 3
BIOL 111 Principles of Biology I
Credits 47
BIOL 113 Principles of Biology I Laboratory ..... 1
HORT 333 Landscape Design Theory HORT 333 Landscape Design Theory ..... 3
NRES 151 Introduction to Urban Forestry ..... 3
NRES 201 Dendrology
NRES 333 Silviculture ..... 3
NRES 433 Forest Ecology ..... 3
NRES 474 Forest Mensuration ..... 3
NRES 475 Urban Affairs and Planning ..... 3
PLSC 321 Integrated Pest Management, or ..... 3
ENTO 313 General \& Applied Entomology
PLSC 474 Plant Pathology4
PLSC 484 Internship in Ag \& Natural Resources ..... 3-6
SOIL 203 Introduction to Soil Science ..... 3
SOIL 204 Introduction to Soil Science Laboratory ..... 1
SUPPORTIVE REQUIREMENTS
Credits 17
AGRI 499 Special Topics in Agriculture ..... 3
AGRN 499 Independent Study in Plant \& Soil Science ..... 3
AGRN 333 Weed Science ..... 3
AGNR 353 Natural Resources Conservation ..... 3
AGNR 483 Principles of Geographic Information Systems ..... 3
AGNR 463 Plant Genetics and Breeding ..... 3
AGME 313 Agricultural Surveying Technology ..... 3
BIOL 402 Ecology ..... 3
BUED 212 Computer Concepts \& Applications ..... 3
CHEM 211 Fundamentals of Organic Chemistry I ..... 3
CHEM 213 Fundamentals of Organic Chemistry I laboratory ..... 3
HORT 203 Introduction to Horticultural Science ..... 3

HORT 313 Floriculture and Ornamental Horticulture 3
HORT 353 Turf Management and Maintenance 3
HORT 388 Ornamental Plant Materials 3
HORT 423 Horticultural Crops 3
NRES 404 Conservation Biology 3
PLSC 283 Agriculture and the Environment 3
PLSC 333 Plant Anatomy 3
PLSC 476 Plant Propagation 3
PLSC 406 Crop Physiology \& Ecology 3
SOCI 315 Urban Sociology 3
SOIL 443 Soil Chemistry 3
AMIC 324 Agricultural Microbiology 4
ENVS w/advisor approval 3
PHYS w/advisor approval 3
A minimum cumulative grade of "C" (GPA 2.0) or better is required for supportive courses.

## CURRICULUM GUIDE FOR URBAN FORESTRY PROGRAM ${ }^{1}$

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101/H | 3 | ENGL 102/H | 3 |
| MATH 110 or |  | ENGL 001 | 0 |
| MATH 111 | 3 | NRES 151 | 3 |
| PLSC 184 | 3 | BIOL 111 | 3 |
| PLSC 185 | 1 | BIOL 113 | 1 |
| AGNR 111 | 1 | CHEM 112 | 3 |
| CHEM 111 | 3 | CHEM 114 | 1 |
| CHEM 113 | 1 | GEN ED CURR AREA I | 3 |
|  | 15 |  | 17 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ANPT 114 | 4 | SOIL 203 | 3 |
| ENGL 203 | 3 | SOIL 204 | 1 |
| Free Elective | 3 | AGME 283 | 3 |
| NRES 201 | 4 | NRES 475 | 3 |
| Support course | 3 | NRES 333 | 3 |
|  |  | ECON 201 | 3 |
|  | 17 |  | 16 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or |  | AMIC 324 | 4 |
| ENGL 310 | 3 | GEN ED CURR AREA II | 3 |
| AGEC 213 | 3 | HORT 333 | 3 |
| AGRN 423 | 3 | NRES 474 | 3 |
| AGNR 388 | 3 |  |  |
| GEN ED CUR AREA I | 3 |  | 13 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| NRES 433 | 3 | PLSC 484 | 4 |
| ENTO 313/PLSC 321 | 3 | Support courses | 3 |
| PLSC 474 | 4 | AGRI 400 | 3 |
| Support courses | 4 | Support Courses | 3 |
|  | 14 |  | 13 |

Total Credit Hours: 120
${ }^{1}$ A minimum grade of "C" is required for all Required Major Courses.
${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

## MINOR PROGRAMS

Students desiring a Minor in Agribusiness $^{1}$ must complete a minimum of 18 hours from the courses listed ${ }^{2}$ :

| AGBU 313 | AGEC 213 | AGEC 333 |
| :--- | :--- | :--- | AGEC 419

${ }^{1}$ The Minor in General Agriculture - A minor in General Agriculture requires a minimum of 18 hours for the Plant and Soil Sciences, or for the Animal and Poultry Sciences.
${ }^{2}$ A grade of "C" or better will be required in the courses taken to satisfy the minor requirement.

## DIRECTORY OF FACULTY

## Acquah, Emmanuel, Professor

B.S., University of Maryland Eastern Shore, M.S. and Ph.D., The Ohio State University

Allen, Arthur L., Professor, 1890 Associate Research Director
B.S., University of Arkansas at Pine Bluff; M.S., Oklahoma State University; Ph.D., University of Illinois-Urbana

Clarke, Maurice F., Assistant Professor
B.S., Tuskegee University; M.Sc., University of Edinburgh; DVM, Tuskegee University

Cotton, Corrie P., Research Assistant Professor
B.S., University of Maryland Eastern Shore; BLA, MLA, The Pennsylvania State University

Dadson, Robert B., Professor and Acting Chairperson
B.Sc., University of London; M.Sc., Ph.D., McGill University

Demissie, Ejigou, Professor
B.S., M.S., Ph.D., Oklahoma State University

Escobar, Enrique N., Assistant Professor
B.S., M.S., Universidad de El Salvador; Ph.D., University of Maryland, College Park

Gong, Tao, Assistant Professor
B.S., M.S., Harbin Institute of Technology, P.R. China; Ph.D., Middle Tennessee State University

Green, Bessie, Research Associate
B.S., Salisbury State University; M.S., Ph.D., University of Maryland Eastern Shore

Hashem, Fawzy, Research Associate Professor
B.S., University of Ain Shams; M.S., University of Cairo; Ph.D., University of Cairo; Ph.D., University of Maryland College Park

Marsh, Lurline E, Professor
B.S., University of the West Indies; M.S., Tuskegee University; Ph.D., University of Minnesota

Min, Byungrok, Assistant Professor
B.S., M.S., Seoul National University, R.O. Korea; Ph.D., Iowa State University

Mollett, Theodore A., Associate Professor
B.S., Oregon State University; M.S., Ph.D., Purdue University

Parveen, Salina, Professor
B.S., M.S., University of Dhaka; Ph.D., University of Florida

## Schwarz, Jurgen, Professor

B.S., M.S., Hohenheim University; Ph.D., Cornell University

Shorter, George, Assistant Professor
B.S., Maryland State College; M.S., Virginia State College; Ph.D., Iowa State University

Timmons, Jennifer, Assistant Professor
B.S., University of Delaware; M.S., Ph.D., University of Maryland Eastern Shore

Tubene, Stephan L., Associate Professor
B.S., Institut Facultaire des Sciences Agronomiques de Yangambi; M.S., Alcorn State University; Ph.D., Kansas State University

## Department of Human Ecology

http://www.umes.edu/HE

## Dr. Grace Namwamba, Chairperson <br> MISSION

The mission of the Department of Human Ecology is to prepare students for careers, graduate study and leadership roles in Fashion Merchandising, Child Development, Dietetics, Family and Consumer Sciences, and Food and Nutrition. The department challenges faculty and students to make contributions that will enhance the quality of life of individuals and families in diverse societies. Our focus is to empower individuals to cope with change, explore new technologies, and manage resources wisely.

The philosophical tenets and programmatic focus remain central to the mission of the 1890-land grant university. This mission is carried out through teaching, research and community service.

## OBJECTIVES

The objectives of the Human Ecology Department are to:

1. Establish and promote high academic standards and performance.
2. Provide career development opportunities for students, faculty and staff.
3. Strengthen and expand research and community service programs.
4. Increase enrollment and graduation rates.

## DEGREES OFFERED

Bachelor of Science - Human Ecology

## CERTIFICATION

Family Financial Planning Certificate

## DEPARTMENTAL REQUIREMENTS

Department of Human Ecology programs require that all students maintain a "C" in each course in their Program Core and Program Electives and a "C" average in General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA.

## CHILD DEVELOPMENT PROGRAM

The program in Child Development provides a broad interdisciplinary background in the area of children and families. As the only four-year program in Maryland, it prepares students to work and/or teach others to work with children and their families. Emphasis is given to development within various family structures and to strategies for facilitating normal development. Students learn basic and applied concepts of human development and acquire skills in working with young children and their families with different abilities, and backgrounds in a variety of settings. In addition to classroom instruction, child development students spend part of several semesters working in the campus Child and Family Development Center and in off-campus social and human service agencies. Students choosing this option can broaden their career possibilities by completing courses in cognitive areas such as business, recreation, sociology, social work, or nutrition that complement the training in Child Development. Successful completion of the Child Development program also provides excellent preparation for graduate studies.

## DEPARTMENTAL REQUIREMENTS

The Child Development Program requires that all students, including those transferring to the Department from 2year institutions, maintain a " C " in each course in their Program Core and Program Electives and a " C " average in

General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA.

Child Development students are required to complete 400 clock-hours of internship and practicum experience designed to provide on-the-job training in the childcare/education field. Students must include a minimum of 12 credit hours of out-of-class experience. HUEC 400 and HUEC 450, for three (3) credits and five (5) credits respectively, meet the out-of-class experience. Students should consult their advisor to select four (4) additional credits to meet the 12 credit hour requirement.

## CAREER OPPORTUNITIES

Potential employment opportunities include private child care facilities, hospital and clinic settings, recreation programs, health and social service agencies, and businesses. Students choosing this option can broaden their career possibilities by completing courses in cognitive areas such as business, exercise science, social work, or nutrition that complement the training in Child Development.

## CHILD DEVELOPMENT <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203 ${ }^{1,2}$
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES ${ }^{1}$

Credits 7
Students must select two science courses and one science laboratory course from the following.
ANSC 114, BIOL 101, BIOL 103 (Lab), BIOL 111, BIOL 112, CHEM 101, CHEM 102, CHEM 103 (Lab), CHEM 104 (Lab), CHEM 111C, ENVS 101, NUDT 210, PHYS 101, PHYS 103 (Lab), PHYS 102, PHYS 161, PHYS 181H, PHYS 182H, PHYS 263, PLSC 184

## Curriculum Area IV - MATHEMATICS

MATH 102
Curriculum Area V - ENGLISH COMPOSITION ${ }^{2}$
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

[^15]HUEC 230/Online Multicultural Perspectives on Families in the U.S.
EXSC 111
Personal Health \& Fitness

Total Required for General Education
SUPPORT REQUIREMENTS
BUED 212 Computer-Concepts/Applications I
HUEC 474 Research Methodology

## Credits 41

FOUNDATION KNOWLEDGE

## Credits 5

CHDE $220 \quad$ Foundations of Early Childhood
Credits 53
CHDE 222 Infant/Child Development \& Learning3

CHDE 224 Emerging Language \& Literacy 3
CHDE 246 Guiding Young Children 3
CHDE 323 Creative Activities for Young Children 3
CHDE 325 Special Needs in Early Childhood 3
CHDE $327 \quad$ Curriculum and Instruction for Infants and Toddlers 3
CHDE $330 \quad$ Observing and Interpreting Behavior of Young Children 3
CHDE 332 Curriculum and Instruction for Preschool Children 3
CHDE 335 Movement Education 3
CHDE 427 Partnerships 3
CHDE 430 Supervision \& Administration of Early Childhood Prog 3
CHDE 440 School Age Programming 3
HUEC 203/Online Human Development: A Lifespan Perspective 3
HUEC 361 Contemporary Family Issues 3
HUEC 450 Practicum-Human Development 5
NUDT 214 Infant and Child Nutrition 3
MAJOR REQUIREMENTS
HUEC 370
HUEC 399
HUEC 400
Professional Development
Credits 12

HUEC 409
HUEC 451
HUEC 463
Pre-Internship Seminar
2
Internship 3
Post-Internship Seminar 1
Post Practicum 1
Food, Clothing and Culture 3
HUEC 495
Senior Seminar in Human Ecology
FREE ELECTIVES
Credits 9

[^16]
## CURRICULUM GUIDE FOR CHILD DEVELOPMENT



## SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| Approved Elective | 3 | Approved Elective | 3 |
| CHDE 427 | 3 | HUEC $450^{3,4}$ | 5 |
| CHDE 430 | 3 | HUEC 451 | 1 |
| HUEC $409^{3}$ | 1 | HUEC 463 | 3 |
| HUEC 474 | 2 | HUEC 495 | 1 |
|  | 12 |  | 13 |

## Total Credit Hours: 120

[^17]
## CHILD DEVELOPMENT <br> Articulated Program with Wor-Wic Community College

The University of Maryland Eastern Shore and Wor-Wic Community College entered into an articulation agreement to facilitate the transfer of Early Childhood Education students from Wor-Wic Community College to UMES for the purpose of entering the bachelor's degree program in Human Ecology - Child Development.

Students enrolled in Wor-Wic Community College's Early Childhood Education Associate of Applied Science Program (AAS) can transfer to UMES for completion of the bachelor's degree in Human Ecology - Child Development, following completion of the AAS program. A maximum of 60 credits of successful community college study can be transferred to UMES.

## DEPARTMENTAL REQUIREMENTS

The Child Development Program requires that all students maintain a " $C$ " in each course in their Program Core and Program Electives and a "C" average in General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA.

Child Development majors are required to complete HUEC 400 and HUEC 450 for 5 credits each. Students transferring from Wor-Wic may earn credit for these courses through a departmental credit by examination (CBE) at UMES per the UMES-WWCC Articulation Agreement. Students are encouraged to take CHDE 220, CHDE 222 and CHDE 224 prior to fall enrollment at UMES. Wor-Wic transfer students may earn credit for courses through a departmental credit by examination at UMES, per the UMES-WWCC Articulation Agreement.

## CAREER OPPORTUNITIES

Potential employment opportunities include private child care facilities, hospital and clinic settings, recreation programs, health and social service agencies, and businesses. Students choosing this option can broaden their career possibilities by completing courses in cognate areas such as business, recreation, or nutrition that complement the training in Child Development. In addition, successful completion of the Child Development program provides excellent preparation for graduate studies.

## CHILD DEVELOPMENT <br> Program with Wor-Wic Community College <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203 ${ }^{1,2}$

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES ${ }^{3}$

Credits 7
Students must select two science courses and one science laboratory course from the following.
ANSC 114, BIOL 101, BIOL 103 (Lab), BIOL 111, BIOL 112, CHEM 101, CHEM 102, CHEM 103 (Lab), CHEM 104 (Lab), CHEM 111C, ENVS 101, NUDT 210, PHYS 101, PHYS 103 (Lab), PHYS 102, PHYS 161, PHYS 181H, PHYS 182H, PHYS 263, PLSC 184

## Curriculum Area IV - MATHEMATICS

MATH 102
Curriculum Area V - ENGLISH COMPOSITION ${ }^{2}$
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

[^18]Curriculum Area VI - EMERGING ISSUES<br>HUEC 100<br>HUEC 230/Online<br>EXSC 111<br>First Year Experience Course<br>Multicultural Perspectives on Families in the U.S.<br>Personal Health \& Fitness

Credits 7

Total Required for General Education

## Credits 41

## SUPPORT REQUIREMENTS

BUED 212 Computer-Concepts/Applications I
HUEC 474 Research Methodology 2
FOUNDATION KNOWLEDGE
CHDE 220 Foundations of Early Childhood 3
CHDE 222 Infant/Child Development \& Learning 3
CHDE 224 Emerging Language \& Literacy 3
CHDE 246 Guiding Young Children 3
CHDE 323 Creative Activities for Young Children 3
CHDE 325 Special Needs in Early Childhood 3
CHDE $327 \quad$ Curriculum and Instruction for Infants and Toddlers 3
CHDE $330 \quad$ Observing and Interpreting Behavior of Young Children 3
CHDE $332 \quad$ Curriculum and Instruction for Preschool Children 3
CHDE 335 Movement Education 3
CHDE 427 Partnerships 3
CHDE 430 Supervision \& Administration of Early Childhood Program
CHDE 440 School Age Programming 3
HUEC 203/Online Human Development: A Lifespan Perspective 3
HUEC 361 Contemporary Family Issues 3
HUEC $450 \quad$ Practicum-Human Development 5
NUDT 214 Infant and Child Nutrition 3
MAJOR REQUIREMENTS
Credits 12
HUEC 370
HUEC 399
HUEC 400
HUEC 409
HUEC 451
HUEC 463
HUEC 495
Professional Development 2
Pre-Internship Seminar 1
Internship 3
Post-Internship Seminar 1
Post Practicum 1
Food, Clothing and Culture 3
Senior Seminar in Human Ecology 1
FREE ELECTIVES
Credits 9

## CURRICULUM GUIDE FOR CHILD DEVELOPMENT 2+2 ARTICULATED PROGRAM WITH WOR-WIC COMMUNITY COLLEGE (WWCC)

| First Semester | FRESHMAN YEAR (at WWCC) |  | Credit |
| :---: | :---: | :---: | :---: |
|  | Credit | Second Semester |  |
| CMP 101 | 3 | SDV 100 | 1 |
| EDU 101 | 4 | EDU 151 | 3 |
| EDU 102 | 3 | EDU 152 | 3 |
| PSY 101 | 3 | EDU 153 | 3 |
| ENG 101 | 3 | ENG 151 | 3 |
|  |  | EDU $103{ }^{1}$ | 4 |
|  | 16 |  | 17 |
| SOPHOMORE YEAR (at WWCC) |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| BIO 101 | 4 | EDU 251 | 4 |
| EDU 201 | 3 | EDU $252^{1}$ | 3 |
| EDU $260{ }^{4}$ | 2 | EDU $261{ }^{14}$ | 2 |
| PSY 205 | 3 | EDU $204{ }^{1}$ | 3 |
| MTH 103 | 4 | PHYS 104 | 4 |
| SOC 101 | 3 | SPH 101 | 3 |
|  | 19 |  | 19 |

JUNIOR YEAR (at UMES)

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHDE 246 | 3 | CHDE 325 | 3 |
| CHDE $327^{1}$ | 3 | CHDE $332^{1}$ | 3 |
| CHDE 330 | 3 | CHDE 335 | 3 |
| CHDE 323 | 3 | HUEC 361 | 3 |
| HUEC 203 | 3 | HUEC 370 | 2 |
| EXSC $111^{2,3}$ | 3 | HUEC 399 | 1 |
| ENGL 002 | 0 | HUEC 230 | 3 |
|  | 18 |  | 18 |

SUMMER YEAR (at UMES)

| Credit |  |
| :--- | :--- |
| HUEC $400^{4}$ | 3 |
| 3 |  |

SENIOR YEAR (at UMES)

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHDE $427^{1}$ | 3 | HUEC $450^{4}$ | 5 |
| CHDE 430 | 3 | HUEC 451 | 1 |
| CHDE 440 | 3 | HUEC 46 | 3 |
| HUEC 409 | 1 | HUEC 495 | 1 |
| ENGL 305 | 3 | GEN ED CURR AREA ${ }^{2}$ | 3 |
| GEN ED CURR AREA I |  |  |  |
| HUEC 474 | 3 |  |  |
|  | 2 |  | 13 |

## Total Credit Hours: 138

${ }^{1}$ Wor-Wic transfer students may earn credit for these courses through a departmental credit by examination (CBE) at UMES.
${ }^{2}$ Students are encouraged to complete prior to fall enrollment at UMES.
${ }^{3}$ EXSC 111 cannot be repeated for credit.
${ }^{4}$ Wor-Wic students must complete EDU 260 and EDU 261 to satisfy requirement for HUEC 400 at UMES.

## CHILD DEVELOPMENT <br> Articulated Program with Chesapeake College

The University of Maryland Eastern Shore and Chesapeake College entered into an articulation agreement to facilitate the transfer of Early Childhood Education students from Chesapeake College to UMES for the purpose of entering the bachelor's degree program in Human Ecology - Child Development.

Students enrolled in Chesapeake College Early Childhood Education Associate of Applied Science Program (AAS) can transfer to UMES for completion of the bachelor's degree in Human Ecology - Child Development, following completion of the AAS program. A maximum of 60 credits of successful community college study can be transferred to UMES.

## DEPARTMENTAL REQUIREMENTS

The Child Development Program requires that all students maintain a "C" in each course in their Program Core and Program Electives and a "C" average in General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA.

Child Development majors are required to complete HUEC 400 and HUEC 450 for five (5) credits each. Students transferring from Chesapeake College may earn credit for these courses through a departmental credit by examination (CBE) at UMES per the UMES-CC Articulation Agreement. Students are encouraged to take CHDE 220, CHDE 222 and CHDE 224 prior to fall enrollment at UMES. Chesapeake College transfer students may earn credit for courses through a departmental credit by examination (CBE) at UMES per the UMES-CC Articulation Agreement.

## CAREER OPPORTUNITIES

Potential employment opportunities include private childcare facilities, hospital and clinic settings, recreation programs, health and social service agencies, and businesses. Students choosing this option can broaden their career possibilities by completing courses in cognate areas such as business, recreation, or nutrition that complement the training in Child Development. In addition, successful completion of the Child Development program provides excellent preparation for graduate studies.

## CHILD DEVELOPMENT <br> Program with Chesapeake College <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203 ${ }^{1,2}$

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES ${ }^{3}$

## Credits 7

Students must select two science courses and one science laboratory course from the following.
ANSC 114, BIOL 101, BIOL 103 (Lab), BIOL 111, BIOL 112, CHEM 101, CHEM 102, CHEM 103 (Lab), CHEM 104 (Lab), CHEM 111C, ENVS 101, NUDT 210, PHYS 101, PHYS 103 (Lab), PHYS 102, PHYS 161, PHYS 181H, PHYS 182H, PHYS 263, PLSC 184

## Curriculum Area IV - MATHEMATICS

MATH 102

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{2}$

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

## Credits 3

Credits 9

[^19]Curriculum Area VI - EMERGING ISSUES<br>HUEC 100<br>HUEC 230/Online<br>EXSC 111<br>First Year Experience Course<br>Multicultural Perspectives on Families in the U.S.<br>Personal Health \& Fitness

Credits 7

Total Required for General Education

## Credits 41

## SUPPORT REQUIREMENTS

BUED 212 Computer-Concepts/Applications I
HUEC 474 Research Methodology 2
FOUNDATION KNOWLEDGE
CHDE 220 Foundations of Early Childhood 3
CHDE 222 Infant/Child Development \& Learning 3
CHDE 224 Emerging Language \& Literacy 3
CHDE 246 Guiding Young Children 3
CHDE 323 Creative Activities for Young Children 3
CHDE 325 Special Needs in Early Childhood 3
CHDE $327 \quad$ Curriculum and Instruction for Infants and Toddlers 3
CHDE $330 \quad$ Observing and Interpreting Behavior of Young Children 3
CHDE $332 \quad$ Curriculum and Instruction for Preschool Children 3
CHDE 335 Movement Education 3
CHDE 427 Partnerships 3
CHDE 430 Supervision \& Administration of Early Childhood Program
CHDE 440 School Age Programming 3
HUEC 203/Online Human Development: A Lifespan Perspective 3
HUEC 361 Contemporary Family Issues 3
HUEC $450 \quad$ Practicum-Human Development 5
NUDT 214 Infant and Child Nutrition 3
MAJOR REQUIREMENTS
Credits 12
HUEC 370
HUEC 399
HUEC 400
HUEC 409
HUEC 451
HUEC 463
HUEC 495
Professional Development 2
Pre-Internship Seminar 1
Internship 3
Post-Internship Seminar 1
Post Practicum 1
Food, Clothing and Culture 3
Senior Seminar in Human Ecology 1
FREE ELECTIVES
Credits 9

## CURRICULUM GUIDE FOR CHILD DEVELOPMENT <br> Articulated Program with Chesapeake College (CC)

FRESHMAN YEAR (at Chesapeake)

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| FSC 101 | 1 | CPL 201 | 1 |
| ECD 101 | 3 | ECD 105 | 3 |
| ECD 160 | 3 | PSY 150 | 3 |
| ENG 101 | 3 | ECD $180^{1}$ | 3 |
| ECD 163 | 3 | SOC 161 | 3 |
| ART/HUM | 3 | ENG 102 | 3 |
|  | 16 |  | 16 |

SOPHOMORE YEAR (at Chesapeake)

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| NAT/SCI | 4 | ECD 165 | 3 |
| EDU $214 / 215$ | 3 | MAT 200 | 3 |
| ECD $270^{4}$ | 3 | SCI ELE | 4 |
| ECD 161 | 3 | ECD 171 | 3 |
| COM 101 | 3 | PED 103 | 3 |
|  | 16 |  | 16 |


|  | JUNIOR YEAR (at UMES) |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| CHDE 323 | 3 | CHDE $325^{2}$ | 3 |
| CHDE 327 | 3 | CHDE $332^{2}$ | 3 |
| CHDE 330 | 3 | HUEC 361 | 3 |
| ENGL 002 | 0 | HUEC 399 | 1 |
| HUEC 203 | 3 | ENGL 305 | 3 |
| HUEC 246 | 3 | HUEC 370 | 2 |
| HUEC 230 | 3 | CHDE 335 | 3 |
|  | 18 |  | 18 |

SUMMER YEAR (at UMES)

| Credit |  |
| :--- | :--- |
| HUEC $400^{4}$ | 3 |
| 3 |  |

## SENIOR YEAR (at UMES)

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHDE 427 | 3 | HUEC 451 | 1 |
| CHDE $430^{2}$ | 3 | HUEC $450^{3}$ | 5 |
| CHDE $440^{2}$ | 3 | HUEC 463 | 3 |
| BUED 212 | 3 | HUEC 495 | 1 |
| HUEC 409 | 1 | GEN ED CURR AREA | 3 |
| HUEC 474 | 2 |  | 13 |

## Total Credit Hours: 128

[^20]
## DIETETICS

The Didactic Program in Dietetics at the University of Maryland Eastern Shore is housed within the Department of Human Ecology, which is located in the School of Agricultural and Natural Sciences. Students who satisfy and successfully complete the prescribed course requirements for the dietetics program will be awarded the Bachelor of Science Degree in Human Ecology with a concentration in dietetics.

The mission of the dietetics program is to provide educational opportunities for students to develop mastery of food and nutrition principles, acquire skills for effective dietetic practice, enhance leadership qualities, and foster career development. Its philosophical tenets remain central to the mission of the 1890 Land-Grant Institution.

The Didactic program in Dietetics is currently granted accreditation status through spring 2014 by the Accreditation Council for Nutrition and Dietetics Education (ACEND), an agency of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Chicago, IL 60606-6995, 312.899.0040 Ext. 5400. The next scheduled site visit by ACEND program reviewers will occur fall 2013, as part of the accreditation reaffirmation process, which occurs every ten years.

Obtaining dietetic credentialing is a three-step process. Successful completion of the Didactic Program is the first step toward dietetic credentialing. The second step consists of completing a supervised practice experience through an ACEND accredited Dietetic Internship. The final step is successfully passing the national Registration Examination for Dietitians administered through the Commission on Dietetic Registration (CDR). Additionally, as of June 1, 2009, graduates of an accredited didactic program are eligible to take the Dietetic Technician Registration exam through the DTR pathway III provision approved by CDR.

## DEPARTMENTAL REQUIREMENTS

Program admission requirements are the same as those for the University. Freshman applicants must have graduated from an accredited secondary school. However, for optimal admission consideration, an academic grade point average (GPA) of at least 2.5 and a competitive score on the SAT or ACT tests is expected.

Students who have attended any accredited institution of higher education and have earned at least one (1) credit hour or more will be classified as a transfer student. Students must be in good judicial, academic, and financial standing and to be considered for admission as a transfer student. Transfer students who have less than 28 credits must submit a high school transcript and SAT or ACT test scores unless they have been out of school longer than two years. Students may complete the Declaration of Major form with a designated concentration in Dietetics as a freshman or transfer student, and be assigned an advisor. However, the declaration of a concentration in dietetics does not constitute admission into the program.

Students who wish to be admitted into the dietetics concentration may apply for admission after completing 28 semester hours with a minimum overall GPA of 2.75 and a grade of "C" or better in foundation courses BIOL 111/113, CHEM 111/113 and CHEM 112/114, NUDT 210, MATH 209, ENGL 101 and ENGL 102, SOCI 101, PSYCH 200, and EXSC 111, as well as HUEC 100: First Year Experience and satisfactory passage of the English Proficiency Exam. Program graduates are eligible to receive a Verification Statement with a GPA of 2.75 or higher. Successful completion of the didactic program in dietetics and receipt of a Verification Statement does not guarantee acceptance into a post-baccalaureate dietetic internship. Most DI programs expect a 3.0 or higher GPA for serious consideration.

OUT-OF-CLASS EXPERIENCE
Students must include a minimum of 12 credit hours of out-of-class experiences. The dietetic course curriculum has six credit hours already embedded in the sequence. Students should consult their departmental academic advisor to select six (6) additional credits to meet the 12 credit hours requirements.

## CAREER OPPORTUNITIES

Program graduates who receive a Verification Statement are eligible to apply to an ACEND accredited Dietetic Internship program and sit for the Dietetic Technician Registration (DTR) exam. Upon successful completion of a Dietetic Internship, students are qualified to take the national Dietetic Registration Exam to become a Registered Dietitian and apply for state licensure where applicable. Registered Dietitians are employed by industry, public health services, hospitals and medical centers, food and nutrition services, communications, and other local, state, national and international agencies in research and educational programs.

## DIETETICS

Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES <br> Credits 8

Students must select two science courses and one science laboratory course from the following.
BIOL 111, BIOL 113 (lab), BIOL 231, BIOL 233 (lab)
Curriculum Area IV - MATHEMATICS
MATH 109

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credits 3

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

[^21]Curriculum Area VI - EMERGING ISSUES<br>HUEC 100<br>EXSC 111<br>MATH 210<br>First Year Experience<br>Personal Health \& Fitness<br>Elementary Statistics

Credits 7

Total Required for General Education
Credits 42
SUPPORT REQUIREMENTS
BIOL 301 Microbiology
BIOL 303
AMIC 324
BIOL 232
BIOL 234
FMGT 101
HUEC 474
Microbiology Laboratory $\underline{\underline{O R}}$
Agricultural Microbiology
Human Anatomy and Physiology II
Human Anatomy and Physiology II Laboratory
Applied Food Service Sanitation
Research Methodology
Credits 12

FOUNDATION KNOWLEDGE
NUDT 210 Elements of Nutrition
Credits 38
NUDT 211 Scientific Principles of Food I 3
NUDT 212 Scientific Principles of Food II 3
NUDT 300 Essentials of Nutrition Practice 1
NUDT 305 Nutrition in the Life Cycle 3
NUDT 310 Nutrition Education and Counseling 3
NUDT 391 Nutritional Science I 3
NUDT 392 Nutritional Science II 3
NUDT 401 Clinical Nutrition I 4
NUDT 402 Clinical Nutrition II 4
NUDT 471 Foodservice Management 3
NUDT 472 Foodservice Management Laboratory 2
NUDT 473 Community Nutrition 3
MAJOR REQUIREMENTS
HUEC 370 Professional Development 2
HUEC 463 Food, Clothing and Culture 3
NUDT 475 Senior Practicum 3
HUEC 495 Senior Seminar in Human Ecology 1
CHEMISTRY MINOR
CHEM 111 Principles of Chemistry I
CHEM 113 Principles of Chemistry I Laboratory 1
CHEM 112 Principles of Chemistry II 3
CHEM 114 Principles of Chemistry II Laboratory 1
CHEM 211 Fundamentals of Organic Chemistry I 3
CHEM 213 Fundamentals of Organic Chemistry I Laboratory 1
CHEM 212 Fundamentals of Organic Chemistry II 3
CHEM 214 Fundamentals of Organic Chemistry II Laboratory 1
CHEM 341 Biochemistry I 3
CHEM 343 Biochemistry I Laboratory 1
FREE ELECTIVES

## CURRICULUM GUIDE FOR DIETETICS



Total Credit Hours: 123

[^22]
## FAMILY AND CONSUMER SCIENCES

The Family and Consumer Sciences program is designed to provide the student with an interdisciplinary perspective for professional work with families and consumers. Students develop a comprehensive background while focusing on one's specific interest(s). Graduates of the Family and Consumer Sciences program will be prepared to work in either the public or private sector environments that serve families and consumers. Students may select a minor to strengthen their general education, core and required coursework. Depending on the student's interest, the minor may be chosen from one of the following areas: Child Development, Dietetics, Fashion Merchandising, Nutrition or Gerontology. Early advisement is highly recommended.

## DEPARTMENTAL REQUIREMENTS

The Family and Consumer Sciences Program require that all students maintain a "C" in each course in their Program Core and Program Electives and a "C" average in General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA. All students are required to complete a 200 clock-hour internship during the summer between the junior and senior year.

## CAREER OPPORTUNITIES

Graduates of the Family and Consumer Sciences program will be prepared to work in either the public or private sector that serves families and consumers, such as social services agencies, group home facilities, or governmental agencies. Students may select to pursue graduate studies in child and family development, education, family and consumer sciences, marriage and family therapy or related disciplines that focus on individuals, families, and communities.

## FAMILY AND CONSUMER SCIENCES Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES
Credits 7
Students must select two science courses and one science laboratory course from the following.
ANSC 114, BIOL 101, BIOL 103 (Lab), BIOL 111, BIOL 112, CHEM 101, CHEM 102, CHEM 103 (Lab), CHEM 104 (Lab), CHEM 111C, ENVS 101, PHYS 101, PHYS 103 (Lab), PHYS 102, PHYS 161, PHYS 181H, PHYS 182H, PHYS 263, PLSC 184

## Curriculum Area IV - MATHEMATICS

MATH 109
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 3

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H; ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES
Credits 7

HUEC 100
HUEC 230/Online
EXSC 111

First Year Experience Multicultural Perspectives on Families in the U.S. Personal Health \& Fitness

[^23]
## Total Required for General Education

## SUPPORT REQUIREMENTS

HUEC 474
Research Methodology
FOUNDATION KNOWLEDGE
CHDE 222
FMCT 141
FMCT 201
FMCT 381
FMCT 361
HUEC 203/Online
HUEC 242
HUEC 243
HUEC 310
HUEC 361
HUEC 460
SOCI 361
HUEC 490
NUDT 210
NUDT 211
NUDT 212
NUDT 305
Infant/Child Development \& Learning
Introduction to Fashion Industry
Clothing and Textiles for Consumers $\boldsymbol{O R}$
Textiles I
Apparel Construction and Evaluation
Human Development: A Lifespan Perspective
Foundations of Family \& Consumer Sciences
Housing Design
Resource Management
Contemporary Family Issues
The Family and Aging $\boldsymbol{O R}$
Social Gerontology

Consumer Motivation 3
Elements of Nutrition 3
Scientific Principles of Food I 3
Scientific Principles of Food II 3
Nutrition in the Life Cycle 3
MAJOR REQUIREMENTS
HUEC 370
HUEC 399
HUEC 400
HUEC 409
HUEC 463
HUEC 495
FREE ELECTIVES

## 3

333333333333333
Professional Development

2

Pre-Internship Seminar
Internship 3
Post-Internship Seminar 1
Food, Clothing and Culture 3
Senior Seminar in Human Ecology 1

## Credits 41

## Credits 2

2

## Credits 48

## Credits 11

## Credits 18

NOTE: Students may complete 18 credits of free electives or select and complete an approved minor.

[^24]
## CURRICULUM GUIDE FOR FAMILY AND CONSUMER SCIENCES

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | EXSC 111 $1^{1}$ | 3 |
| SOCI 101 | 3 | ENGL 102 | 3 |
| HUEC 100 | 1 | ENGL 001 | 0 |
| FMCT 141 | 3 | GEN ED CURR AREA I | 3 |
| GEN ED CURR AREA III | 4 | GEN ED CURR AREA III | 3 |
|  |  | MATH 109 or Higher | 3 |
|  | 14 |  | 15 |
|  |  | SOPHOMORE YEAR |  |
| First Semester | Credit | Second Semester | Credit |
| HUEC 242 | 3 | CHDE 222 | 3 |
| HUEC 203 | 3 | HUEC 243 | 3 |
| ENGL 203 | 3 | Elective/Minor Course ${ }^{3}$ | 3 |
| PSYC 100 | 3 | HUEC 230 | 3 |
| GEN ED CURR AREA I | 3 | NUDT 210 | 3 |
|  | 15 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| HUEC 310 | 3 | ENGL 305 | 3 |
| HUEC 370 | 2 | HUEC 399 | 1 |
| NUDT 211 | 3 | NUDT 212 | 3 |
| PSYC 303 | 3 | NUDT 305 | 3 |
| FMCT 361 | 3 | Elective/Minor Course ${ }^{3}$ | 6 |
|  | 14 |  | 16 |

SUMMER

|  | Credit |  |  |
| :--- | :--- | :--- | :--- |
| ${\text { HUEC } 400^{4}}^{l}$ | 3 |  |  |
|  | 3 | SENIOR YEAR |  |
| First Semester | Credit | Second Semester | Credit |
| HUEC474 | 2 | HUEC 460 or SOCI 361 | 3 |
| HUEC 409 | 1 | HUEC 463 | 3 |
| FMCT 381 or | 3 | HUEC 361 | 3 |
| FMCT 201 | HUEC 490 | 3 |  |
| HUEC 495 | 1 | Elective/Minor Courses ${ }^{3}$ | 3 |
| Electives/Minor Courses ${ }^{3}$ | 6 |  | 15 |

## Total Credit Hours: 120

[^25]
## FAMILY AND CONSUMER SCIENCES EDUCATION PROGRAM

The Family and Consumer Sciences Education Program (FCS) provides educational opportunities designed to fulfill the needs of society in general and the State of Maryland in particular for FCS teachers. The program (1) offers a hands-on experience, performance-based program that will prepare prospective FCS teachers with the knowledge and skills needed to address some of life's most difficult tasks; and (2) enhances the quality of life for individuals and families in regard to resource management; living environments; individual, child and family development; nutrition and food; and textiles at the secondary level. The knowledge, skills, and processes acquired through Family and Consumer Sciences Education are applicable to the management of personal and family lives as well as work responsibilities.

## DEPARTMENTAL REQUIREMENTS

The Family and Consumer Science Education Program require that all students maintain a "C" in each course in their Program Core and Program Electives and a "C" average in General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA. Students are also required to meet the education requirements for admission to teacher candidacy through the Department of Education, including passing PRAXIS I. Students will be expected to consult their departmental academic advisor for information regarding requirements.

## FAMILY AND CONSUMER SCIENCES EDUCATION Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

[^26]
## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES <br> Credits 7

Students must select two science courses and one science laboratory course from the following. BIOL 101, BIOL 103 (Lab), CHEM 101

Curriculum Area IV - MATHEMATICS
MATH 109
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 3

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

## Curriculum Area VI - EMERGING ISSUES

## Credits 7

HUEC 100
HUEC 230/Online
EXSC 111

First Year Experience
Multicultural Perspectives on Families in the U.S.
Personal Health \& Fitness

Total Required for General Education

## Credits 41

FOUNDATION KNOWLEDGE

CHDE 222
FMCT 201
FMCT 381
FMCT 361
HUEC 242
HUEC 243
HUEC 310
HUEC 361
HUEC 474
HUEC 490
NUDT 210
NUDT 211
MAJOR REQUIREMENTS
HUEC 370
HUEC 463
HUEC 495
EDUCATION REQUIREMENTS

EDCI 427
EDCI 480
EDCI 490
EDSP 428

EDCI 200 Introduction to Contemporary Education 3
EDCI $201 \quad$ PRAXIS Preparation ${ }^{2}$ 1
EDCI 311 Comprehensive Assessment in Education 3
EDCI $400 \quad$ Senior Seminar in Education 3
EDCI 406 Classroom Management 3
EDCI 409 Teaching Reading in Content Areas: Part I
EDCI 410 Teaching Reading in Content Areas: Part II 3
Infant/Child Development \& Learning 3
Clothing and Textiles for Consumers OR 3
Textiles I 3
Apparel Construction and Evaluation 3
Foundations of Family \& Consumer Sciences 3
Housing Design 3
Resource Management 3
Contemporary Family Issues 3
Research Methodology 2
Consumer Motivation 3
Elements of Nutrition 3
Scientific Principles of Food I 3

Professional Development 2
Food, Clothing and Culture 3
Senior Seminar in Human Ecology 1

Curriculum \& Instruction in Family \&Consumer Sciences 3
Teaching Intern: Secondary Ed. (Middle School) 6
Teaching Intern: Secondary Ed. (High School) 6
Communication and Collaboration in Special Education 3

HUEC 203/Online Human Development: Lifespan Perspective OR 3
PSYC 305 Developmental Psychology 3
PSYC 307 Educational Psychology 3
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203 ${ }^{2}$ Does not count towards graduation.

## CURRICULUM GUIDE FOR FAMILY AND CONSUMER SCIENCES EDUCATION

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 101 | 3 | GEN ED CURR AREA III | 3 |
| BIOL 103 | 1 | EXSC 111 | 3 |
| ENGL 101 | 3 | ENGL 102 | 3 |
| HUEC 100 | 1 | ENGL 001 $1^{2}$ | 0 |
| PSYC 100 | 3 | GEN ED CURR AREA I | 3 |
| SOCI 101 | 3 | MATH 109 or Higher | 3 |
|  | 14 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| HUEC 242 | 3 | CHDE 222 | 3 |
| EDCI 200 | 3 | HUEC 203 | 3 |
| EDCI $201^{3}$ | 1 | HUEC 230 | 3 |
| FMCT 361 | 3 | HUEC 243 | 3 |
| NUDT 210 | 3 | GEN ED CURR AREA I | 3 |
| NUDT 211 | 3 | ENGL 203 | 3 |
|  | 16 |  | 18 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHDE 323 | 3 | EDCI 406 | 3 |
| ENGL 305 | 3 | EDCI 409 | 3 |
| FMCT 381 or | 3 | HUEC 463 | 3 |
| FMCT 201 | 3 | HUEC 361 | 3 |
| PSYC 307 | 3 | HUEC 370 | 2 |
| HUEC 310 | 2 | HUEC 490 | 3 |
| HUEC 474 | 17 |  | 17 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| EDCI 311 | 3 | EDCI 400 | 3 |
| EDCI 410 | 3 | EDCI $480^{4,5}$ | 6 |
| EDCI 427 | 3 | EDCI $490^{4,5}$ | 6 |
| EDSP 428 | 3 |  |  |
| HUEC 495 | 1 |  | 15 |

## Total Credit Hours: 125

[^27]
## FASHION MERCHANDISING PROGRAM

The Fashion Merchandising Program is designed to prepare students for entry-level management positions in the broad field of fashion merchandising, with emphasis on the retail process of products and services. It includes an internship in Fashion Merchandising or a related area.

In addition, the department participates in the Fashion Institute of Technology (FIT) Visiting Student Program (located in New York City). Fashion Merchandising majors who meet eligibility requirements may opt to spend one year (junior year) at FIT for an additional degree (A.A.S.) in Advertising and Marketing Communications. Students return to the University of Maryland Eastern Shore (UMES) to complete the four-year program. To complement their program, students may choose to complete electives that focus on advertising, journalism, communication, visual presentation, or a minor is business administration. With appropriate courses taken as electives, students can pursue careers in fashion reporting, advertising, or graphic design.

## DEPARTMENTAL REQUIREMENTS

The Fashion Merchandising Program requires that all students maintain a "C" in each course in their Program Core and Program Electives and a " C " average in General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA. Students are required to complete an internship designed to provide on-the-job experience in the fashion/textile industry. Some of the businesses which provide internship experience for students are: Bloomingdale's, Macy's, J. C. Penney, Liz Claiborne, Black Entertainment Television (BET), Foot Locker, Sears, Nordstrom, and The Gap.

## STUDY TOURS

The Fashion Merchandising Program provides students with an opportunity to participate in a minimum of one major study tour each year. Students in the department tour the fashion capital of New York City. During this tour, students have an opportunity to visit and tour the facilities of well-known fashion designers such as Liz Claiborne and Donna Karan, along with several manufacturing facilities of design houses, furriers, computerized facilities of Butterick-Vogue and Simplicity pattern companies, and fashion museums are among the places visited.

## CAREER OPPORTUNITIES

The Fashion Merchandising program is designed to prepare students for entry-level management positions in the broad field of fashion merchandising, with emphasis on retail products and services. It includes an internship in Fashion Merchandising or related areas. To complement their program, students may opt to complete electives that focus on advertising, promotion, journalism, communication, or visual presentation, and pursue careers in fashion reporting, advertising, fashion buying, style editing, graphic design, or other related careers. Some students may choose to pursue an advanced degree in fashion design, marketing, product development, business administration or international retail.

## FASHION MERCHANDISING

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must select two science courses and one science laboratory course from the following.
ANSC 114, BIOL 101, BIOL 103 (Lab), BIOL 111, BIOL 112, CHEM 101, CHEM 102, CHEM 103 (Lab), CHEM 104 (Lab), CHEM 111C, ENVS 101, PHYS 101, PHYS 103 (Lab), PHYS 102, PHYS 161, PHYS 181H, PHYS 182H, PHYS 263, PLSC 184

## Curriculum Area IV - MATHEMATICS

Credits 3
MATH 109*

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H ${ }^{2}$
ENGL 102 or ENGL $102 \mathrm{H}^{2}$
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online ${ }^{2}$

## Curriculum Area VI - EMERGING ISSUES

Credits 4
HUEC 100 First Year Experience
EXSC 111 Personal Health \& Fitness
HUEC 230 Multicultural Perspectives on Families in the U.S.

## Total Required for General Education

Credits 41

[^28]SUPPORT REQUIREMENTS

FOUNDATION KNOWLEDGE
FMCT 141 Introduction to the Fashion Industry
FMCT 203 Introduction to Fashion Forecasting
FMCT 300
FMCT 341
FMCT 342
FMCT 35
FMCT 36
FMCT 37
FMCT 38
FMCT 382
FMCT 441
FMCT 490
HUEC 490
MAJOR REQUIREMENTS
HUEC 370
HUEC 399
HUEC 400
HUEC 409
HUEC 495

ACCT 288* College Accounting 3
ECON 200* Principles of Microeconomics 3
ECON 201* Principles of Macroeconomics 3
TELC 336 Computer Graphics I 3
MKTG 308 Principles of Marketing 3
MKTG 314 Retail Management 3

Professional Development
Pre-Internship Seminar
Internship
Post-Internship Seminar
Senior Seminar in Human Ecology

## Credits 18

## 3

 3 3 3 33

Historic Costumes
Fashion Buying and Merchandising I 3
Advertising and Promotion 3
Fashion Buying and Merchandising II 3
Apparel Construction and Evaluation 3
International Trade and Retailing Issues 3
Textiles I 3
Textiles II 3
Visual Merchandising 3
Product Development 3
Consumer Motivation 3

## Credits 8

2
1
3
1
1

## Credits 14 <br> Credits 14

## Credits 39

333
$\square$3

FREE ELECTIVES (Consult Academic Advisor)
*Students who select to minor in Business must earn a "C" or better in MATH 109, ACCT 288, ECON 200 and ECON 201; and must satisfy all other requirements for the minor in Business as set by Business \& Accounting Program. Please refer to that section for specific requirements.

## CURRICULUM GUIDE FOR FASHION MERCHANDISING

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | ENGL 102 | 3 |
| FMCT 141 | 3 | ENGL 001 ${ }^{1}$ | 0 |
| HUEC 100 | 1 | GEN ED CURR AREA I | 3 |
| GEN ED CURR AREA I | 3 | GEN ED CURR AREA III | 4 |
| GEN ED CURR AREA III | 3 | MATH 109 | 3 |
| SOCI 101 | 3 | EXSC $111^{2}$ | 3 |
|  | 16 |  | 16 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| FMCT 203 | 3 | ECON 201 | 3 |
| ENGL 203 | 3 | ENGL 305 | 3 |
| PSYC 100 | 3 | FMCT 300 | 3 |
| ACCT 288 | 3 | HUEC 230 | 3 |
| ECON 200 | 3 | TELC 336 | 3 |
|  | 15 |  | 15 |
| First Semester | Credit | JUNIOR YEAR | Credit |
| FMCT 341 | 3 | Second Semester | 3 |
| FMCT 361 | 3 | FMCT 342 | 3 |
| FMCT 381 | 3 | FMCT 351 | 3 |
| Elective | 3 | FMCT 382 370 | 2 |
| MKTG 308 | 3 | HUEC 399 | 1 |
|  |  | Elective | 3 |

## SUMMER

|  | Credit |
| :--- | :--- |
| HUEC 400 | 3 |
| 3 |  |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| HUEC 495 | 1 | MKTG 314 | 3 |
| FMCT 371 | 3 | FMCT 490 | 3 |
| FMCT 441 | 3 | HUEC 490 | 3 |
| HUEC 409 | 1 | Elective | 3 |
| Electives | 5 |  | 12 |

## Total Credit Hours: 120

[^29]
## FASHION MERCHANDISING HONORS

The Fashion Merchandising Honors Program is designed to prepare students for entry-level management positions in the broad field of fashion merchandising, with emphasis on the retail process of products and services. It includes a minor in business administration, as well as an internship in Fashion Merchandising or a related area. To complement the program, students may opt to complete electives that focus on advertising, journalism, communication, or visual presentation. With appropriate courses completed as electives, students can pursue careers in fashion reporting, advertising or graphic design.

In addition, the department participates in the Fashion Institute of Technology (FIT) Visiting Student Program (located in New York City). Fashion Merchandising majors who meet eligibility requirements may opt to spend one year (junior year) at FIT for an additional degree (A.A.S.) in Advertising and Marketing Communications. Students return to the University of Maryland Eastern Shore (UMES) to complete the four-year program and receive both degrees at graduation. To complement their program, students may choose to complete electives that focus on advertising, journalism, communication, or visual presentation. With appropriate courses taken as electives, students can pursue careers in fashion reporting, advertising, or graphic design.

## DEPARTMENTAL REQUIREMENTS

The Fashion Merchandising Honors Program requires that all students maintain a "C" in each course in their Program Core and Program Electives and a "C" average in General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA. Students are required to complete an internship designed to provide on-the-job experience in the fashion/textile industry. Some of the businesses which provide internship experience for students are: Bloomingdale's, Macy's, J. C. Penney, Liz Claiborne, Black Entertainment Television (BET), Foot Locker, Sears, Nordstrom, and The Gap. Students majoring in the Fashion Merchandising Hours program are required to register for designated Honors courses. Students must include a minimum of 12 credits of Out-of-Class Experience. Students should consult their advisor when selecting the Out-of-Class Experience courses.

## STUDY TOURS

The Fashion Merchandising Honors Program provides students with an opportunity to participate in a minimum of one major study tour each year. Students in the department tour the fashion capital of New York City. During this tour, students have an opportunity to visit and tour the facilities of well-known fashion designers such as Liz Claiborne and Donna Karan, along with several manufacturing facilities of design houses, furriers, computerized facilities of Butterick-Vogue and Simplicity pattern companies, and fashion museums are among the places visited.

## FASHION MERCHANDISING HONORS Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must select two science courses and one science laboratory course from the following:
ANSC 114, BIOL 101, BIOL 103 (Lab), BIOL 111, BIOL 112, CHEM 101, CHEM 102, CHEM 103 (Lab), CHEM 104 (Lab), CHEM 111C, ENVS 101, PHYS 101, PHYS 103 (Lab), PHYS 102, PHYS 161, PHYS 181H, PHYS 182H, PHYS 263, PLSC 184

Curriculum Area IV - MATHEMATICS
MATH 109*
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credits 3

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES
Credits 7
HUEC 100 First Year Experience
EXSC 111 Personal Health \& Fitness
HUEC 230 Multicultural Perspectives on Families in the U.S.

## Total Required for General Education

## Credits 41

[^30]| SUPPORT REQUIREMENTS | Credits 18 |  |
| :--- | :--- | :--- |
| ACCT 288* | College Accounting | 3 |
| ECON 200* | Principles of Microeconomics Honors | 3 |
| ECON 201* | Principles Macroeconomics | 3 |
| TELC 336 | Computer Graphics I | 3 |
| MKTG 308 | Principles of Marketing | 3 |
| MKTG 314 | Retail Management | 3 |
|  |  | Credits 39 |
| FOUNDATION KNOWLEDGE | 3 |  |
| FMCT 141 | Introduction to the Fashion Industry | 3 |
| FMCT 203 | Introduction to Fashion Forecasting | 3 |
| FMCT 300 | Historic Costumes | 3 |
| FMCT 341H | Fashion Buying and Merchandising Honors | 3 |
| FMCT 342H | Advertising and Promotion Honors | 3 |
| FMCT 351 | Fashion Buying and Merchandising II | 3 |
| FMCT 361 | Apparel Construction and Evaluation | 3 |
| FMCT 371H | International Trade and Retailing Issues Honors | 3 |
| FMCT 381 | Textiles I | 3 |
| FMCT 382H | Textiles II Honors | 3 |
| FMCT 441 | Visual Merchandising | 3 |
| FMCT 490H | Product Development Honors | 3 |
| HUEC 490H | Consumer Motivation Honors | Credits 8 |
| MAJOR REQUIREMENTS | 2 |  |
| HUEC 370 | Professional Development | 1 |
| HUEC 399 | Pre-Internship Seminar | 3 |
| HUEC 400 | Internship | 1 |
| HUEC 409 | Post-Internship Seminar | 1 |
| HUEC 495 | Senior Seminar in Human Ecology | 3 |
|  |  | 3 |

## FREE ELECTIVES

## Credits 14

*Students who select to minor in Business must earn a "C" or better in MATH 109, ACCT 288, ECON 200 and ECON 201; and must satisfy all other requirements for the minor in Business as set by Business \& Accounting Program. Please refer to that section for specific requirements.

## CURRICULUM GUIDE FOR FASHION MERCHANDISING HONORS

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101HONORS | 3 | ENGL 102HONORS | 3 |
| GEN ED CURR AREA III | 3 | ENGL 0011 | 0 |
| GEN ED CURR AREA I | 3 | EXSC 1112 | 3 |
| FMCT 141 | 3 | MATH 109 | 3 |
| HUEC 100 | 1 | GEN ED CURR AREA III | 4 |
| SOCI 101 | 3 | MUSI 101HONORS | 3 |
|  | 16 |  | 16 |


|  | SOPHOMORE YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| FMCT 203 | 3 | HUEC 230 | 3 |
| ENGL 203 | 3 | ECON 201HONORS | 3 |
| ECON 200HONORS | 3 | ENGL 305 | 3 |
| ACCT 288 | 3 | TELC 336 | 3 |
| PSYC 100 | 3 | FMCT 300 | 3 |
|  | 15 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| FMCT 341HONORS | 3 | FMCT 342HONORS | 3 |
| FMCT 361 | 3 | FMCT 382HONORS | 3 |
| FMCT 381 | 3 | FMCT 351HONORS | 3 |
| Elective | 3 | HUEC 399 | 1 |
| MKTG 308 | 3 | HUEC 370 | 2 |
|  |  | Elective | 3 |
|  |  |  | 15 |
|  | Credit | SUMMER |  |
| HUEC $400^{3}$ | 3 |  |  |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| FMCT 371HONORS | 3 | MKTG 314 | 3 |
| FMCT 441 | 3 | FMCT 490HONORS | 3 |
| HUEC 495 | 1 | HUEC 490HONORS | 3 |
| HUEC 409 | 1 | Elective | 3 |
| Electives | 5 |  | 12 |

## Total Credit Hours: 120

[^31]
## FASHION MERCHANDISING FIT ADVERTISING AND MARKETING COMMUNICATIONS

The Fashion Merchandising FIT Advertising \& Marketing Communications program is a dual degree program completed in conjunction with the Fashion Institute of Technology in New York City. Fashion Merchandising majors who meet eligibility requirements may opt to spend one year (junior year) at FIT for an additional degree (A.A.S.) in Advertising and Marketing Communications. Students return to UMES to complete the four-year program and receive both degrees at graduation. This program prepares students for entry level management positions in the broad field of fashion merchandising, advertising, and marketing communications, with a minor in business administration.

## DEPARTMENTAL REQUIREMENTS

To be eligible to participate in the Fashion Institute of Technology (FIT) Visiting Student Program, you must meet the following criteria:

- Must be a full-time student at UMES in the Department of Human Ecology prior to participation in the Visiting Student Program.
- Must be in good academic standing with a minimum cumulative GPA of 3.0.
- Must complete all forms and meet deadlines listed below in order to be considered for admissions. (See faculty coordinator for related forms).
- Must complete the last $\mathbf{3 0}$ credit hours of course work for his or her degree at UMES.

Upon acceptance to the University and entrance into the Department of Human Ecology, a student should inform his/her academic advisor prior to registration of his/her interest in participating in the Visiting Student Program. Students will be expected to make an appointment with the faculty coordinator prior to November 15 of the sophomore year for details and to receive all forms and applications pertaining to the program. Students who plan to attend FIT will be required to submit all application and financial aid materials by January 15 of their sophomore year.

## CAREER OPPORTUNITIES

Possible career opportunities include merchandiser, buyer, fashion stylist, fashion consultant, and the fields of public relations, marketing, journalism, and broadcasting.

## FASHION MERCHANDISING FIT ADVERTISING AND MARKETING COMMUNICATIONS <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must select two science courses and one science laboratory course from the following.
ANSC 114, BIOL 101, BIOL 103 (Lab), BIOL 111, BIOL 112, CHEM 101, CHEM 102, CHEM 103 (Lab), CHEM 104 (Lab), CHEM 111C, ENVS 101, PHYS 101, PHYS 103 (Lab), PHYS 102, PHYS 161, PHYS 181H, PHYS 182H, PHYS 263, PLSC 184

## Curriculum Area IV - MATHEMATICS

Credits 3
MATH 109*
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online ${ }^{3}$

## Curriculum Area VI - EMERGING ISSUES

## Credits 7

HUEC 100 First Year Experience
EXSC 111 Personal Health \& Fitness
HUEC 230 Multicultural Perspectives on Families in the U.S.

## Total Required for General Education

Credits 41

[^32]| SUPPORT REQUIREMENTS | Credits 15 |  |
| :--- | :--- | :--- |
| ACCT 288* | College Accounting | 3 |
| ECON 200* | Principles of Microeconomics | 3 |
| ECON 201* | Principles of Macroeconomics | 3 |
| MKTG 308 | Principles of Marketing | 3 |
| MKTG 314 | Retail Management | 3 |
| FOUNDATION KNOWLEDGE | Credits 33 |  |
| FMCT 203 | Introduction to Fashion Forecasting | 3 |
| FMCT 300 | Historic Costumes | 3 |
| FMCT 341 | Fashion Buying and Merchandising | 3 |
| FMCT 351 | Fashion Buying and Merchandising II | 3 |
| FMCT 361 | Apparel Construction and Evaluation | 3 |
| FMCT 371 | International Trade and Retailing Issues | 3 |
| FMCT 381 | Textiles I | 3 |
| FMCT 382 | Textiles II | 3 |
| FMCT 441 | Visual Merchandising | 3 |
| FMCT 490 | Product Development | 3 |
| HUEC 490 | Consumer Motivation | 3 |
| MAJOR REQUIREMENTS |  |  |
| HUEC 370 | Professional Development | Credits 8 |
| HUEC 399 | Pre-Internship Seminar (IC 298/498-FIT) | 2 |
| HUEC 400 | Internship (IC 298/498-FIT) | 1 |
| HUEC 409 | Post-Internship Seminar | 3 |
| HUEC 495 | Senior Seminar in Human Ecology | 1 |
| FIT REQUIREMENTS | 1 |  |
| AC 111 | Advertising and Promotion (FMCT 342)3 |  |
| AC 114 | Marketing for IMC | Credits 29 |
| AC 141 | Journalism | 3 |
| AC 171 | Mass Communication | 3 |
| AC 221 | Publicity Workshop | 3 |
| AC 222 | Sales Promotion | 3 |
| AC 271 | Audiences and Media | 3 |
| AC 272 | Research Methods in IMC | 3 |
| CD 122 | Digital Layout I | 3 |
| FM 114** | Introduction to the Fashion Industry** | 3 |

## FREE ELECTIVES

Credits 9
*Students must earn a "C" or better in MATH 109 in order to enroll in ACCT 288, ECON 200, ECON 201, and FMCT 341.
**Students attending FIT will be expected to complete FM 114 Intro to the Fashion Industry at FIT instead of FMCT 141 at UMES. They cannot receive create for both courses.

## CURRICULUM GUIDE FOR FASHION MERCHANDISING FIT ADVERTISING AND MARKETING COMMUNICATIONS

FRESHMAN YEAR

| First Semester | Credit | FRESHMAN YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | ENGL 102 | 3 |
| SOCI 101 | 3 | ENGL 001 ${ }^{1}$ | 0 |
| HUEC 100 | 1 | MATH 109 | 3 |
| GEN ED CURR AREA I | 3 | EXSC $111^{2}$ | 3 |
| GEN ED CURR AREA III | 3 | GEN ED CURR AREA I | 3 |
| Elective | 3 | GEN ED CURR AREA III | 4 |
|  | 16 |  | 16 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 288 | 3 | HUEC 230 | 3 |
| PSYC 100 | 3 | ECON 201 | 3 |
| ENGL 203 | 3 | FMCT 300 | 3 |
| ECON 200 | 3 | FMCT 361 | 3 |
| FMCT 203 | 3 | MKTG 308 | 3 |
| Elective | 3 | Elective | 3 |
|  | 18 |  | 18 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| AC 111 | 3 | AC 222 | 3 |
| AC 114 | 3 | AC $231^{3}$ | 3 |
| AC 141 | 3 | AC 271 | 3 |
| AC 171 | 3 | AC 272 | 3 |
| CD 122 | 2 | AC 221 | 3 |
| FM $114^{5}$ | 3 | IC $298 / 498^{4}$ | 4 |
|  | 17 |  | 19 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| FMCT 371 | 3 | MKTG 314 | 3 |
| HUEC 409 | 1 | FMCT 351 | 3 |
| HUEC 495 | 1 | FMCT 382 | 3 |
| FMCT 341 | 3 | HUEC 490 | 3 |
| FMCT 381 | 3 | FMCT 490 | 3 |
| FMCT 441 | 3 |  | 15 |
| HUEC 370 | 2 |  | 15 |

Total Credit Hours: 135

[^33]
## NUTRITION PROGRAM

The program in Nutrition provides a strong foundation in basic sciences, including chemistry, biochemistry, physiology and microbiology. Nutrition requires an in-depth knowledge of the physiological and biochemical aspects of metabolism, the nutrient composition of foods and an appreciation of the role of social and economic factors as determinants of food selection.

The program allows students to select certain courses in accordance with their interests. Teaching and research efforts are focused on the basic sciences of nutrition and foods and the application of knowledge in these disciplines to the maintenance of health and well-being of human beings throughout the lifespan. It also meets the needs of students who want to continue with their graduate work; and it provides students with a strong foundation for graduate studies in human nutrition and related fields, such as public health. The School of Agricultural and Natural Sciences also offers a Master of Science degree in Food and Agricultural Sciences.

## DEPARTMENTAL REQUIREMENTS

The Nutrition Program requires that all students maintain a "C" in each course in their Program Core and Program Electives and a "C" average in General Education and Supportive Course Requirements. Individual programs may choose specific courses to fulfill General Education requirements. Students transferring into the department from another department or institution must have a 2.5 Cum GPA. All students are required to complete a 200 clockhour internship.

Nutrition students are not required to complete an internship. However, each student is required to complete an extensive senior research project. The topic of the senior project is based on the student's area of interest. Recent topics of interest include food safety, nutrition and aging, nutrition and sports, and directed experimental research.

Students must include a minimum of 12 credits of Out-of-Class Experience. Students should consult their advisor when selecting the Out-of-Class Experience courses.

## CAREER OPPORTUNITIES

Potential employment opportunities include research positions in laboratories, hospitals and industry. This program meets the needs of students who want to continue with their graduate work; it provides students a strong foundation for graduate studies in human nutrition and related fields, such as public health.

## NUTRITION Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL 203 ${ }^{1,2}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGES
ASLS 203, ASLS 204, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
SOCI 101
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 8
Students must select two science courses and one science laboratory course from the following. BIOL 111, BIOL 113 (lab), BIOL 231, BIOL 233 (lab)

## Curriculum Area IV - MATHEMATICS

MATH 109
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credits 3

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES
Credits 7
HUEC 100
EXSC $111 \quad$ Personal Health \& Fitness
MATH 210 Elementary Statistics

Total Required for General Education
Credits 41

[^34]| SUPPORT REQUIREMENTS |  | Credits 14 |
| :---: | :---: | :---: |
| BIOL 301 | Microbiology | 3 |
| BIOL 303 | Microbiology Laboratory $\underline{\text { OR }}$ | 1 |
| AMIC 324 | Agricultural Microbiology | 4 |
| BIOL 232 | Human Anatomy and Physiology II | 3 |
| BIOL 234 | Human Anatomy and Physiology II Laboratory | 1 |
| CHEM 342 | Biochemistry II | 3 |
| CHEM 344 | Biochemistry II Laboratory | 1 |
| HUEC 474 | Research Methodology | 2 |
| FOUNDATION KNOWLEDGE |  | Credits 27 |
| NUDT 210 | Elements of Nutrition | 3 |
| NUDT 211 | Scientific Principles of Food I | 3 |
| NUDT 212 | Scientific Principles of Food II | 3 |
| NUDT 305 | Nutrition in the Life Cycle | 3 |
| NUDT 310 | Nutrition Education and Counseling | 3 |
| NUDT 391 | Nutritional Science I | 3 |
| NUDT 392 | Nutritional Science II | 3 |
| NUDT 473 | Community Nutrition | 3 |
| NUDT | Elective | 3 |
| MAJOR REQUIREMENTS |  | Credits 11 |
| HUEC 370 | Professional Development | 2 |
| HUEC 463 | Food, Clothing and Culture | 3 |
| NUDT 484 | Nutrition Research | 5 |
| HUEC 495 | Senior Seminar in Human Ecology | 1 |
| CHEMISTRY MINOR |  | Credits 20 |
| CHEM 111 | Principles of Chemistry I | 3 |
| CHEM 113 | Principles of Chemistry I Laboratory | 1 |
| CHEM 112 | Principles of Chemistry II | 3 |
| CHEM 114 | Principles of Chemistry II Laboratory | 1 |
| CHEM 211 | Fundamentals of Organic Chemistry I | 3 |
| CHEM 213 | Fundamentals of Organic Chemistry I Laboratory | 1 |
| CHEM 212 | Fundamentals of Organic Chemistry II | 3 |
| CHEM 214 | Fundamentals of Organic Chemistry II Laboratory | 1 |
| CHEM 341 | Biochemistry I | 3 |
| CHEM 343 | Biochemistry I Laboratory | 1 |
| FREE ELECTIVES (consult w/advisor) |  | Credits 6 |

## CURRICULUM GUIDE FOR NUTRITION

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 111 | 3 | BIOL 111 | 3 |
| CHEM 113 | 1 | BIOL 113 | 1 |
| ENGL 101 | 3 | CHEM 112 | 3 |
| HUEC 100 | 1 | CHEM 114 | 1 |
| MATH 109 | 3 | EXSC 111 | 3 |
| SOCI 101 | 3 | ENGL 102 | 3 |
|  |  | ENGL 001 |  |
|  |  | GEN ED CURR AREA I | 0 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 231 | 3 | BIOL 232 | 3 |
| BIOL 233 | 1 | BIOL 234 | 1 |
| CHEM 211 | 3 | CHEM 212 | 3 |
| CHEM 213 | 1 | CHEM 214 | 1 |
| ENGL 203 | 3 | PSYC 100 | 3 |
| NUDT 211 | 3 | NUDT 212 | 3 |
| NUDT 210 | 3 | NUDT 305 | 3 |
|  | 17 |  | 17 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 341 | 3 | CHEM 342 | 3 |
| CHEM 343 | 1 | CHEM 344 | 1 |
| HUEC 370 | 2 | ENGL 305 | 3 |
| NUDT 310 | 3 | MATH 210 | 3 |
| NUDT 391 | 3 | NUDT 392 | 3 |
| GEN ED CURR AREA I | 3 |  | 13 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| AMIC 324 or |  | NUDT 473 | 3 |
| BIOL 301 and BIOL 303 | 4 | NUDT 484 | 5 |
| Electives | 6 | HUEC 495 | 1 |
| HUEC 474 | 2 | HUEC 463 | 3 |
| NUDT Elective | 3 |  | 12 |

## Total Credit Hours: 120

${ }^{1}$ EXSC 111 cannot be repeated for credit.
${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
${ }^{3}$ Students may substitute NUDT 484 for HUEC 399, $400 \& 409$ for five (5) credits.
${ }^{4}$ NUDT 484 ( 5 credits) and NUDT 499 (1-3 credits) meet the out-of- class experience. Students should consult their advisor to select appropriate courses to meet the 12 credit hour requirement.

## MINOR PROGRAMS

The Department offers minor programs in Clothing and Textiles, Fashion Merchandising, Gerontology, Nutrition, and Family Financial Planning. The minor program in Nutrition has two Options: Nutritional Science and Food and Nutrition. A minimum of 18 credits is required for each area. Fashion Merchandising and Family and Consumer Science majors should consult advisor prior to selecting a minor. Clothing and Textiles, Gerontology, and Nutrition Option 2 are not available to FCS majors because of course duplication. The courses are as follows.

## CLOTHING AND TEXTILES

FMCT $300 \quad$ FMCT $361 \quad$ FMCT 381

Select two from:
FMCT 321 FMCT 422 HUEC 490
FMCT 460

## FASHION MERCHANDISING

FMCT 141 FMCT $341 \quad$ FMCT 441
FMCT 342

## Select two from:

| FMCT 361 | FMCT 381 | HUEC 490 |  |
| :--- | :--- | :--- | :--- |
| FMCT 203 | FMCT 351 | FMCT 371 |  |
|  |  |  |  |
|  |  | GERONTOLOGY |  |
| HUEC 220 | HUEC 460 | SOCI 361 |  |

Select three from:
HUEC $203^{1}$ NUDT 305 REHA 201
HUEC 450 REHA 302
NUTRITION OPTION 1: NUTRITIONAL SCIENCE
NUDT $210^{2}$ NUDT 391 NUDT 401
NUDT 392 NUDT 402
NUDT 473

## NUTRITION OPTION 2: FOOD AND NUTRITION

NUDT $210^{2}$ NUDT 305 NUDT 473
NUDT 211 NUDT 310
NUDT 212
FAMILY FINANCIAL PLANNING
HUEC 301Online
HUEC 403Online
HUEC 408 Online
HUEC 305 Online
HUEC 404Online

[^35]
## DIRECTORY OF FACULTY

## Brooks, Jada, Assistant Professor

B.S., Virginia State University; M. Ed, Virginia State University: Ph.D., Virginia Polytechnic Institute \& State University

## Cecil, Malinda, Assistant Professor

B.S., Hood College; M.S., Virginia Tech; Ph.D., University of Maryland Eastern Shore

Clinton, Bridgett, Assistant Professor
B.S.., University of Maryland Eastern Shore; M.S., Michigan State University; D.Mgt., University of Maryland University College

Ferraro, Cathy, Lecturer \& Director, Dietetic Internship Program
B.Ss, Marywood University; M.S., Marywood University

Khoza, Lombuso, Associate Professor
B.S., University of Maryland Eastern Shore; M.S., University of California, Davis; M.S., University of Leeds;

Ph.D., Southern Illinois University Carbondale
Kumelachew, Missale, Associate Professor
B.S., University of Minnesota; M.S., Howard University; Ph.D., University of Maryland College Park

Long, Donna, Associate Professor \& Director of Child \& Family Development Center
B.A., Hood College; M.A., Trevecca Nazarene University; Ed.D., Wilmington College

Namwamba, Grace, Chair
Satterlee, Donna, Assistant Professor
B.S., Beaver College; M.Ed., Old Dominion University, Ed.D., Field Graduate University

Shaw, Anugrah, Professor
B.S., Delhi University; M.S., Maharaja Sayajirao University; Ph.D., Texas Woman's University

Zoumenou, Virginie, Associate Professor; Joint Appointment Extension/Human Ecology B.S., National University of Côte-d'Ivoire; M.S., National University of Côte-d'Ivoire; Ph.D., Florida International University and National University of Côte-d'Ivoire

## Department of Natural Sciences

www.umes.edu/sciences/dns

## Dr. Deborah Sauder, Chairperson

## MISSION

The mission of the Department of Natural Sciences (DNS) is to prepare students for employment in the diversified fields in biological, physical and environmental sciences and health related occupations. DNS programs also prepare students for entry into graduate or professional schools.

DNS offers undergraduate degree-programs in Biochemistry, Biology, Chemistry and Environmental Science. Combined four-year BS/five-year MS programs are offered in Marine Sciences and Environmental Chemistry. The Department also offers minor programs in Biology, Chemistry, Environmental Science and Physics.

The Department offers graduate degree-programs in Chemistry, Toxicology and Marine-Estuarine-Environmental Sciences. Information regarding these programs can be found in the UMES School of Graduate Studies Catalog.

## OBJECTIVES

The objectives of the programs in DNS are to:

1. Provide students with academic curricula to develop a strong understanding of basic science.
2. Prepare students to be adaptable to new developments in science.
3. Train students to conduct scientific research through example, mentoring and personal experience.
4. Prepare students for employment in newly evolving and conventional scientific fields related to their majors.
5. Expose students to social, historical, and ethical issues through the science curricula.
6. Promote interaction between the university and the community through faculty and students in the department.
7. Promote faculty development to accomplish the objectives of the department.

## DEGREE PROGRAMS

Bachelor of Science - Biochemistry
Bachelor of Science - Biology
Bachelor of Science - Biology Honors, with Pre-Physical Therapy, Pre-Medicine, and Pre-Dental Concentrations
Bachelor of Science - Biology Education - Teaching
Bachelor of Science - Chemistry (ACS Certification)
Bachelor of Science - Chemistry Honors (ACS Certification), with Pre-Dentistry and Pre-Medicine
Concentration
Bachelor of Science - Chemistry (without ACS Certification)
Bachelor of Science - Chemistry Education -Teaching
Bachelor of Science - Environmental Sciences
Bachelor of Science - Environmental Sciences Honors
Bachelor of Science/Master of Science ${ }^{1}$ (BS/MS) - Environmental Sciences
Bachelor of Science/Master of Science ${ }^{1}$ (BS/MS) - Environmental Sciences Honors

## MINOR PROGRAMS

Biology, Chemistry, Environmental Science, Physics

## DEPARMENT GENERAL PROGRAM REQUIRMENTS

Maryland Higher Education Commission has set a graduation requirement of 120 semester hours to obtain a four year baccalaureate degree. The Biochemistry, Biology, Chemistry and Environmental Science Programs require that students earn a minimum grade of " C " in each course of the Program Core Courses and Program Electives and an overall "C" grade average in General Education and Supportive Course Requirements. A grade of "C" or better is required in all prerequisite courses (lecture and laboratory) to continue with sequence classes offered by the DNS.

## DEPARTMENTAL REQUIRMENTS

Biochemistry : Students majoring in Biochemistry are required to complete a total of 120 credit hours of University courses. This includes a minimum of 43 semester hours of General Education Requirements, 49 semester hours of Departmental Core courses, 7 semester hours of program electives, 18 semester hours of Supportive courses and 3 semester hours of Free Electives.

Biology Non-Teaching major: Students majoring in Biology non - Teaching must complete a total of $120^{2}$ credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 25 semester hours of Departmental Core courses, 20 semester hours of program electives, 31 semester hours of supportive courses and 2 semester hours of free electives.

Biology Non-Teaching Honors: Students majoring in Biology non - Teaching Honors must complete a total of 120 credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 25 semester hours of Departmental Core courses, 20 semester hours of program electives, 31 semester hours of supportive courses and 2 semester hours of free electives. The admission of students to the undergraduate program in Biology is based upon the general admission requirements of the University. Minimum requirements for application to the UMES Honors Program include a cumulative grade point average of 3.3 and minimum SAT score of 1650 . Additionally, for retention in the Honors Program, each student must maintain a semester grade point average of 3.0 in their major courses and a cumulative GPA of 3.3. Students must complete a minimum of two honors courses each semester.

Biology Non-Teaching - Pre-Med/Pre- Dentistry Tracks: Students majoring in Biology with Pre-Med/PreDentistry Tracks must complete a total of 120 credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 25 semester hours of Departmental Core courses, 19 semester hours of program electives and 34 semester hours of supportive courses.

Biology Non-Teaching - Pre-Physical Therapy Track: Students majoring in Biology Non-Teaching with prePhysical Therapy Track must complete a total of 120 credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 25 semester hours of Departmental Core courses, 20 semester hours of program electives, 31 semester hours of supportive courses and 2 semester hours of free electives.

[^36]Students who meet University of Maryland Eastern Shore's admission requirements can enroll in Biology Education. Prospective Biology Teacher Education candidates are not formally admitted to the Professional Education Unit until they have completed an Application to Teacher Education and have been accepted. Teacher candidates who wish to major in Biology Education must have an overall and major content grade point average of 2.75 for admission into and retention in the program. For admission, an overall GPA of 2.75 or higher in a minimum of 45 approved semester hours is required, along with passing the University's English Proficiency Examination, and also PRAXIS I (scheduled and administered by Educational Testing Services) while registered for Praxis preparation course (Credit 1) EDCI 201.

|  | Passing Praxis Scores <br> Paper/Pencil Test |  |
| :--- | :---: | :--- |
| Reading | $\mathbf{1 7 7}$ | Computer-Based Test |
| Mathematics | $\mathbf{1 7 7}$ | $\mathbf{3 2 2}$ |
| Writing | $\mathbf{1 7 3}$ | $\mathbf{3 1 9}$ |

Applications must be completed for admission to the Biology Education teacher program within the scheduled deadline. The teacher education application lists specific course requirements and requires two essays which address the potential candidate's disposition toward teaching, as well as providing writing samples, and a field experience recommendation. Four letters of recommendation from faculty (one has to be from the advisor) are also required.

Grades of "C" or above must be attained in each required course of the Biology Education major, the specialized content area combined with the professional educational courses. A candidate's progress is monitored each semester by the academic advisor to ensure that the candidate continues to meet the minimum GPA of 2.75 in both the major and overall course work.

In order to be eligible for internship, Biology Education candidates are required to submit the following indicators: application for internship, field experience and pre-internship recommendations, methods instructor recommendations, formal academic measures including a 2.75 or higher overall grade point average, a 2.75 grade point average in the major, with no grades lower than C in all courses, PRAXIS II passing scores in Biology, and a working portfolio review.

All Biology Education candidates must satisfactorily complete the independent research project and manuscript prior to graduation. The candidates must satisfactorily complete the professional portfolio, which is started early in the program and revised and completed during the internship experience, is tied to the INTASC Principles, Unit's Conceptual Framework, and NSTA standards prior to graduation. They must also complete an Exit Survey.

Chemistry Non -Teaching with ACS Certification*: To obtain an ACS-certified chemistry degree, students must complete a total of 120 credit hours of University courses as required by the major. This includes a minimum of 53 semester hours of Program Core courses, 15 semester hours of Supportive courses, 7 semester hours of Program Elective courses, 43 semester hours of General Education courses, and 2 semester hours of Free Electives. Students are required to adhere to ACS guidelines in meeting their undergraduate research requirements and in the submission of their CHEM 499 (undergraduate research) research reports. For more information, please refer to the ACS website www.ACS.org.

## Chemistry Non -Teaching with ACS Certification* with Pre-Medicine/Pre-Dentistry tracks:

To obtain an ACS-certified chemistry degree, students must complete a total of 120 credit hours of University courses as required by the major. This includes a minimum of 53 credit hours of Program Core courses, 15 credit hours of Supportive courses, 7 credit hours of Program Elective courses, 43 credit hours of General Education courses and 2 credit hours of Free Elective courses from the approved lists of requirements as outlined in the
catalog. The students are required to adhere to ACS guidelines in the submission of their CHEM 499 requirements.

Chemistry Non -Teaching without ACS Certification: Students must complete a total of 120 credit hours of University courses as required by the major. This includes a minimum of 53 credit hours of Program Core courses, 15 credit hours of Supportive courses, 7 credit hours of Program Elective courses, 43 credit hours of General Education courses and 2 credit hours of Free Elective courses from the approved lists of requirements as outlined in the catalog.

Chemistry Teaching: Maryland Higher Education Commission has set a graduation requirement of $131^{1}$ semester hours to obtain a 4 year baccalaureate degree. Students must complete 29 semester hours of program core courses, 15 hours of supportive courses, 3 hours of program electives courses, 42 hours of general education courses and 42 hours of professional education courses from the approved lists of requirements as outlined in the catalog. Students are not required to follow the ACS course guidelines since the degree is non-ACS certified. Teacher candidates who wish to major in Chemistry Education must have an overall and major content grade point average of 2.75 for admission into and retention in the program. For admission, overall GPA of 2.75 or higher in a minimum of 45 approved semester hours, passing the University's English Proficiency Examination, and PRAXIS I (scheduled and administered by Educational Testing Services) while registered for Praxis preparation course (Credit 1) EDCI 201 are required.

Any individual who meets University of Maryland Eastern Shore's admission requirements can enroll in Chemistry Education. Prospective Chemistry Teacher Education candidates are not formally admitted to the Professional Education Unit until they have completed an Application to Teacher Education and have been accepted.

Teacher candidates who wish to major in Chemistry Education must have an overall and major content grade point average of 2.75 for admission into and retention in the program. For admission, overall GPA of 2.75 or higher in a minimum of 45 approved semester hours is required, passing the University's English Proficiency Seminar, and also PRAXIS I (scheduled and administered by Educational Testing Services) while registered for Praxis preparation course (Credit 1) EDCI 201.

[^37]
## Passing Praxis Scores

|  | Paper/Pencil Test | Computer-Based Test |
| :--- | :--- | :--- |
| Reading | $\mathbf{1 7 7}$ | $\mathbf{3 2 5}$ |
| Mathematics | $\mathbf{1 7 7}$ | $\mathbf{3 2 2}$ |
| Writing | $\mathbf{1 7 3}$ | $\mathbf{3 1 9}$ |

In order to be eligible for internship, Chemistry Education candidates are required to submit the following indicators: application for internship, field experience, and pre-internship recommendations, methods instructor recommendations, formal academic measures including a 2.75 or higher overall grade point average, a 2.75 grade point average in the major, with no grades lower than C in all courses, PRAXIS II passing scores in Chemistry, and working portfolio review.

All Chemistry Education candidates must satisfactorily complete the independent research project and manuscript prior to graduation. The candidates must satisfactorily complete the professional portfolio, which is started early in the program and revised and completed during the internship experience, is tied to the INTASC Principles, Unit's Conceptual Framework, and NSTA standards prior to graduation. They must also complete an Exit Survey.

Environmental Science - Environmental Chemistry Option: Students must complete 120 semester hours: 42 semester hours in general education courses, 29 semester of hours in program core courses, 43 semester hours in program supportive courses and 6 semester hours in program electives. Students are required to take independent study and/or undergraduate research in their junior or senior year.

Environmental Science - Marine Science Option: Students must complete 120 semester hours: 42 semester hours in general education courses, 36 semester hours in program core courses, 35 semester hours in program supportive courses and 7 semester hours in electives. Students are required to take an independent study or undergraduate research in their junior or senior year.

Dual Degree Program - Environmental Science (Marine Sciences Track) UMES - SU Dual Degree ProgramStudents enrolled at Salisbury University in the Biology Program may earn a degree in Environmental Sciences from UMES by taking 30 hours of prescribed coursework in Environmental Science at UMES in addition to other required courses at Salisbury University.

## Combined Four-year/Five-year B.S./M.S. Degree Program with Environmental Chemistry and Marine

 Sciences options: The two options are administered under the auspices of the undergraduate Environmental Science and the graduate Marine-Estuarine-Environmental Science (MEES) programs. The student receives the B.S. and M.S. degrees after completing the requirements for the two programs. A student wishing to pursue the 5year M.S. program must make a formal application to the MEES program in the first semester of the junior year. Students must take the GRE (General Test) during their junior year. They have the option of being in residence at UMES or at a participating CEES campus during their senior and fifth years.Students enrolled in the Environmental Chemistry option must complete 120 semester hours of undergraduate courses and 30 semester hours graduate courses for their degrees: 42 semester hours in general education courses, 33 semester hours in undergraduate program core courses and 45 semester hours of supportive courses. To receive the M.S. degree, students must satisfy degree requirements which include a total of 30 course credits: course work ( 27 credits) and Master's Thesis research ( 6 credits).

Students who enroll in the Marine Science option must complete 120 semester hours of undergraduate courses and 30 semester hours of graduate courses for their degrees: 42 semester hours of general education courses, 38 semester hours of undergraduate program core courses, 34 semester hours of supportive courses and 6 semester hours of program elective courses. To receive the M.S. degree, students must satisfy degree requirements which include a total of 30 course credits: course work ( 24 credits) and Master's Thesis research ( 6 credits).

Pre-Pharmacy Curriculum: The Pre-Pharmacy Program is a collection of courses that prepares a student for application to pharmacy schools. Each pharmacy school has specific admissions requirements and students must supplement this set of courses with any additional requirements. Some pharmacy schools require a BS prior to application. Pre-pharmacy students are advised to complete the 73 credit hours of courses with a grade of "C" or better. In addition to the 73 credit hours outlined, one semester of biochemistry is highly recommended.

Minors in Biology, Chemistry, Environmental Science, and Physics: A minor can be obtained with 20 semester hours of program courses with a grade of "C" or better in addition to those courses used to fulfill graduation requirements in the major program.

## BIOCHEMISTRY

## DEPARTMENTAL REQUIREMENTS

Students majoring in Biochemistry are required to complete a total of 120 credit hours of University courses. This includes a minimum of 43 credit hours of General Education Requirements, 49 credit hours of Core courses, 7 credit hours of Program Elective courses, 18 credit hours of Supportive courses and 3 credit hours of Free Electives courses.

## OBJECTIVES

The goal of the Biochemistry Program is to prepare academically talented students to enter graduate and professional schools with the intention of obtaining terminal degrees (such as PhD, MD, PharmD, DVM, DOM, DDS). This goal is supported by the following objectives to:

- train students through demonstration, mentoring and personal experience to gain knowledge and develop chemical skills necessary to conduct scientific research;
- impart students with contemporary laboratory techniques and skills required to conduct scientific investigations; and
- provide students with the academic curricula necessary to develop a strong understanding and knowledge of chemical theory and practice.


## CAREER OPPORTUNITIES

Students graduating with a Bachelor's of Science in Biochemistry will be employable in chemical, biological or biomedical fields. They may opt to apply for admission to medical or other health professional schools such as Pharmacy, Physician Assistant or Physical Therapy School. These students are also eligible to apply for admission to graduate school. Students who choose not to pursue a terminal degree can work in industry as chemists for biotechnology, pharmaceutical or environmental management companies. Graduates can also work for government agencies such as National Science Foundation, National Institutes of Health, Food and Drug Administration, Environmental Protection Agency, National Institute of Standards and Technology, National Oceanic and Atmospheric Administration, Federal Bureau of Investigation, and Central Intelligence Agency. Websites which describe careers in chemistry include: The ACS website www.ACS.org, http://chemistry.about.com/cs/5/f/blcareers.htm, and http://www.chemistryguide.org/jobs-in-chemistry.html. The students are encouraged to explore these agencies and websites.

## GENERAL EDUCATION REQUIREMENTS

All biochemistry majors are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base that will effectively support a student's choice of a major concentration.

Students in the Honors program should take honors courses designated by H. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss with your advisor for details. General Education Requirements are distributed as follows:

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH plus one course from each of two different disciplines (A -D):

Discipline A: ARTS<br>ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109<br>Discipline B: HISTORY<br>HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201<br>Discipline C: LANGUAGE<br>FREN 101, FREN 102, SPAN 101, SPAN 102, ASLS 203, ASLS 204<br>Discipline D: LITERATURE

ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL $203{ }^{1}$
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES ${ }^{\mathbf{2}}$

## Credits 6

Students must select one course from each of two different disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H; POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 8

Two semesters of physics and lab are required. Students are strongly encouraged to complete a calculus-based physics sequence.
PHYS 121 to 124 series (Algebra and Trigonometry Based Series)
PHYS 121 General College Physics I 3
PHYS 122 General College Physics II 3
PHYS 123 General College Physics Laboratory $1 \quad 1$
PHYS 124 General College Physics Laboratory II 1

## $\boldsymbol{O r}$ <br> PHYS 181H to 184H series (Calculus Based Series)

PHYS 181 H Introductory Physics I (Honors) 3
PHYS 182 H Introductory Physics II (Honors) 3
PHYS 183 H Introductory of Physics Laboratory 1 (Honors) 1
PHYS 184 H Introductory of Physics Laboratory II (Honors) 1
Area IV: MATHEMATICS
Credits 7
MATH 110 Trigonometry \& Analytical Geometry or HIGHER 3
MATH 112 Calculus I 4
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credits 9

ENGL 101/H Basic Composition I/
3
ENGL 102/H Basic Composition II 3
ENGL 001 English Proficiency Exam 0
ENGL 305/H/Online Technical Writing or
ENGL 310/H/Online Advanced Composition
3

[^38]Curriculum Area VI - EMERGING ISSUES
Select DNSC 100 and one additional course.
DNSC 100 Freshman Seminar 1
EXSC 111 Personalized Health Fitness 3
HUEC 230 Multicultural Perspectives on Families in the U.S. 3
TMGT 306 Ecology and Cultural Tourism 3

## Credits 4

Total General Education Requirement
Credits 43

## PROGRAM REQUIREMENTS

## CORE REQUIREMENTS

## Credits 49

A grade of "C" or better is required in each of the Program Core courses. Honors students may take Honors section of the course as advised.
BIOL 111/H Principles of Biology I ..... 3
BIOL 113/H Principles of Biology Laboratory I ..... 1
BIOL 222 Genetics ..... 3
BIOL 223 Genetics Laboratory ..... 1
CHEM 111/H Principles of Chemistry I ..... 3
CHEM 113/H Principles of Chemistry Laboratory I ..... 1
CHEM 112/H Principles of Chemistry II ..... 3
CHEM 114/H Principles of Chemistry Laboratory II ..... 1
CHEM 211/H Fundamentals of Organic Chemistry I ..... 3
CHEM 213/H Fundamentals of Organic Chemistry Laboratory I ..... 1
CHEM 212/H Fundamentals of Organic Chemistry II ..... 3
CHEM 214/H Fundamentals of Organic Chemistry Laboratory II ..... 1
CHEM 311 Analytical Chemistry I ..... 4
CHEM 341/H Biochemistry I ..... 3
CHEM 343/H Biochemistry Laboratory I ..... 1
CHEM 342/H Biochemistry II ..... 3
CHEM 344/H Biochemistry Laboratory II ..... 1
CHEM 401 Principles of Physical Chemistry I ..... 4
CHEM 431 Intermediary Metabolism ..... 3
BIOL 497/H Biology Seminar Or
CHEM 497/H Chemistry Seminar ..... 1
BIOL 499/H Undergraduate Research - Chemistry Or CHEM 499/H Undergraduate Research - Biology ..... 4
DNSC 400 Senior Proficiency Seminar ..... 1

## SUPPORTIVE COURSES

## Credits 18

A grade point average of "C" or better is required in supportive courses.
BIOL 301 Microbiology 3
BIOL 303 Microbiology Laboratory 1
BIOL 326 Cell Biology 3
BIOL 327 Cell Biology Laboratory 1
CHEM 421 Instrumental Analysis 4
CHEM 498 Independent Study - Chemistry or
BIOL 498 Independent Study - Biology 3
BUED 212 Computer Concepts/Applications ${ }^{1}$ or

## PROGRAM ELECTIVES

Credits 7
Choose any two courses from the following electives; one must have a laboratory component. A grade of "C" or better is required in each of the Program Elective courses.
CHEM 407 Protein Structure and Function 4

CHEM 420 Advanced Inorganic Chemistry 4
CHEM 422M Bio-Inorganic Chemistry 3
CHEM 432 Advanced Organic Chemistry 3
CHEM 435 Introduction to Immunology 3
CHEM 436 Introduction to Immunology Laboratory 1
CHEM 670 Advanced Biochemistry 3
BIOL 426M Biotechnology 4
BIOL 436 General Endocrinology 3
FREE ELECTIVES ${ }^{2}$ 3
Total Program Requirements:
Credits 120
${ }^{1}$ CSDP 220 may be substituted for CSDP 121 or BUED 212.
${ }^{2}$ Math 210 or 211 is strongly recommended as free elective.

## CURRICULUM GUIDE FOR BIOCHEMISTRY

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111/H | 3 | BIOL 222 | 3 |
| BIOL 113/H | 1 | BIOL 223 | 1 |
| CHEM 111/H | 3 | CHEM 112/H | 3 |
| CHEM 113/H | 1 | CHEM 114/H | 1 |
| DNSC 100 | 1 | ENGL 102/H | 3 |
| ENGL 101/H | 3 | ENGL 001 | 0 |
| MATH 110 | 3 | MATH 112 | 4 |
|  | 15 |  | 15 |
|  |  |  |  |
| First Semester | Credit | SOPHOMORE YEAR | Credit |
| CHEM 211/H | 3 | Second Semester | 3 |
| CHEM 213/H | 1 | CHEM 212/H | 1 |
| Curriculum Area I | 3 | CHEM 214/H | 3 |
| PHYS 181H and | 3 | PHYriculum Area I 182H and | 3 |
| PHYS 183H | 1 | PHYS 184H | 1 |
| Free Elective |  | ENGL 203 | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 311 | 4 | CHEM 342/H and | 3 |
| CHEM 341/Hand | 3 | CHEM 344/H | 1 |
| CHEM 343/H | 1 | CHEM/BIOL 497 | 1 |
| BIOL 326 | 3 | BIOL 301 | 3 |
| BIOL 327 | 1 | BIOL 303 | 1 |
| ENGL 305/Online or |  | CSDP 121 or |  |
| ENGL 310/Online | 3 | BUED 212 |  |
| Curriculum Area II | 3 | Curriculum Area II | 3 |
|  | 18 |  | 3 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| DNSC 400 | 1 | Elective w/ Lab Component ${ }^{4}$ | 4 |
| CHEM 401 | 4 | CHEM 407 | 3 |
| CHEM/BIOL 4985 | 3 | CHEM/BIOL 4995 | 4 |
| CHEM 421 | 4 | Program Elective | 3 |
| Curriculum Area VI | 3 |  | 14 |

## Total Credit Hours: 120

${ }^{1}$ The English Proficiency Examination is given in association with ENGL 102. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
${ }^{2}$ MATH 210 or 211 is strongly recommended to fulfill the 3 cr . hr. of Free Elective requirement.
${ }^{3}$ CSDP 220 may be substituted for CSDP 121 or BUED 212.

## BIOLOGY

## DEPARTMENTAL REQUIREMENTS

Students majoring in Biology Non-Teaching must complete a total of $120^{1}$ credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 25 semester hours of departmental core courses, 20 semester hours of program electives, 31 semester hours of supportive courses and 2 semester hours of free electives. The specific courses taken in the undergraduate program are generally chosen based on the goals of the student for their future career.

## OBJECTIVES

The objectives of the Biology program are to:

1. Provide Biology majors in the Department of Natural Sciences with the knowledge and information necessary to achieve success in graduate and/or professional schools and the workforce;
2. Provide Biology majors with advanced knowledge and information in the fields general Biology and/or Ecology;
3. Increase the level of competency in laboratory techniques and skills of Biology majors in the Department of Natural Sciences; and
4. Develop technical communication and critical thinking skills of Biology majors in the Department of Natural Sciences and train the same through mentoring and personal experience to conduct scientific research.

## CAREER OPPORTUNITIES

A Biology degree has many career opportunities based on a person's interests and undergraduate preparation. Biologists can pursue a biomedical or graduate degree for entrance into a specialized area of medicine, dentistry, academia, research or consulting careers. Three resources for careers opportunities are the following websites: Sciencecareers.sciencemag.org covers all sciences while www.aibs.org/careers covers all area of Biology and www.ecoemploy.com covers the ecological and environmental fields.
${ }^{1}$ Minimum Maryland Higher Education Committee (MHEC) requirements for a Bachelor of Science Degree.

## BIOLOGY

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All Biology majors are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 and 109 do not meet the General Education Requirement for a degree in biology, chemistry or environmental sciences; and do not apply toward graduation requirements. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required Math 110 and higher level Math courses.

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses Online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss with your advisor for details.

General education requirements are distributed as follows:

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:

## Discipline A: ARTS

ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109 or

## Discipline D: LITERATURE

ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:

## Discipline B: HISTORY

HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course from each of two disciplines.

## Discipline A: SOCIAL SCIENCES

GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

[^39]| Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES |  |  |  |
| :--- | :--- | :--- | :--- |
| PHYS | 121 | General College Physics I and |  |
| PHYS | 123 | General College Physics I Laboratory or |  |
| PHYS | $181 \mathrm{H}^{*}$ | Introductory Physics I and |  |
| PHYS | $183 \mathrm{H}^{*}$ | Introductory Physics I Laboratory $\quad$ and |  |
| PHYS | 122 | General College Physics II and |  |
| PHYS | 124 | General College Physics II Laboratory or |  |
| PHYS | $182 \mathrm{H}^{*}$ | Introductory Physics II and |  |
| PHYS | $184 \mathrm{H}^{*}$ | Introductory Physics II Laboratory |  |

Curriculum Area IV - MATHEMATICS
MATH 110 Trigonometry \& Analytical Geometry or HigherCredits 6
MATH 210 Elementary Statistics ..... 3
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ ..... Credits 9
ENGL 101 or ENGL 101H ..... 3
ENGL 102 or ENGL 102H ..... 3
ENGL 001 ..... 0
ENGL 305/H/Online or ENGL 310/H/Online ..... 3
Curriculum Area VI - EMERGING ISSUES ..... Credits 4
Select DNSC 100 and one additional course.
DNSC 100 Freshman Seminar ..... 1
EXSC 111 Personalized Health Fitness ..... 3
HUEC 230 Multicultural Perspectives on Families in the U.S. ..... 3
TMGT 306 Ecology and Cultural Tourism ..... 3
Total Required for General Education ..... Credits 42
Program Requirements
CORE REQUIREMENTS
Credits 25
A grade of "C" or better is required in each of the Program Core Requirements.
BIOL 111 Principles of Biology I ..... 3
BIOL 113 Principles of Biology I Laboratory ..... 1
BIOL 112 Principles of Biology II ..... 3
BIOL 114 Principles of Biology II Laboratory ..... 1
BIOL 222 Genetics ..... 3
BIOL 223 Genetics Laboratory ..... 1
BIOL 301 Microbiology ..... 3
BIOL 303 Microbiology Laboratory ..... 1
BIOL 497 Biology Seminar ..... 1
BIOL 498 Independent Study ..... 3
BIOL 499 Undergraduate Research ..... 4
DNSC 400 Senior Proficiency Seminar ..... 1

[^40]
## PROGRAM ELECTIVES

Credits 20
A minimum of 20 credits must be selected. A grade of "C" or better is required in each of these courses. Students with interest in pursuing medicine and/or professional and graduate degrees in the biomedical sciences are encouraged to take General Biology Electives. Likewise, students with interest in Ecology are encouraged to take Ecology Electives. Students are encouraged to take only one course in an area not related to his/her career interest.

## GENERAL BIOLOGY ELECTIVES

BIOL 211 Principles of Biology III 3
BIOL 213 Principles of Biology III Laboratory 1
BIOL 311 Vertebrate Embryology 4
BIOL 322 Comparative Vertebrate Anatomy 4
BIOL 326 Cell Biology 3
BIOL 327 Cell Biology Laboratory 1
BIOL 330 Evolution 3
BIOL 341 Introductory Physiology 4
BIOL 420 Animal Histology 3
BIOL 421 Animal Histology Laboratory 1
BIOL 426M Biotechnology 4
BIOL 436 General Endocrinology 3
BIOL 466 Medical Parasitology 3
CHEM 422M Bio-Inorganic Chemistry 3

## ECOLOGY ELECTIVES

BIOL 201 Marine Zoology 4
BIOL 202 Marine Botany 3
BIOL 203 Marine Botany Laboratory 1
BIOL 261 Invertebrate Zoology 4
BIOL 311 Vertebrate Embryology 4
BIOL 330 Evolution 3
BIOL 335 Biogeography 3
BIOL 341 Introductory Physiology 4
BIOL 361 Animal Behavior 4
BIOL 402 Ecology 4
BIOL 404 Conservation Biology 3
BIOL 431 Mammalogy 4
BIOL 432 Herpetology 3
BIOL 440 Biology of Insects 4
BIOL 441 Comparative Physiology 4
BIOL 462 General Parasitology 4
BIOL 463 Wildlife Management 4
BIOL 464 Medical \& Veterinary Entomology 4

## SUPPORTIVE COURSES

## Credits 31

A grade point average of "C" or better is required in supportive courses.

## CHEM 111 Principles of Chemistry I 3

CHEM 113 Principles of Chemistry I Laboratory 1
CHEM 112 Principles of Chemistry II 3
CHEM 114 Principles of Chemistry II Laboratory 1
CHEM 211 Fundamentals of Organic Chemistry I 3
CHEM 213 Fundamentals of Organic Chemistry I Laboratory ..... 1
CHEM 212 Fundamentals of Organic Chemistry II ..... 3
CHEM 214 Fundamentals of Organic Chemistry II Laboratory ..... 1
CHEM 341 Biochemistry I ..... 3
CHEM 343 Biochemistry I Laboratory ..... 1
CHEM 342 Biochemistry II ..... 3
CHEM 344 Biochemistry II Laboratory ..... 1BUED 212 Computer Concepts/Applications*/Hybrid/Online orCSDP 121 Microcomputer Applications*3
MATH 112 Calculus I ..... 4
*CSDP 220 (4 cr.) may be substituted for BUED 212 or CSDP 121.
FREE ELECTIVES
Credits 2
Total Credits Required for Graduation ..... 120

## CURRICULUM GUIDE FOR BIOLOGY -

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 | 1 | BIOL 114 | 1 |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| DNSC 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 | 0 |
| MATH 110 | 3 | MATH 112 | 4 |
|  | 15 |  | 15 |
| First Semester | Credit | Second Semester | Credit |
| BIOL 222 | 3 | BIOL 301 | 3 |
| BIOL 223 | 1 | BIOL 303 | 1 |
| CHEM 211 | 3 | CHEM 212 | 3 |
| CHEM 213 | 1 | CHEM 214 | 1 |
| EXSC 111 | 3 | GEN ED CURR AREA I | 3 |
| ENGL 203 | 3 | CSDP 1212 or |  |
| GEN ED CURR. AREA II | 3 | BUED 212 | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL Elective | 4 | BIOL Elective | 4 |
| BIOL Elective | 4 | PHYS 122 and |  |
| ENGL 305/Online |  | PHYS 124 or |  |
| ENGL 310/Online | 3 | PHYS 182H and | 3 |
| PHYS 121and |  | PHYS 184 | 1 |
| PHYS 123 or | 3 | GEN ED CURR AREA I | 3 |
| PHYS 181H and | 1 | GEN ED CURR AREA II | 3 |
| PHYS 183H | 15 |  | 14 |

## SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL Elective | 4 | BIOL Elective | 4 |
| BIOL 497 | 1 | BIOL $499^{3}$ | 4 |
| BIOL $498^{3}$ | 3 | CHEM 342 | 3 |
| CHEM 341 | 3 | CHEM 344 | 1 |
| CHEM 343 | 1 | MATH 210 | 3 |
| DNSC 400 | 1 |  |  |
| FREE Elective | 2 |  | 15 |

Total Credit Hours: 120

[^41]
## BIOLOGY HONORS DEPARTMENTAL REQUIREMENTS

Students majoring in Biology Honors Non - Teaching must complete a total of 120 credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 25 semester hours of Departmental Core courses, 20 semester hours of program electives, 31 semester hours of Supportive courses and 2 semester hours of free electives.

## OBJECTIVES

The primary mission of The Honors Biology Program is to prepare academically talented students for entry into graduate and professional schools with an emphasis on admission into PhD graduate programs, and also professional schools that offer degrees in Doctor of Medicine*, Dental Surgery*, Pharmacy and Veterinary Medicine. The objectives are to:

1. Provide Biology majors with advanced knowledge and information in the fields of General Biology and/or Ecology in courses at an accelerated rate;
2. Develop competencies in laboratory techniques and skills that will be necessary upon entrance into the professional working environment; and
3. Develop technical, communication and critical thinking skills of Biology majors in the Department of Natural Sciences and train the same through mentoring and personal experience to conduct scientific research.

## CAREER OPPORTUNITIES

The Honors Curriculum is challenging and facilitates acceptance into internships furthering the student's career at UMES. As graduates have a higher rate of entry into graduate programs nationwide, they can pursue a biomedical or graduate degree for entrance into a specialized area of medicine, dentistry, academia, research or consulting careers. Three resources for career opportunities are the following websites: Sciencecareers.sciencemag.org covers all sciences while www.aibs.org/careers covers all area of Biology and www.ecoemploy.com covers the ecological and environmental fields. The specific courses taken in the undergraduate program are generally chosen based on the goals of the student for his/her future career.

## BIOLOGY HONORS - <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All Biology majors are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 and 109 do not meet the General Education Requirement for a degree in biology, chemistry or environmental sciences; and do not apply toward graduation requirements. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required Math 110 and higher-level math courses.

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss with your advisor for details.

General education requirements are distributed as follows:

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109 or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course from each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

| Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES | Credits 8 |
| :---: | :---: |
| PHYS 121 General College Physics I and | 3 |
| PHYS 123 General College Physics I Laboratory or | 1 |
| PHYS 181H* Introductory Physics I and | 3 |
| PHYS 183H* Introductory Physics I Laboratory and | 1 |
| PHYS 122 General College Physics II and | 3 |
| PHYS 124 General College Physics II Laboratory or | 1 |
| PHYS 182H* Introductory Physics II and | 3 |
| PHYS 184H* Introductory Physics II Laboratory | 1 |
| Curriculum Area IV - MATHEMATICS | Credits 6 |
| MATH 110 Trigonometry \& Analytical Geometry or Higher | 3 |
| MATH 210 Elementary Statistics | 3 |
| Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ | Credits 9 |
| ENGL 101 or ENGL 101H | 3 |
| ENGL 102 or ENGL 102H | 3 |
| ENGL 001 | 0 |
| ENGL 305/H/Online or ENGL 310/H/Online | 3 |
| Curriculum Area VI - EMERGING ISSUES | Credits 4 |
| Select DNSC 100 and one additional course. |  |
| DNSC 100 Freshman Seminar | 1 |
| EXSC 111 Personalized Health Fitness | 3 |
| HUEC 230 Multicultural Perspectives on Families in the U.S. | 3 |
| TMGT 306 Ecology and Cultural Tourism | 3 |

Total Required for General Education Credits 42
PROGRAM REQUIREMENTS
CORE REQUIREMENTS_
Credits 25
A grade of "C" or better is required in each of the Program Core Requirements.
BIOL 111H Honors Principles of Biology I 3
BIOL 113H Honors Principles of Biology I Laboratory 1
BIOL 112H Honors Principles of Biology II 3
BIOL 114H Honors Principles of Biology II Laboratory 1
BIOL 222 Genetics 3
BIOL 223 Genetics Laboratory 1
BIOL 301 Microbiology 3
BIOL 303 Microbiology Laboratory 1
BIOL 497H Honors Biology Seminar 1
BIOL 498 Independent Study 3
BIOL 499 Undergraduate Research 4
DNSC 400 Senior Proficiency Seminar 1
A minimum of 20 credits must be selected. A grade of "C" or better is required in each of these courses. Students with interest in pursuing medicine and/or professional and graduate degrees in the biomedical sciences are encouraged to take General Biology Electives. Likewise, students with interest in Ecology are encouraged to take Ecology Electives. Students are encouraged to take only one course in an area not related to his/her career interest.

[^42]
## PROGRAM ELECTIVES

GENERAL BIOLOGY ELECTIVES
BIOL 211 Principles of Biology III 3
BIOL 213 Principles of Biology III Laboratory 1
BIOL 311 Vertebrate Embryology 4
BIOL 322 Comparative Vertebrate Anatomy 4
BIOL 326 Cell Biology 3
BIOL 327 Cell Biology Laboratory 1
BIOL 330 Evolution 3
BIOL 341 Introductory Physiology 4
BIOL 420 Animal Histology 3
BIOL 421 Animal Histology Laboratory 1
BIOL 426M Biotechnology 4
BIOL 436 General Endocrinology 3
BIOL 466 Medical Parasitology 3
CHEM 422M Bio-Inorganic Chemistry 3

ECOLOGY ELECTIVES
BIOL 201 Marine Zoology 4
BIOL 202 Marine Botany 3
BIOL 203 Marine Botany Laboratory 1
BIOL 261 Invertebrate Zoology 4
BIOL 311 Vertebrate Embryology 4
BIOL 330 Evolution 3
BIOL 335 Biogeography 3
BIOL 341 Introductory Physiology 4
BIOL 361 Animal Behavior 4
BIOL 402 Ecology 4
BIOL 404 Conservation Biology 3
BIOL 431 Mammalogy 4
BIOL 432 Herpetology 3
BIOL 440 Biology of Insects 4
BIOL 441 Comparative Physiology 4
BIOL 462 General Parasitology 4
BIOL 463 Wildlife Management 4
BIOL 464 Medical \& Veterinary Entomology 4

## SUPPORTIVE COURSE REQUIREMENTS

Credits 31
A grade point average of "C" or better is required in supportive courses.
CHEM 111H Honors Principles of Chemistry I ..... 3
CHEM 113H Honors Principles of Chemistry I Laboratory ..... 1
CHEM 112H Honors Principles of Chemistry II ..... 3
CHEM 114H Honors Principles of Chemistry II Laboratory ..... 1
CHEM 211H Honors Fundamentals of Organic Chemistry I ..... 3
CHEM 213H Honors Fundamentals of Organic Chemistry I Laboratory ..... 1
CHEM 212H Honors Fundamentals of Organic Chemistry II ..... 3
CHEM 214H Honors Fundamentals of Organic Chemistry II Laboratory ..... 1
CHEM 341H Honors Biochemistry I ..... 3
CHEM 343H Honors Biochemistry I Laboratory ..... 1
CHEM 342H Honors Biochemistry II ..... 3
CHEM 344H Honors Biochemistry II Laboratory ..... 1
BUED 212 Computer Concepts/Applications*/Hybrid/Online or CSDP 121 Microcomputer Applications* ..... 3
MATH 112 Calculus I ..... 4*CSDP 220 ( 4 cr .) may be substituted for BUED 212 or CSDP 121.FREE ELECTIVES
Credits 2
Total Credits Required for Graduation: ..... 120

## CURRICULUM GUIDE FOR BIOLOGY HONORS -

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :---: | :---: | :---: | :---: |
| BIOL 111H | 3 | BIOL 112H | 3 |
| BIOL 113H | 1 | BIOL 114H | 1 |
| CHEM 111H | 3 | CHEM 112H | 3 |
| CHEM 113H | 1 | CHEM 114H | 1 |
| DNSC 100 | 1 | ENGL 102H | 3 |
| ENGL 101H | 3 | ENGL 001 ${ }^{1}$ | 0 |
| MATH 110 | 3 | MATH 112 | 4 |
|  | 15 |  | 15 |
| SOPHOMORE YEAR |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| BIOL 222 | 3 | BIOL 301 | 3 |
| BIOL 223 | 1 | BIOL 303 | 1 |
| CHEM 211H | 3 | BUED $212^{2}$ or CSDP $121^{2}$ | 3 |
| CHEM 213H | 1 | CHEM 212H | 3 |
| EXSC 111 | 3 | CHEM 214H | 1 |
| ENGL 203 | 3 | ENGL 305H/Online or |  |
| GEN ED CURR AREA II (H) | 3 | ENGL 310H/Online | 3 |
|  | 17 |  | 14 |
| JUNIOR YEAR |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| BIOL Elective | 4 | BIOL Elective | 4 |
| BIOL Elective | 4 | GEN ED CURR AREA I (H) ${ }^{3}$ | 3 |
| GEN ED CURR AREA I/H ${ }^{3}$ | 3 | GEN ED CURR AREA II ${ }^{3}$ | 3 |
| PHYS 181H | 3 | PHYS 182H | 3 |
| PHYS 183H | 1 | PHYS 184H | 1 |
|  | 15 |  | 14 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 498H $^{3}$ | 3 | BIOL Elective | 4 |
| BIOL Elective | 4 | BIOL 499H |  |
| BIOL 497H | 1 | CHEM 342H | 4 |
| CHEM 341H | 3 | CHEM 344H | 3 |
| CHEM 343H | 1 | MATH 210 | 1 |
| DNSC 400 | 1 |  | 3 |
| FREE Elective | 2 |  | 15 |
|  | 15 |  | 15 |

## Total Credit Hours: 120

[^43]
## BIOLOGY <br> PRE-MEDICINE TRACK/PRE-DENTISTRY TRACK

## DEPARTMENTAL REQUIREMENTS

Students majoring in Biology with Pre-Med/Pre-Dentistry Tracks must complete a total of 120 credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 25 semester hours of Departmental Core courses, 19 semester hours of program electives and 34 semester hours of Supportive courses.

## OBJECTIVES

The objectives of the Biology Program are to:

1. Provide Biology majors in the Department of Natural Sciences with the knowledge and information necessary to gain entry into medical school;
2. Provide Biology majors with a curriculum that would advance their general knowledge in the field of Biology that is necessary for successfully completing standardized examinations required for the entry into medical school;
3. Increase the level of competency in laboratory techniques and skills of Biology majors in the Department of Natural Sciences to ultimately prepare the student for the rigors of medical school; and
4. Develop technical communication and critical thinking skills of Biology majors in the Department of Natural Sciences and train the same through mentoring and personal experience to perform in medical programs.

## CAREER OPPORTUNITIES

A Biology degree has many opportunities based on a person's interests and undergraduate preparation. Biologists can pursue a biomedical or graduate degree for entrance into a specialized area of medicine, dentistry, academia, research or consulting careers. Three resources for careers opportunities are the following websites: Sciencecareers.sciencemag.org covers all sciences while www.aibs.org/careers covers all area of Biology and www.ecoemploy.com covers the ecological and environmental fields. The specific courses taken in the undergraduate program are generally chosen based on the goals of the student for his/her future career.

## BIOLOGY <br> PRE-MEDICINE TRACK/PRE-DENTISTRY TRACK <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All Biology majors are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 and 109 do not meet the General Education Requirement for a degree in biology, chemistry or environmental sciences; and do not apply toward graduation requirements. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required MATH 110 and higher level math courses.

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss with your advisor for details.

General education requirements are distributed as follows:

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109 or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course from each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201
$\overline{{ }^{1} \text { Students must pass ENGL } 101 \text { and ENGL } 102 \text { with grade of "C" or above before taking ENGL } 203 .}$

| Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES |  |  |
| :--- | :--- | :--- |
| PHYS 121 | General College Physics I and |  |
| PHYS 123 | General College Physics I Laboratory or |  |
| PHYS 181 |  |  |
| PHYS 183H* | Introductory Physics I and |  |
| Introductory Physics I Laboratory and and |  |  |
| PHYS 122 | General College Physics II and |  |
| PHYS 124 | General College Physics II Laboratory or |  |
| PHYS 182H* | Introductory Physics II and |  |
| PHYS 184H* | Introductory Physics II Laboratory |  |

Curriculum Area IV - MATHEMATICS
MATH 110 Trigonometry \& Analytical Geometry or Higher3
MATH 210 Elementary Statistics ..... 3
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ ..... Credits 9
ENGL 101 or ENGL 101H ..... 3
ENGL 102 or ENGL 102H ..... 3
ENGL 001 ..... 0
ENGL 305/H/Online or ENGL 310/H/Online ..... 3
Curriculum Area VI - EMERGING ISSUES ..... Credits 4
Select DNSC 100 and one additional course.
DNSC 100 Freshman Seminar ..... 1
EXSC 111 Personalized Health Fitness ..... 3
HUEC 230 Multicultural Perspectives on Families in the U.S. ..... 3
TMGT 306 Ecology and Cultural Tourism ..... 3
Total Required for General Education ..... Credits 42
PROGRAM REQUIREMENTS
CORE REQUIREMENTSCredits 25
A grade of "C" or better is required in each of the Program Core Requirements.
BIOL 111/H Principles of Biology I ..... 3
BIOL 113/H Principles of Biology I Laboratory ..... 1
BIOL 112/H Principles of Biology II ..... 3
BIOL 114/H Principles of Biology II Laboratory ..... 1
BIOL 222 Genetics ..... 3
BIOL 223 Genetics Laboratory ..... 1
BIOL 301 Microbiology ..... 3
BIOL 303 Microbiology Laboratory ..... 1
BIOL 497/H Biology Seminar ..... 1
BIOL 498 Independent Study ..... 3
BIOL 499 Undergraduate Research ..... 4
DNSC 400 Senior Proficiency Seminar ..... 1

## PROGRAM ELECTIVES

Credits 19
A minimum of 20 credits must be selected. A grade of " $\mathbf{C}$ " or better is required in each of these courses. Students with interest in pursuing medicine and/or professional and graduate degrees in the biomedical sciences are encouraged to take General Biology electives. Likewise, students with interest in Ecology are encouraged to take Ecology electives. Students are encouraged to take only one course in an area not related to his/her career interest.

## GENERAL BIOLOGY ELECTIVES

BIOL 211 Principles of Biology III 3
BIOL 213 Principles of Biology III Laboratory 1
BIOL 311 Vertebrate Embryology 4
BIOL 322 Comparative Vertebrate Anatomy 4
BIOL 326 Cell Biology 3
BIOL 327 Cell Biology Laboratory 1
BIOL 330 Evolution 3
BIOL 341 Introductory Physiology 4
BIOL 420 Animal Histology 3
BIOL 421 Animal Histology Laboratory 1
BIOL 426M Biotechnology 4
BIOL 436 General Endocrinology 3
BIOL 466 Medical Parasitology 3
CHEM 422M Bio-Inorganic Chemistry 3

## ECOLOGY ELECTIVES

BIOL 201 Marine Zoology 4
BIOL 202 Marine Botany 3
BIOL 203 Marine Botany Laboratory 1
BIOL 261 Invertebrate Zoology 4
BIOL 330 Evolution 3
BIOL 335 Biogeography 3
BIOL 361 Animal Behavior 4
BIOL 402 Ecology 4
BIOL 404 Conservation Biology 3
BIOL 431 Mammalogy 4
BIOL 432 Herpetology 3
BIOL $440 \quad$ Biology of Insects 4
BIOL 441 Comparative Physiology 4
BIOL 462 General Parasitology 4
BIOL 463 Wildlife Management 4
BIOL 464 Medical \& Veterinary Entomology 4

## SUPPORTIVE COURSE REQUIREMENTS

Credits 34
A grade point average of "C" or better is required in supportive courses.
CHEM 111/H Principles of Chemistry I
CHEM 113/H Principles of Chemistry I Laboratory 1
CHEM 112/H Principles of Chemistry II 3
CHEM 114/H Principles of Chemistry II Laboratory 1
CHEM 211/H Fundamentals of Organic Chemistry I 3
CHEM 213/H Fundamentals of Organic Chemistry I Laboratory 1
CHEM 212/H Fundamentals of Organic Chemistry II 3
CHEM 214/H Fundamentals of Organic Chemistry II Laboratory 1
CHEM 341/H Biochemistry I ..... 3
CHEM 343/H Biochemistry I Laboratory ..... 1
CHEM 342/H Biochemistry II ..... 3
CHEM 344/H Biochemistry II Laboratory ..... 1
BUED 212* Computer Concepts, Applications or
CSDP 121* Microcomputer Applications ..... 3
ENGL218 Approaches to Grammar ..... 3
MATH 112 Calculus I ..... 4*CSDP 220 (4 cr.) may be substituted for BUED 212 or CSDP 121.
FREE ELECTIVES ..... 0
Total Credits Required for Graduation: 120

## CURRICULUM GUIDE FOR BIOLOGY PRE-MEDICINE/PRE-DENTISTRY TRACK ${ }^{1}$

|  | FRESHMAN YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 | 1 | BIOL 114 | 1 |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| DNSC 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 | 0 |
| MATH 110 | 3 | MATH 112 | 4 |
|  | 15 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 211 | 3 | BIOL 301 | 3 |
| CHEM 213 | 1 | BIOL 303 | 1 |
| MATH 210 | 3 | CHEM 212 | 3 |
| PSYC 100 | 3 | CHEM 214 | 1 |
| GEN ED CURR AREA I | 3 | CSDP 121 ${ }^{3}$ or |  |
| BIOL 222 | 3 | BUED212 | 3 |
| BIOL 223 | 1 | ENGL 203 | 3 |
|  | 17 |  | 14 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 311 | 4 | BIOL 322 | 4 |
| ENGL 218 | 3 | BIOL 341 | 4 |
| EXSC 111 | 3 | ENGL 305/H/Online or |  |
| PHYS 121/H or |  | ENGL 310/H/Online | 3 |
| PHYS 181/H | 3 | PHYS 122 or |  |
| PHYS 123 or | 1 | PHYS 182/H | 3 |
| PHYS 183/H | PHYS 124 or |  |  |
|  |  | PHYS 184/H | 1 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 326 | 3 | BIOL 436 | 3 |
| BIOL 327 | 1 | BIOL $498^{4}$ | 3 |
| BIOL 499 | 4 | CHEM 342 | 3 |
| BIOL 497 | 1 | CHEM 344 | 1 |
| CHEM 341 | 3 | GEN ED CURR AREA I 3 |  |
| CHEM 343 | 1 | SOCI 101 | 3 |
| DNSC 400 | 1 |  | 16 |

## Total Credit Hours: 120

${ }^{1}$ Students in the pre-Medicine or pre-Dentistry track programs should take the Medical College Admission Test (MCAT) or Dental Admission Test (DAT) during the Spring semester of the academic year preceding the year in which admission to medical school is sought. Applications to medical/dental schools should be made no later than the fall of the senior year. Cell Biology, Comparative Vertebrate Anatomy, Physiology, Embryology and Histology are Biology program electives selected in this track. These courses will build a solid foundation for courses taken in the first year of medical school.
${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
${ }^{3}$ CSDP 220 may be substituted for either CSDP 121 or BUED 212
${ }^{4}$ Students may take BIOL 498 and BIOL 499 for 1 to 3 and 1 to 4 cr . hr., respectively, per semester; but they must repeat the courses to accumulate as many credits as required in the core program, which are 3 and 4 , respectively.

## BIOLOGY

## (PRE-PHYSICAL THERAPY CONCENTRATION)

## DEPARTMENTAL REQUIREMENTS

Students majoring in Biology with Pre-Physical Therapy track must complete a total of 120 credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 25 semester hours of Departmental Core courses, 20 semester hours of program electives, 31 semester hours of Supportive courses and 2 semester hours of free electives.

Students in this track should consider taking Human Anatomy and Physiology I \& II, with laboratory - BIOL $231,232,233 \& 234$. They are required by the Department of Physical Therapy. However, they do not apply toward the B.S. degree in Biology and hence are not included among the required courses given below.

## OBJECTIVE

The objective of the Biology Pre-Physical Therapy Program is to prepare students to meet the requirements for application to professional programs leading to the DPT degree.

## CAREER OPPORTUNITIES

Graduates of this program will be prepared for entry into the Doctor of Physical Therapy program at UMES or any other institutions of their choice. Also, biologists can pursue a biomedical or graduate degree for entrance into a specialized area of medicine, dentistry, academia, research or consulting careers. Three resources for career opportunities are the following websites: Sciencecareers.sciencemag.org covers all sciences while www.aibs.org/careers covers all area of biology and www.ecoemploy.com covers the ecological and environmental fields.

The specific courses taken in the undergraduate program are generally chosen based on the goals of the student for their future career.

## BIOLOGY

## PRE-PHYSICAL THERAPY CONCENTRATION <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All Biology majors are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 and 109 do not meet the General Education Requirement for a degree in biology, chemistry or environmental sciences; and do not apply toward graduation requirements. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required MATH 110 and higher level math courses.

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss with your advisor for details. General Education Requirements are distributed as follows:

General education requirements are distributed as follows:

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109 or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Students must select one course from each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

[^44]

## PROGRAM ELECTIVES

Credits 20
A minimum of 20 credits must be selected. A grade of "C" or better is required in each of these courses. Students with interest in pursuing medicine and/or professional and graduate degrees in the biomedical sciences are encouraged to take General Biology electives. Likewise, students with interest in ecology are encouraged to take Ecology electives. Students are encouraged to take only one course in an area not related to his/her career interest.

## GENERAL BIOLOGY ELECTIVES

BIOL 211 Principles of Biology III 3
BIOL 213 Principles of Biology III Laboratory 1
BIOL 311 Vertebrate Embryology 4
BIOL 322 Comparative Vertebrate Anatomy 4
BIOL 326 Cell Biology 3
BIOL 327 Cell Biology - Laboratory 1
BIOL 330 Evolution 3
BIOL 341 Introductory Physiology 4
BIOL 420 Animal Histology 3
BIOL 421 Animal Histology Laboratory 1
BIOL 426M Biotechnology 4
BIOL 436 General Endocrinology 3
BIOL 466 Medical Parasitology 3
CHEM 422M Bio-Inorganic Chemistry 3

## ECOLOGY ELECTIVES

BIOL 201 Marine Zoology 4
BIOL 202 Marine Botany 3
BIOL 203 Marine Botany Laboratory 1
BIOL 261 Invertebrate Zoology 4
BIOL 311 Vertebrate Embryology 4
BIOL 330 Evolution 3
BIOL 335 Biogeography 3
BIOL 341 Introductory Physiology 4
BIOL 361 Animal Behavior 4
BIOL 402 Ecology 4
BIOL 404 Conservation Biology 3
BIOL 431 Mammalogy 4
BIOL 432 Herpetology 3
BIOL 440 Biology of Insects 4
BIOL 441 Comparative Physiology 4
BIOL 462 General Parasitology 4
BIOL 463 Wildlife Management 4
BIOL 464 Medical \& Veterinary Entomology 4

## SUPPORTIVE COURSE REQUIREMENTS

## Credits 31

A grade point average of "C" or better is required in supportive courses.
CHEM 111/H Principles of Chemistry I
CHEM 113/H Principles of Chemistry I Laboratory 1
CHEM 112/H Principles of Chemistry II 3
CHEM 114/H Principles of Chemistry II Laboratory 1
CHEM 211/H Fundamentals of Organic Chemistry I 3
CHEM 213/H Fundamentals of Organic Chemistry I Laboratory 1

CHEM 212/H Fundamentals of Organic Chemistry II 3
CHEM 214/H Fundamentals of Organic Chemistry II Laboratory 1
CHEM 341/H Biochemistry I 3
CHEM 343/H Biochemistry I Laboratory 1
CHEM 342/H Biochemistry II 3
CHEM 344/H Biochemistry II Laboratory 1
BUED 212 Computer Concepts, Applications* or
CSDP 121 Microcomputer Applications* 3
MATH 112 Calculus I 4
FREE ELECTIVES

## Credits 2

Total Credits Required: 120
*CSDP 220 ( 4 cr.) may be substituted for BUED 212 or CSDP 121. The extra 1 credit may be used toward free electives.

## CURRICULUM GUIDE FOR BIOLOGY <br> PRE-PHYSICAL THERAPY TRACK

Students in this track should consider taking Human Anatomy and Physiology I \& II, with laboratory - BIOL 231, 232, 233 \& 234. They are required by the Department of Physical Therapy. However, they do not apply toward the B S degree in Biology and hence are not included among the required courses given below.

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 | 1 | BIOL 114 | 1 |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| DNSC 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 | 0 |
| MATH 110 | 3 | MATH 112 | 4 |
|  | 15 |  | 15 |
|  |  | SOPHOMORE YEAR |  |
| First Semester | Credit | Second Semester | Credit |
| BIOL Elective | 4 | BIOL 222 | 3 |
| CHEM 211 | 3 | BIOL 223 | 1 |
| CHEM 213 | 1 | CHEM 212 | 3 |
| EXSC 111 | 3 | CHEM 214 | 1 |
| ENGL 203 | 3 | CSDP 121 or |  |
| GEN ED CURR AREA I | 3 | BUED 212 2 | 3 |
|  |  | ENGL 305/H/Online or |  |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL Elective | 4 | BIOL Elective | 4 |
| BIOL 301 | 3 | PHYS 122 and |  |
| BIOL 303 | 1 | PHYS 124 or |  |
| GEN ED CURR AREA II | 3 | PHYS 182H and | 3 |
| PHYS 121 and |  | PHYS 184 H | 1 |
| PHYS 123 or | 3 | GEN ED CURR AREA I | 3 |
| PHYS 181H | 1 | GEN ED CURR AREA II | 3 |
| PHYS 183H | 15 |  | 14 |


|  | SENIOR YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| BIOL Elective | 4 | BIOL Elective | 4 |
| BIOL 497 | 1 | BIOL $499^{3}$ | 4 |
| BIOL $498^{3}$ | 3 | CHEM 342 | 3 |
| CHEM 341 | 3 | CHEM 344 | 1 |
| CHEM 343 | 1 | MATH 210 | 3 |
| FREE Elective | 2 |  |  |
| DNSC 400 | 1 |  | 15 |

## Total Credit Hours: 120

[^45]
## BIOLOGY EDUCATION (TEACHING)

## DEPARTMENTAL REQUIREMENTS

Students in the major must complete a total of $131^{1}$ credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 21 semester hours of Departmental core courses, 10 semester hours of program electives, 42 semester hours of Professional Education courses, and 16 semester hours of Supportive courses.

Students who meet University of Maryland Eastern Shore's admission requirements can enroll in Biology Education. Prospective Biology Teacher Education candidates are not formally admitted to the Professional Education Unit until they have completed an Application to Teacher Education and have been accepted.

Teacher candidates who wish to major in Biology Education must have an overall and major content grade point average of 2.75 for admission into and retention in the program. For admission, an overall GPA of 2.75 or higher in a minimum of 45 approved semester hours is required, along with passing the University's English Proficiency Examination, and also PRAXIS I (scheduled and administered by Educational Testing Services) while registered for Praxis preparation course (Credit 1) EDCI 201.

|  | Passing Praxis Scores <br> Paper/Pencil Test |  |
| :--- | :--- | :--- |
| Reading | 177 | 325 |
| Mathematics | 177 | 322 |
| Writing | 173 | 319 |

Applications must be completed for admission to the Biology Education teacher program within the scheduled deadline. The teacher education application lists specific course requirements and requires two essays which address the potential candidate's disposition toward teaching, as well as providing writing samples, and field experience recommendation. Four letters of recommendation from faculty (one had to be from the advisor) are also required.

Grades of "C" or above must be attained in each required course of the Biology Education major, the specialized content area combined with the professional educational courses. A candidate's progress is monitored each semester by the academic advisor to ensure that the candidate continues to meet the minimum GPA of 2.75 in both the major and overall course work.

In order to be eligible for internship, Biology Education candidates are required to submit the following indicators: application for internship, field experience, and pre-internship recommendations, methods instructor recommendations, formal academic measures including a 2.75 or higher overall grade point average, a 2.75 grade point average in the major, with no grades lower than C in all courses, PRAXIS II passing scores in Biology, and working portfolio review.

All Biology Education candidates must satisfactorily complete the independent research project and manuscript prior to graduation. The candidates must satisfactorily complete the professional portfolio, which is started early in the program and revised and completed during the internship experience and is tied to the INTASC Principles, Unit's Conceptual Framework, and NSTA standards, prior to graduation. They must also complete an Exit Survey.

[^46]
## OBJECTIVES

The objectives of the Biology Education Program are as to:

1. Expose teacher candidates in Biology from diverse cultural backgrounds to the breadth and depth of content knowledge in biology and related sciences necessary for fulfilling requirements of teaching careers in diverse cultural settings.
2. Train future teachers in Biology who will be competent in the application of modern technological advances in innovative ways of thinking and approaching critical issues related to both science and education.
3. Provide future teachers the opportunity to acquire mastery of skills through constant reflection of their teaching and techniques that are used to obtain, analyze, and interpret scientific information.

## CAREER OPPORTUNITIES

Apart from the employment opportunities outlined in the Biology program, the students receiving the teaching degree with Praxis I and II licensure can choose to enter a teaching career in secondary education.

## BIOLOGY EDUCATION (TEACHING)

## Required Courses

Grade of "C" or above must be attained in each required course of the Biology Education major, the specialized content area combined with the professional educational courses. A candidate's progress is monitored each semester by the academic advisor to ensure that the candidate continues to meet the minimum GPA of 2.75 in both the core courses and overall program. Biology Education Program Course Requirements are divided into the following categories: General Education Requirements, Program Core Requirements, Supportive Course Requirements, and Core Program Electives. Students are required to complete a total of $131^{1}$ credit hours in these categories for graduation. A research manuscript or an undergraduate thesis is required following completion of Undergraduate Research. The Research project has to be approved by a committee consisting of advisor who will serve as the thesis or project supervisor and another faculty member from the department of Natural Sciences.

Fundamental courses, MATH 101 and 109 do not meet the General Education Requirement for a degree in biology education or chemistry education. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required Math 110 and higher level Math courses.

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss with your advisor for details.

General Education Requirements: ( $\mathbf{4 2} \mathbf{c r}$.) The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. Biology Education Program candidates are required to complete a total of 42 credit hours for graduation in this category. These credit hours are divided into six areas. A grade of " C " or above is required in all GER courses.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH plus one course from each of two different disciplines (A - E):

## Discipline A: ARTS

ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101, FREN 102, SPAN 101, SPAN 102, ASLS 203, ASLS 204

Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL $203^{2}$

Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course from each of two disciplines;
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H; POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361, PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES <br> PHYS 121 General College Physics I 3

## Credits 8

PHYS 123 General College Physics I Laboratory 1
PHYS 122 General College Physics II 3
PHYS 124 General College Physics II Laboratory 1
Curriculum Area IV - MATHEMATICS

## Credits 6

MATH 110 Trigonometry \& Analytical Geometry or Higher 3
MATH 210 Elementary Statistics 3
Curriculum Area V ENGLISH COMPOSITION ${ }^{1}$ Credits 9
ENGL 101/H Basic Composition I/Honors 3
ENGL 102/H Basic Composition II/Honors 3
ENGL 001 English Proficiency Exam 0
ENGL 305/H/ Online Technical Writing/Honors/Online or
ENGL 310/H/ Online Advanced Composition/Honors/Online

| Curriculum | Area VI - EMERGING ISSUES | Credits 4 |
| :--- | :--- | :--- |
| DNSC 100 | Freshman Seminar | 1 |
| EXSC 111 | Personalized Health Fitness | 3 |

[^47]Credits 21
There are six Biology Core Requirements. Candidates in Biology Education are required to earn at least a grade of C or better in each of these courses, and maintain a minimum GPA of $\mathbf{2 . 7 5}$ in the core courses.

BIOL 111/H ${ }^{1}$ Principles of Biology I and Laboratory 3
BIOL 113/H Principles of Biology I Laboratory 1
BIOL 112/H Principles of Biology II 3
BIOL 114/H Principles of Biology II Laboratory 1
BIOL 222 Genetics 3
BIOL 223 Genetics Laboratory 1
BIOL 301/H Microbiology 3
BIOL 303/H Microbiology Laboratory 1
BIOL 497/H Biology Seminar 1
BIOL 499/H Undergraduate Research ${ }^{2}$ 4

## SUPPORTIVE COURSE REQUIREMENTS

## Credits 16

Supportive courses are listed below that Biology Education candidates are required to complete for graduation. Candidates are required to earn a C or better in all of these courses, and maintain a minimum GPA of $\mathbf{2 . 7 5}$ in these courses.

CHEM 111/H Principles of Chemistry I 3
CHEM 113/H Principles of Chemistry I Laboratory 1
CHEM 112/H Principles of Chemistry II 3
CHEM 114/H Principles of Chemistry II Laboratory 1
CHEM 211/H Fundamentals of Organic Chemistry I 3
CHEM 213/H Fundamentals of Organic Chemistry I Laboratory 1
CHEM 212/H Fundamentals of Organic Chemistry II 3
CHEM 214/H Fundamentals of Organic Chemistry II Laboratory 1

## CORE PROGRAM ELECTIVES

## Credits 10

The Department of Natural Sciences offers many electives. Candidates of Biology Education are required to take the following core electives BIOL 211, 213, ENVS 460) as they meet the National Science Teachers Association (NSTA) and National Science Education Standards (NSES) content standards. BUED 212 or its equivalent is a part of computer literacy. Candidates are required to earn a minimum of C grade in all of these courses, and maintain a minimum GPA of $\mathbf{2 . 7 5}$ in the core electives.

BIOL 211 Principles of Biology III 3
BIOL 213 Principles of Biology III Laboratory 1
ENVS 460 Earth Science or equivalent 3
CSDP 121 Microcomputer Applications* or
BUED 212 Computer Concepts/Applications* 3
*CSDP 220 may be substituted for CSDP 121 or BUED 212

[^48]
## PROFESSIONAL EDUCATION REQUIREMENTS

## Credits 42

Biology Education candidates are required to complete 43 credit hours under the Professional Education Requirements. However, EDCI 201 ( $\mathbf{1} \mathbf{~ c r}$.) does not count toward graduation. Candidates are required to earn no less than a C average in these courses, and maintain a minimum GPA of $\mathbf{2 . 7 5}$ in these courses.

| EDCI 200 | Introduction to Contemporary Education | 3 |
| :--- | :--- | :--- |
| EDCI 201 | Praxis Preparation | 1 |
| PSYC 305 | Developmental Psychology/online | 3 |
| PSYC 307 | Educational Psychology | 3 |
| EDCI 311 | Comprehensive Assessment in Education | 3 |
| EDCI 409 | Teaching Reading in the Content Areas I | 3 |
| EDCI 410 | Teaching Reading in the Content Areas II | 3 |
| EDCI 406 | Classroom Management | 3 |
| EDCI 425A | Curriculum and Instructional Methods in Natural Sciences | 3 |
| EDSP 428 | Communication and Collaboration in Special Education | 3 |
| EDSP 400 | Senior Seminar in Education | $3^{*}$ |
| EDCI 480X | Teaching Internship I: Teaching Biology in Mid Schools | $6^{*}$ |
| EDCI 490X | Teaching Internship II: Teaching Biology in High Schools | $6^{*}$ |

*EDCI 400, EDCI 480 and EDCI 490 are taken concurrently during the last semester of the senior year. EDCI 201-Praxis Preparation does not count towards graduation

## Total Credits Required (excluding EDCI 201): 131

## Field and Clinical Experiences

Clinical Experiences are those experiences which are based on a very specific purpose. They may consist of interviewing a student, teacher, or administrator, observing a meeting or a conference; visiting a school or community resource center; developing a case study; peer teaching; administering a test; or attending a meeting or a conference. Clinical Experiences generally require a limited amount of time in a school or with a student ( 10 hours). Teacher Candidates are asked to submit a report or a reflective journal that documents the completion of the assignment.

Field Experiences always occur in a school setting and consist of 10 to 25 hours of visitation per course. The times vary based on the course requirement. Field Experiences usually require a student to keep a reflective journal which is submitted as part of the final grade. Listed below are the clinical and field experiences required for all professional courses in Biology Education.

## Internships

EDCI 480/490 Internship -2 consecutive 7-8 week ( 5 days/week) placement at 2 different sites (Refer to the course description)

In EDCI 480/490 (Internship), the teacher candidates in Biology have a full semester of student teaching: a middle school experience and a high school experience. Candidates are under the direct supervision of a Science Cooperating Teacher in Biology and also supervised by the University Supervisor who also serves as the Teacher Educator (Instructor of Methods and Internship) of Biology Education. University supervisor is required to observe and conference with the candidate and cooperating teacher a minimum of eight times, four times per student teaching placement, with an additional introductory meeting for each placement. Candidates begin by taking one or two classes from their cooperating teacher's schedule of teaching, and gradually picking up more until they have the experience of teaching a full load. The candidates are expected to demonstrate effective teaching skills such as facilitating collaborative group learning, motivating, and encouraging student learning activities, and assessing students' responses. They are to design a bulletin board display, prepare appropriate
instructional materials, observe teaching, interview school personnel, participate in parent meetings, evaluate student work using multiple assessments, and become involved in the life of the school and the full role of a teacher. Documentation of performance based outcomes, as well as summative evaluative reports are prepared by cooperating teachers, based on their day-to-day experiences with the candidate, and by the university supervisor based on the observational visits and discussions with the candidates and cooperating teachers.

| Course <br> Number | Titles | Type of <br> Experience/Hours |
| :--- | :--- | :--- |
| EDCI 200 | Introduction to Contemporary Education | Field/10 hours |
| PSYC 305 | Developmental Psychology | Clinical/10 hours |
| PSYC 307 | Educational Psychology | Clinical/10 hours |
| EDCI 311 | Comprehensive Assessment | Field/10 hours |
| EDCI 406 | Classroom Management | Field/15 hours |
| EDCI 409 | Teaching Reading in the Content Areas I | Field/15 hours |
| EDCI 410 | Teaching Reading in the Content Areas II | Field/15 hours |
| EDCI 425A | Curriculum and Instructional Methods in Natural Sciences | Field/25 hours |
| EDSP 428 | Communication and Collaboration in Special Education | Field/10 hours |
| Total | 110 hours (Field Experience-90 hours; Clinical Experience-20 hours) |  |

## CURRICULUM GUIDE FOR BIOLOGY EDUCATION

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 | 1 | BIOL 114 | 1 |
| ENGL 101 | 3 | ENGL 102 | 3 |
| Curriculum Area II | 3 | ENGL 001 | 0 |
| DNSC 100 | 1 | Curriculum Area I | 3 |
| MATH 110 | 3 | PSYC 100 | 3 |
| EXSC 111 | 3 | BUED 212 or |  |
|  |  | CSDP 121 | 3 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 211 | 3 | BIOL 222 | 3 |
| BIOL 213 | 1 | BIOL 223 | 1 |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| MATH 210 | 3 | BIOL 301 | 3 |
| EDCI 200 | 3 | BIOL 303 | 1 |
| ENGL 203 | 3 | ENVS 460 | 3 |
| EDCI 201 2 | 1 | PSYC 305 | 3 |
|  | 18 |  | 17 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305/Online or |  | PHYS 122 | 3 |
| ENGL 310/Online | 3 | PHYS 124 | 1 |
| CHEM 211 | 3 | CHEM 212 | 3 |
| CHEM 213 | 1 | CHEM 214 | 1 |
| EDCI 311 | 3 | EDCI 406 | 3 |
| PHYS 121 | 3 | EDCI 409 | 3 |
| PHYS 123 | 1 | BIOL 499 | 4 |
| PSYC 307 | 3 |  | 18 |
|  | 18 | SENIOR YEAR |  |
| First Semester | Credit | Second Semester | Credit |
| BIOL 497 | 1 | EDCI 400 | 3 |
| EDCI 410 | 3 | EDCI 480 | 6 |
| EDCI 425A | 3 | EDCI 490 | 6 |
| EDSP 428 | 3 |  |  |
| Curriculum Area I | 3 |  | 15 |

## Total Credit Hours: $131^{5}$

[^49]
# CHEMISTRY with ACS CERTIFICATION ${ }^{1}$ CHEMISTRY HONORS with ACS CERTIFICATION - PRE-MEDICINE/PRE-DENTISTRY TRACKS \& CHEMISTRY without ACS CERTIFICATION 

## DEPARTMENTAL REQUIREMENTS

All students pursuing a major in Chemistry must complete a total of 120 credit hours of University courses as required by the major. This includes a minimum of 53 credit hours of Program Core courses, 15 credit hours of Supportive courses, 7 credit hours of Program Elective courses, 43 credit hours of General Education courses and 2 credit hours of Free Elective courses from the approved lists of requirements as outlined in the catalog. To obtain an ACS-certified Chemistry degree, students are required to adhere to ACS guidelines in the submission of their CHEM 499 requirements.

Students in the Honors Program are advised to enroll in Honors designated courses.

## OBJECTIVES

The objectives of the Chemistry Program are to:

1. Train students through demonstration, mentoring and personal experience to gain knowledge and develop chemical skills necessary to conduct scientific research.
2. Impart students with contemporary laboratory techniques and skills required to conduct scientific investigations.
3. Provide students with the academic curricula necessary to develop a strong understanding and knowledge of chemical theory and practice.
4. Prepare academically talented students for entry into graduate and professional schools ( $\mathrm{PhD}, \mathrm{MD}$, PharmD, DOM, DDS).

## CAREER OPPORTUNITIES

Students graduating with a Bachelor's of Science in Chemistry will be qualified to apply for admission to professional or graduate programs in a variety of fields. They will also be highly qualified for admission to medical or other health profession programs. Students who choose to pursue employment after completing their B.S. degree will be qualified to work in a variety of fields including in industry as chemists for biotechnology, pharmaceutical or environmental management companies. Graduates can also work for government agencies such as the National Science Foundation (NSF), the National Institutes of Health (NIH), the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), the National Institute of Standards and Technology (NIST), the National Oceanic and Atmospheric Administration (NOAA), the Federal Bureau of Investigation (FBI), and the Central Intelligence Agency (CIA). Websites which describe careers in chemistry include: The ACS website www.ACS.org; About Chemistry, http://chemistry.about.com/cs/5/f/blcareers.htm, and http://www.chemistryguide.org/jobs-in-chemistry.html. Students seeking employment are urged to explore these agencies and their web sites at least six months in advance of the time they intend to begin work.
${ }^{1}$ ACS Certification - The Chemistry Program received approval from the American Chemical Society (ACS) to grant ACS certified degrees in 2003.

## GENERAL EDUCATION REQUIREMENTS

All chemistry majors are expected to complete a common body of academic course work The General Education Requirements are designed to promote the development of a comprehensive educational base that will effectively support a student's choice of a major concentration.

Students in the Honors program should take honors courses designated by H. All students are encouraged to take a couple of courses On-line or during summer and winter sessions to develop skills that will support lifelong learning. Discuss the details with your advisor.

General Education Requirements are distributed as follows:

## Curriculum Area I: ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH plus one course from each of two different disciplines (A -D): Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101, FREN 102, SPAN 101, SPAN 102, ASLS 203, ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL $203{ }^{1}$

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course from each of two different disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
${ }^{2}$ HIST 101/101H, HIST 102/102H and PHIL 201 cannot be used to satisfy both Curriculum Area I and II course requirements.

| Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES |  | Credits 8 |
| :---: | :---: | :---: |
| PHYS 161 | General Physics I and |  |
| PHYS 163 | General Physics Laboratory I or |  |
| PHYS 181H | Introductory Physics I (Honors) and | 3 |
| PHYS 183H | Introductory Physics Laboratory I (Honors) | 1 |
| PHYS 262 | General Physics II and |  |
| PHYS 264 | General Physics Laboratory II or |  |
| PHYS 182H | Introductory of Physics II (Honors) and | 3 |
| PHYS 184H | Introductory of Physics Laboratory II (Honors) | 1 |
| Area IV: | MATHEMATICS | Credits 7 |
| MATH 110 | Trigonometry \& Analytical Geometry or HIGHER | 3 |
| MATH 112 | Calculus I | 4 |
| Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ |  | Credits 9 |
| ENGL 101/H | Basic Composition I/Honors | 3 |
| ENGL 102/H | Basic Composition II/Honors | 3 |
| ENGL 001 Eng | lish Proficiency Exam | 0 |
| ENGL 305/H/Online Technical Writing/Honors/Online or |  |  |
| ENGL 310/H/Online Advanced Composition/Honors/Online |  | 3 |
| Curriculum Area Vi - EMERGING ISSUES |  | Credits 4 |
| Select DNSC 100 and one additional course. |  |  |
| DNSC 100 | Freshman Seminar | 1 |
| EXSC 111 | Personalized Health Fitness | 3 |
| HUEC 230 | Multicultural Perspectives on Families in the U.S. | 3 |
| TMGT 306 | Ecology and Cultural Tourism | 3 |
| Total Required for General Education |  | Credits 43 |
| PROGRAM REQUIREMENTS |  |  |
| CORE REQUIREMENTS |  | Credits 53 |
| A grade of " C " or better is required in each course. |  |  |
| CHEM 111/H | Principles of Chemistry I | 3 |
| CHEM 113/H | Principles of Chemistry Laboratory I | 1 |
| CHEM 112/H | Principles of Chemistry II | 3 |
| CHEM 114/H | Principles of Chemistry Laboratory II | 1 |
| CHEM 211/H | Fundamentals of Organic Chemistry I | 3 |
| CHEM 213/H | Fundamentals of Organic Chemistry Laboratory I | 1 |
| CHEM 212/H | Fundamentals of Organic Chemistry II | 3 |
| CHEM 214/H | Fundamentals of Organic Chemistry Laboratory II | 1 |
| CHEM 311 | Analytical Chemistry I | 4 |
| CHEM 312 | Analytical Chemistry II | 4 |
| CHEM 341/H | Biochemistry I | 3 |
| CHEM 34/H3 | Biochemistry Laboratory I | 1 |
| CHEM 401 | Principles of Physical Chemistry I | 4 |
| CHEM 402 | Principles of Physical Chemistry II | 4 |
| CHEM 420 | Advanced Inorganic Chemistry | 4 |
| CHEM 421 | Instrumental Analysis | 4 |
| CHEM 497/H | Chemistry Seminar | 1 |

CHEM 498/H Independent Study ..... 3
CHEM 499/H Undergraduate Research ..... 4
DNSC 400 Senior Proficiency Seminar ..... 1
SUPPORTIVE REQUIREMENTS
Credits 15A grade point average of "C" or better is required.
BIOL 111/H Principles of Biology I ..... 3
BIOL 113/H Principles of Biology I Laboratory ..... 1
BIOL 112/H Principles of Biology II ..... 3
BIOL 114/H Principles of Biology II Laboratory ..... 1BUED 212 Computer-Concepts/Application I ${ }^{2}$ or
CSDP 121 Microcomputer Applications ${ }^{2}$ ..... 3
MATH 211 Calculus II ..... 4
*CSDP 220 may be substituted for CSDP 121 or BUED 212 and 1 credit may be used as free elective credit.

## PROGRAM ELECTIVES

## Credits7

Choose two courses from the following electives; one must have a laboratory component.
A grade of " $C$ " or better is required in each course.

| CHEM 342/H | Biochemistry IIand 3 <br> CHEM 344/H Biochemistry II Laboratory |  |
| :--- | :--- | :--- |
| CHEM 422M | Bio-Inorganic Chemistry | 3 |
| CHEM 432 | Advanced Organic Chemistry | 3 |
| CHEM 488A | Advanced Environmental Chemistry | 4 |

[^50]${ }^{2}$ CSDP 220 may be substituted for CSDP 121 or BUED 212 and 1 credit may be used as a Free Elective credit.

## CURRICULUM GUIDE FOR CHEMISTRY - <br> ACS CERTIFICATION

|  | Fredit |  |  |
| :--- | :--- | :--- | :--- | $\left.\begin{array}{lll}\text { First Semester } & \text { Second Semester }\end{array}\right]$| Credit |
| :--- |
| BIOL 111 |
| BIOL 113 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 311 | 4 | CHEM 312 | 4 |
| CHEM 341 | 3 | CHEM 497 | 1 |
| CHEM 343 | 1 | CHEM $498^{5}$ | 3 |
| ENGL 305/Online or |  | Program Elective | 3 |
| ENGL 310/Online | 3 | CSDP 121 or |  |
| Curriculum Area II | 3 | BUED 212 or |  |
|  |  | CSDP 2203 | 3 |
|  |  | Curriculum Area II | 3 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| DNSC 400 | 1 | Program Elective with Lab t | 4 |
| CHEM 401 | 4 | CHEM 402 | 4 |
| CHEM 420 | 4 | CHEM 499 | 4 |
| CHEM 421 | 4 | Free Elective | 2 |
| Curriculum Area VI | 3 |  | 14 |

## Total Credit Hours: 120

[^51]
## CHEMISTRY EDUCATION (TEACHING)

## DEPARTMENTAL REQUIREMENTS

Maryland Higher Education Commission has set a graduation requirement of $131^{1}$ semester hours to obtain a 4 year baccalaureate degree. Students must complete 29 semester hours of program core courses, 15 hours of supportive courses, 3 hours of program electives courses, 42 hours of general education courses and 42 hours of professional education courses from the approved lists of requirements as outlined in the catalog. Students are not required to follow the ACS course guidelines since the degree is non-ACS certified. Teacher candidates who wish to major in Chemistry Education must have an overall and major content grade point average of 2.75 for admission into and retention in the program. For admission, an overall GPA of 2.75 or higher in a minimum of 45 approved semester hours is required, along with passing the University's English Proficiency Examination, and also PRAXIS I (scheduled and administered by Educational Testing Services) while registered for Praxis preparation course (Credit 1) EDCI 201.

Any individual who meets University of Maryland Eastern Shore's admission requirements can enroll in Chemistry Education. Prospective Chemistry Teacher Education candidates are not formally admitted to the Professional Education Unit until they have completed an Application to Teacher Education and have been accepted.

## OBJECTIVES

The objectives of the Chemistry Teaching Program are to:

1. Train students through demonstration, mentoring and personal experience to develop chemical skills and to conduct scientific research.
2. Impart students with contemporary laboratory techniques and skills required to conduct scientific investigations.
3. Provide students with the academic curricula necessary to develop a strong understanding and knowledge of chemical theory and practice.
4. Expose teacher candidates in Chemistry from diverse cultural backgrounds to the breadth and depth of content knowledge in Chemistry and related sciences necessary for fulfilling requirements of teaching careers in diverse cultural settings.
5. Train future teachers in Chemistry who will be competent in the application of modern technological advances in innovative ways of thinking and approaching critical issues related to both science and education.
6. Provide future teachers the opportunity to acquire mastery of skills through constant reflection of their teaching and techniques that are used to obtain, analyze, and interpret scientific information.

## CAREER OPPORTUNITIES

Students graduating with the NCATE-certified Chemistry Education (Teaching) Degree with Praxis I and II Licensure can choose to enter a teaching career in secondary education.

## CHEMISTRY EDUCATION (TEACHING) General Required Courses

Grades of "C" or above must be attained in each required course of the Chemistry Education major, the specialized content area combined with the professional educational courses. A candidate's progress is monitored each semester by the academic advisor to ensure that the candidate continues to meet the minimum GPA of 2.75 in both the core courses and overall program. Chemistry Education Program Requirements are as follow: General Education Requirements, Program Core Requirements, Supportive Courses Requirements, Core Program Electives and Professional Education Requirements. Students are required to complete a total of $131^{1}$ credit hours in these categories for graduation. A research manuscript or undergraduate thesis is required following completion of Undergraduate Research. The Research project has to be approved by a committee consisting of advisor who will serve as the thesis or project supervisor and another faculty member from the Department of Natural Sciences.

Fundamental courses, MATH 101 and 109 do not meet the General Education Requirement for a degree in biology education or chemistry education. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required Math 110 and higher level Math courses.

All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss the details with your advisor.

General Education Requirements: ( $\mathbf{4 2} \mathbf{~ c r}$.) The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. Biology Education Program candidates are required to complete a total of 42 credit hours for graduation in this category. These credit hours are divided into six areas. A grade of " C " or above is required in all GER courses.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH plus one course from each of two different disciplines (A -DE):

## Discipline A: ARTS

ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101, FREN 102, SPAN 101, SPAN 102, ASLS 203, ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203

[^52]
## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Students must select one course from each of two disciplines;

## Discipline A: SOCIAL SCIENCES

GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200/H, POLI 220H, POLI 342
SOCI 101, SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

| Curriculum | Area III - BIOLOGICAL AND PHYSICAL SCIENCES | Credits 8 |
| :--- | :--- | :--- |
| PHYS 181H | Introductory Physics I | 3 |
| PHYS 183H | Introductory Physics I Laboratory | 1 |
| PHYS 182H | Introductory Physics II | 3 |
| PHYS 184H | Introductory Physics II Laboratory | 1 |
| Curriculum |  |  |
| Area IV - MATHEMATICS | Credits 6 |  |
| MATH 110 | Trigonometry \& Analytical Geometry or Higher | 3 |
| MATH 210 | Elementary Statistics | 3 |

Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credits 9

ENGL 101/H Basic Composition I
3
ENGL 102/H Basic Composition II
ENGL 001 English Proficiency Exam 3

ENGL 305/H/ Online Technical Writing or
ENGL 310/H/ Online Advanced Composition
Curriculum Area VI - EMERGING ISSUES
DNSC 100 Freshman Seminar
EXSC 111 Personalized Health Fitness

## CORE REQUIREMENTS

Candidates in Chemistry Education are required to earn at least a grade of C or above in each of these courses, and maintain a minimum GPA of $\mathbf{2 . 7 5}$ in the core courses.

| CHEM 111 | Principles of Chemistry I | 3 |
| :--- | :--- | :--- |
| CHEM 112 | Principles of Chemistry II | 3 |
| CHEM 113 | Principles of Chemistry I Laboratory | 1 |
| CHEM 114 | Principles of Chemistry II | 1 |
| CHEM 211 | Fundamentals of Organic Chemistry I | 3 |
| CHEM 212 | Fundamentals of Organic Chemistry II | 3 |
| CHEM 213 | Fundamentals of Organic Chemistry I Laboratory | 1 |
| CHEM 214 | Fundamentals of Organic Chemistry II Laboratory | 1 |
| CHEM 311 | Analytical Chemistry I | 4 |
| CHEM 401 | Principles of Physical Chemistry | 4 |
| CHEM 497 | Chemistry Seminar | 1 |
| CHEM 499 | Undergraduate Research ${ }^{1}$ | 4 |
| 'Students must pass ENGL 101 and 102 with a grade of "C" or above before taking ENGL 203. |  |  |

## SUPPORTIVE COURSE REQUIREMENTS

Credits 15
Candidates are required to earn at least a grade of C or better in each of the supporting courses, and maintain a minimum GPA of $\mathbf{2 . 7 5}$ in these courses.
BIOL 111 Principles of Biology I 3
BIOL 113 Principles of Biology I Laboratory 1
CSDP 121 Microcomputer Applications or
BUED 212 Computer Concepts/Applications I/Hybrid/Online* 3
MATH 112 Calculus I 4
MATH 211 Calculus II 4

## * CSDP 220 may be substituted for CSDP 121 or BUED 212.

## CORE PROGRAM ELECTIVES

## Credits 3

The Department of Natural Sciences offers many electives. Candidates of Chemistry Education are required to take the following core electives as this meets the National Science Teachers Association (NSTA) and National Science Education Standards (NSES) content standards. Candidates are required to earn no less than a C in this course.

Course \& No. Title
ENVS 460 Earth Science or equivalent

## PROFESSIONAL EDUCATION REQUIREMENTS

Chemistry Education candidates are required to complete 42 credit hours under the Professional Education Requirements. Candidates are required to earn no less than a C in any course, and maintain a minimum GPA of 2.75 in these courses. EDCI 201-Praxis Preparation ( 1 cr . hour) does not count toward graduation.

| EDCI 200 | Introduction to Contemporary Education | 3 |
| :--- | :--- | :--- |
| EDCI 201 | Praxis Preparation** | 1 |
| PSYC 305 | Developmental Psychology/online | 3 |
| PSYC 307 | Educational Psychology | 3 |
| EDCI 311 | Comprehensive Assessment in Education | 3 |
| EDCI 409 | Teaching Reading in the Content Areas I | 3 |
| EDCI 410 | Teaching Reading in the Content Areas II | 3 |
| EDCI 406 | Classroom Management | 3 |
| EDCI 425A | Curriculum and Instructional Methods in Natural Sciences | 3 |
| EDSP 400 | Senior Seminar in Education | $3^{*}$ |
| EDSP 428 | Communication and Collaboration in Special Education | 3 |
| EDCI 480 | Teaching Internship I: Teaching Chemistry in middle school | $6^{*}$ |
| EDCI 490 | Teaching Internship II: Teaching Chemistry in high school | $6^{*}$ |

*EDCI 400, EDCI 480 and EDCI 490 are to be taken concurrently during the last semester of the Senior year. **EDCI 201 does not count toward graduation. Its inclusion makes the total 132 credits.

## Field and Clinical Experiences

Clinical Experiences are those experiences which are based on a very specific purpose. They may consist of interviewing a student, teacher, or administrator, observing a meeting or a conference; visiting a school or community resource center; developing a case study; peer teaching; administering a test; or attending a meeting or a conference. Clinical Experiences generally require a limited amount of time in a school or with a student ( 10 hours). Teacher Candidates are asked to submit a report or a reflective journal that documents the completion of the assignment. Field Experiences always occur in a school setting and consist of 10 to 25 hours of visitation per course. The times vary based on the course requirement. Field Experiences usually require a student to keep a reflective journal which is submitted as part of the final grade. Listed below are the clinical and field experiences required for all professional courses in Chemistry Education.

## Internships

EDCI 480/490 Internship -2 consecutive 7-8 week (5 days/week) placement at 2 different sites (Refer to the course description)

In EDCI 480/490 (Internship), the teacher candidates in Biology have a full semester of student teaching: a middle school experience and a high school experience. Candidates are under the direct supervision of a Science Cooperating Teacher in Biology and also supervised by the University Supervisor who also serves as the Teacher Educator (Instructor of Methods and Internship) of Biology Education. University supervisor is required to observe and conference with the candidate and cooperating teacher a minimum of eight times, four times per student teaching placement, with an additional introductory meeting for each placement. Candidates begin by taking one or two classes from their cooperating teacher's schedule of teaching, and gradually picking up more until they have the experience of teaching a full load. The candidates are expected to demonstrate effective teaching skills such as facilitating collaborative group learning, motivating, and encouraging student learning activities, and assessing students' responses. They are to design a bulletin board display, prepare appropriate instructional materials, observe teaching, interview school personnel, participate in parent meetings, evaluate student work using multiple assessments, and become involved in the life of the school and the full role of a teacher. Documentation of performance-based outcomes, as well as summative evaluative reports are prepared by cooperating teachers, based on their day-to-day experiences with the candidate, and by the university supervisor based on the observational visits and discussions with the candidates and cooperating teachers.

| Course <br> Number | Titles | Type of <br> Experience/Hours |
| :--- | :--- | :--- |
| EDCI 200 | Introduction to Contemporary Education | Field/10 hours |
| PSYC 305 | Developmental Psychology | Clinical/10 hours |
| PSYC 307 | Educational Psychology | Clinical/10 hours |
| EDCI 311 | Comprehensive Assessment | Field/10 hours |
| EDCI 406 | Classroom Management | Field/15 hours |
| EDCI 409 | Teaching Reading in the Content Areas I | Field/15 hours |
| EDCI 410 | Teaching Reading in the Content Areas II | Field/15 hours |
| EDCI 425A | Curriculum and Instructional Methods in Natural Sciences | Field/25 hours |
| EDSP 428 | Communication and Collaboration in Special Education | Field/10 hours |
| Total | 110 hours (Field Experience-90 hours; Clinical Experience-20 hours) |  |

## CURRICULUM GUIDE FOR CHEMISTRY EDUCATION (TEACHING)

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | ENGL 102 | 3 |
| BIOL 113 | 1 | ENGL 001 | 0 |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| DNSC 100 | 1 | PSYC 100 | 3 |
| ENGL 101 | 3 | MATH 210 | 3 |
| MATH 110 | 3 | MATH 112 | 4 |
|  | 15 |  | 17 |


| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CSDP 121 or |  | CHEM 212 | 3 |
| BUED $212^{2}$ | 3 | CHEM 214 | 1 |
| CHEM 211 | 3 | PSYC 305 | 3 |
| CHEM 213 | 1 | EXSC 11 | 3 |
| ENGL 203 | 3 | ENVS 460 | 3 |
| EDCI 200 | 3 | GEN ED CURR AREA I | 3 |
| EDCI $201^{3}$ | 1 |  | 16 |
| MATH 211 | 4 |  | 16 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 311 | 4 | PHYS 182H | 3 |
| CHEM 497 | 1 | PHYS 184 H | 1 |
| PHYS 181H | 3 | EDCI 406 | 3 |
| PHYS 183H | 1 | EDCI 409 | 3 |
| ENGL 305/H/Online or |  | GEN ED CURR AREA | II |
| ENGL 310/H/Online | 3 | CHEM 499 | 3 |
| PSYC 307 | 3 |  | 4 |
| EDCI 311 | 3 |  |  |
|  | 18 |  | 17 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 401 | 4 | EDCI 400 | 3 |
| EDCI 410 | 3 | EDCI 480 | 6 |
| EDCI 425A | 3 | EDCI 490 | 6 |
| EDSP 428 | 3 |  |  |
| GEN ED CURR AREA I | 3 |  | 15 |

## Total Credit Hours: $\mathbf{1 3 1}^{5}$ (The total excludes EDCI 201.)

[^53]
## ENVIRONMENTAL SCIENCES

The Environmental Sciences major has two options: Environmental Chemistry or Marine Science. The concept of each Option is indicated below.

## DEPARTMENTAL REQUIREMENTS

Environmental Sciences majors (Environmental Chemistry option) must complete 120 semester hours: 42 semester hours in general education courses, 29 semester of hours in program core courses, 43 semester hours in program supportive courses and 6 semester hours in electives. Marine Science option majors must complete 120 semester hours: 42 semester hours in general education courses, 36 semester of hours in program core courses, 35 semester hours in program supportive courses and 7 semester hours in electives. Students are required to take independent study and/or undergraduate research in their junior or senior year. Most faculty are actively involved in research projects with undergraduate students. Students must receive a grade of "C" or better in both lecture and laboratory component to progress to the next course in the sequence.

## OBJECTIVES

The program in Environmental Sciences has been developed to:

1. Create in the student abilities of critical and reflective thought relating to the many aspects of environmental concerns.
2. Train students to use the interdisciplinary approach involving the areas of Biology, Chemistry, Physics, Computer Sciences and Economics.
3. Provide students with the academic curricula necessary to develop a strong understanding and knowledge of the environment.
4. Impart students with laboratory techniques and skills required to conduct scientific investigation.
5. Train students, through example, mentoring and personal experience, to develop chemical, biological, physical and social skills, and to conduct environmental research.

## CAREER OPPORTUNITIES

A degree in Environmental Sciences prepares students for employment in newly evolving and conventional scientific fields related to Environmental Sciences or to pursue graduate and professional degrees. Graduates are employed as Water Treatment Plant Managers, Air Pollution Supervisors, Marine Biologists, Energy \& Environment Specialists, Environmental Chemists/Biologists, Oceanographers, Soil Conservationists and Fisheries Scientists. The program offers two options.

## ENVIRONMENTAL SCIENCE - ENVIRONMENTAL CHEMISTRY OPTION

Students must complete 120 semester hours: 42 semester hours in general education courses, 29 semester of hours in program core courses, 43 semester hours in program supportive courses and 6 semester hours in program electives. Students are required, to take independent study and undergraduate research in their junior or senior year. Most faculty are actively involved in research projects with undergraduate students. Students must receive a grade of "C" or better in both lecture and laboratory component to progress to the next course in the sequence.

## ENVIRONMENTAL SCIENCES - CHEMISTRY OPTION Required Courses

## GENERAL EDUCATION REQUIREMENTS

All Environmental Science majors with Chemistry option are expected to complete a common body of academic course work ( 42 cr .). The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. Fundamental courses, MATH 101 and 109 do not meet the General Education Requirement for a degree in biology, chemistry or environmental sciences, and do not apply toward graduation requirements. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required MATH 110 and higher level Math courses.

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss the details with your advisor.

General Education Requirements are distributed as follows:
Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH plus one course from each of two different disciplines (A - D):

## Discipline A: ARTS

ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101, FREN 102, SPAN 101, SPAN 102, ASLS 203, ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH ENGL 203 ${ }^{1}$

[^54]
## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course from each of two disciplines:
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

| Curriculum | Area III - BIOLOGICAL AND PHYSICAL SCIENCES | Credits 8 |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: |
| BIOL 111/H | Principles of Biology I | 3 |  |  |  |
| BIOL 113/H | Principles of Biology I Laboratory | 1 |  |  |  |
| BIOL 112/H | Principles of Biology II | 3 |  |  |  |
| BIOL 114/H | Principles of Biology II Laboratory | 1 |  |  |  |
| Curriculum |  |  |  | Area IV - MATHEMATICS | Credits 6 |
| MATH 110 | Trigonometry \& Analytical Geometry or Higher | 3 |  |  |  |
| MATH 210 | Elementary Statistics | 3 |  |  |  |

Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ Credits 9

Total Required for General Education Credits 42
PROGRAM REQUIREMENTS
CORE REQUIREMENTS
Credits 29
A grade of " C " or better is required in each of the Program Core Requirements.
CHEM 311 Analytical Chemistry I 4
CHEM 312 Analytical Chemistry II 4
ENVS 221 Principles of Environmental Science 3
ENVS 222 Principles of Environmental Science Laboratory 1
ENVS 403 Ecotoxicology 3
ENVS 405 Ecotoxicology Laboratory 1
BIOL 301 Microbiology 3
BIOL 303 Microbiology Laboratory 1
ENVS 497 Senior Seminar 1
ENVS 498 Independent Study 3
ENVS 499 Undergraduate Research 4
DNSC 400 Senior Proficiency Seminar 1

[^55]| SUPPORTIVE REQUIREMENTS | Cr |  |
| :--- | :--- | :--- |
| A grade point average of "C" or better is required in supportive courses. |  |  |
| CHEM 111 | Principles of Chemistry I | 3 |
| CHEM 113 | Principles of Chemistry Laboratory I | 1 |
| CHEM 112 | Principles of Chemistry II | 3 |
| CHEM 114 | Principles of Chemistry Laboratory I | 1 |
| CHEM 211 | Fundamentals of Organic Chemistry I | 3 |
| CHEM 213 | Fundamentals of Organic Chemistry Laboratory I | 1 |
| CHEM 212 | Fundamentals of Organic Chemistry II | 3 |
| CHEM 214 | Fundamentals of Organic Chemistry Laboratory II | 1 |
| ENVS 460 | Earth Science |  |
| CHEM 341 | Biochemistry I | 3 |
| CHEM 343 | Biochemistry Laboratory I | 1 |
| CHEM 488A | Advanced Environmental Chemistry | 4 |
| CSDP 220 | Introduction to Computer Programming | 4 |
| PHYS 121 | General College Physics I and |  |
| PHYS 123 | General College Physics I Laboratory or |  |
| PHYS 181H | Introductory Physics I (Honors) and | 3 |
| PHYS 183H | Introductory Physics I (Honors) Laboratory | 1 |
| PHYS 122 | General College Physics II |  |
| PHYS 124 | General College Physics II Laboratory $\boldsymbol{o r}$ |  |
| PHYS 182H | Introductory Physics II (Honors) | 3 |
| PHYS 184H | Introductory Physics II (Honors) Laboratory | 1 |
| MATH 112 | Calculus I | 4 |

PROGRAM ELECTIVES (Choose any course from the following electives or any other 300/ 400 level courses)
Credits 6

| A grade of "C" or better is required in each of the Program Elective Requirements. |  |  |
| :--- | :--- | ---: |
| BIOL 402 | Ecology | 4 |
| BIOL 426M | Biotechnology | 4 |
| CHEM 342 | Biochemistry II and | 3 |
| CHEM 344 | Biochemistry Laboratory II | 1 |
| CHEM 401 | Physical Chemistry I | 4 |
| CHEM 402 | Physical Chemistry II | 4 |
| CHEM 422M | Bio-Inorganic Chemistry | 3 |
| ENVS 202 | General Oceanography | 3 |
| ENVS 204 | General Oceanography Laboratory | 1 |
| ENVS 333 | Energy, Environment \& Economics | 3 |
| ENVS 456 | Future Sources of Energy | 3 |
| ENVS 498 | Independent Study | $1-3$ |
| MATH 211 | Calculus II | 4 |

## FREE ELECTIVES

Credits 0
Total Required Credits: 120
${ }^{1}$ CSDP 121 or BUED 212 may be substitute for CSDP 220, and makeup 1 cr . somewhere else.

## CURRICULUM GUIDE FOR ENVIRONMENTAL SCIENCES CHEMISTRY OPTION

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | ENGL 102 | 3 |
| MATH 110 | 3 | ENGL 001 | 0 |
| CHEM 111 | 3 | MATH 112 | 4 |
| CHEM 113 | 1 | CHEM 112 | 3 |
| BIOL 111 | 3 | CHEM 114 | 1 |
| BIOL 113 | 1 | BIOL 112 | 3 |
| DNSC 100 | 1 | BIOL 114 | 1 |
|  |  | EXSC 111 | 3 |
|  | 15 |  | 18 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 211 | 3 | CHEM 212 | 3 |
| CHEM 213 | 1 | CHEM 214 | 1 |
| CSDP 220 | 4 | MATH 210 | 3 |
| ECON 201 | 3 | EVNS 221 | 3 |
|  |  | ENVS 222 | 1 |
| PHYS 121 and | ENGL 203 | 3 |  |
| PHYS 123 or | PHYS 122 and |  |  |
| PHYS 181H and | 3 | PHYS 124 or |  |
| PHYS 183H | 1 | PHYS 182H and | 3 |
|  |  |  | 1 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 301 | 3 | ENGL 305 or |  |
| BIOL 303 | 1 | ENGL 310 | 3 |
| CHEM 311 | 4 | ECON 200 | 3 |
| CHEM 341 | 3 |  | 4 |
| CHEM 343 | 1 | CHEM 312 | 4 |
| Elective $^{3}$ | 3 | Elective $^{3}$ | 3 |
|  | 15 |  | 13 |


|  | SENIOR YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| DNSC 400 | 1 | CHEM 488A | 4 |
| ENVS 403 | 3 | ENVS 498 | 3 |
| ENVS 405 | 1 | GEN ED CURR AREA I | 3 |
| ENVS 497 | 1 | ENVS 460 | 3 |
| ENVS $499^{4}$ | 4 |  | 13 |
| GEN ED CURR AREA I | 3 |  | 13 |

## Total Credit Hours: 120

[^56]
## ENVIRONMENTAL SCIENCE - MARINE SCIENCE OPTION ${ }^{1}$

Students must complete 120 semester hours: 42 semester hours in general education courses, 36 semester hours in program core courses, 35 semester hours in program supportive courses and 7 semester hours in electives. Students are required, to take an independent study or undergraduate research in their junior or senior year. Most faculty are actively involved in research projects with undergraduate students. Students must receive a grade of "C" or better in both lecture and laboratory components of core and program electives to progress to the next course in the sequence.

## ENVIRONMENTAL SCIENCES - MARINE SCIENCE OPTION Required Courses

## GENERAL EDUCATION REQUIREMENTS

All environmental science majors with marine science option are expected to complete a common body of academic course work ( 42 cr .). The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. Fundamental courses, MATH 101 and 109 do not meet the General Education Requirement for a degree in biology, chemistry or environmental sciences, and do not apply toward graduation requirements. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required MATH 110 and higher level Math courses.

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss with your advisor for details. General Education Requirements are distributed as follows:

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH plus one course from each of two different disciplines (A - D):
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101, FREN 102, SPAN 101, SPAN 102, ASLS 203, ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL $203{ }^{1}$
${ }^{1}$ Students must pass ENGL 101 and 102 with a grade of "C" or above before taking ENGL 203.

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course from each of two disciplines:
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

| Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES | C |  |
| :--- | :--- | :--- |
| PHYS 121 | General College Physics I and |  |
| PHYS 123 | General College Physics I Laboratory or |  |
| PHYS 181 |  |  |
| PHYS 183 | Introductory Physics I and | Introductory Physics I Laboratory and |
| PHYS 122 | General College Physics II and | 1 |
| PHYS 124 | General College Physics II Laboratory or |  |
| PHYS 182H | Introductory Physics II and | 3 |
| PHYS 184H | Introductory Physics II Laboratory | 1 |

Curriculum Area IV - MATHEMATICS
MATH 110 Trigonometry \& Analytical Geometry or Higher 3
MATH 210 Elementary Statistics 3
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1} \quad$ Credits 9
ENGL 101/H Basic Composition I/ (Honors) 3
ENGL 102/H Basic Composition II/ (Honors) 3
ENGL 001 English Proficiency Exam 0
ENGL 305/H/Online Technical Writing/Honors/Online or
ENGL 310/H/Online Advanced Composition/Honors/Online 3
Curriculum Area VI - EMERGING ISSUES Credits 4
DNSC 100 Freshman Seminar 1
EXSC 111 Personalized Health Fitness 3
Total Required for General Education
Credits 42
PROGRAM REQUIREMENTS
CORE REQUIREMENTS
Credits 36
A grade of "C" or better is required in each of these courses.
ENVS $201 \quad$ Marine Biology3
ENVS $203 \quad$ Marine Biology Laboratory
BIOL 301 Microbiology 3
BIOL 303 Microbiology Laboratory 1
BIOL 402 Ecology 4
ENVS 202 General Oceanography and 3
ENVS 204 General Oceanography Laboratory 1
${ }^{1}$ Students must pass ENGL 101 and 102 with a grade of "C" or above before taking ENGL 203
ENVS 221 Principles of Environmental Science I ..... 3
ENVS 222 Principles of Environmental Science Laboratory I ..... 1
ENVS 403 Ecotoxicology ..... 3
ENVS 405 Ecotoxicology Laboratory ..... 1
ENVS 460 Earth Science ..... 3
ENVS 497 Senior Seminar ..... 1
ENVS 498 Independent Study ..... 3
ENVS 499 Undergraduate Research ..... 4
DNSC 400 Senior Proficiency Seminar ..... 1
SUPPORTIVE REQUIREMENTS
A grade point average of "C" or better is required in supportive courses.
BIOL 111 Principles of Biology I and ..... 3
BIOL 113 Principles of Biology Laboratory I ..... 1
BIOL 112 Principles of Biology II and ..... 3
BIOL 114 Principles of Biology Laboratory II ..... 1
CHEM 111 Principles of Chemistry I and ..... 3
CHEM 113 Principles of Chemistry Laboratory I ..... 1
CHEM 112 Principles of Chemistry II and ..... 3
CHEM 114 Principles of Chemistry Laboratory II ..... 1
CHEM 211 Fundamentals of Organic Chemistry I and ..... 3
CHEM 213 Fundamentals of Organic Chemistry Laboratory I ..... 1
CHEM 212 Fundamentals of Organic Chemistry II and ..... 3
CHEM 214 Fundamentals of Organic Chemistry Laboratory II ..... 1
CHEM 341 Biochemistry I ..... 3
CHEM 343 Biochemistry Laboratory I ..... 1
MATH 112 Calculus I ..... 4
BUED 212 Computer Concepts and Applications ${ }^{1}$ or
CSDP 121 Microcomputer Applications ${ }^{1}$ ..... 3
PROGRAM ELECTIVES (Choose any course from the following electives and/or any other 300/400 level courses)
BIOL 311 Vertebrate Embryology 4
BIOL 322 Comparative Vertebrate Anatomy 4
BIOL 326 Cell Biology and 3
BIOL 327 Cell Biology Laboratory 1
BIOL 330 Evolution 3
BIOL 335 Biogeography 3
BIOL 341 Introductory Physiology 4
BIOL 361 Animal Behavior 4
BIOL 420 Animal Histology 4
BIOL 426M Biotechnology 4
BIOL 436 General Endocrinology 3
BIOL 441 Comparative Physiology 4
BIOL 463 Wildlife Management 4
CHEM 311 Analytical Chemistry I 4
CHEM 312 Analytical Chemistry II 4
Credits 35

CHEM 341 Biochemistry I and 3
CHEM 343 Biochemistry Laboratory I 1
CHEM 342 Biochemistry II and 3
CHEM 344 Biochemistry Laboratory II 1
CHEM 401 Principles of Physical Chemistry I 4
CHEM 402 Principles of Physical Chemistry II 4
CHEM 421 Instrumental Analysis 4
CHEM 422M Bio-Inorganic Chemistry 3
MATH 211 Calculus II 4
FREE ELECTIVES

## Credits 0

Total Required Credits: 120

## CURRICULUM GUIDE FOR MARINE SCIENCE OPTION ${ }^{1}$

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 | 1 | BIOL 114 | 1 |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| DNSC 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 | 0 |
| MATH 110 | 3 | MATH 112 | 4 |
|  | 15 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 211 | 3 | CHEM 212 | 3 |
| CHEM 213 | 1 | CHEM 214 | 1 |
| ENVS 201 | 3 | ENVS 221 | 3 |
| ENVS 203 | 1 | ENVS 222 | 1 |
| ENVS 202 | 3 | BIOL 301 | 3 |
| ENVS 204 | 1 | BIOL 303 | 1 |
| GEN ED CURR AREA I | 3 | EXCS 111 | 3 |
|  | 15 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| PHYS 121 | 3 | PHYS 122 | 3 |
| PHYS 123 | 1 | PHYS 124 | 1 |
| CHEM 341 | 3 | Curriculum Area II | 3 |
| CHEM 343 | 1 | ENGL 305/Online or |  |
| CSDP 121 or |  | ENGL 310/Online | 3 |
| BUED 212 | 3 | ENVS 4985 | 3 |
| ENGL 203 | 3 | MATH 210 | 3 |
|  | 14 |  | 16 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| DNSC 400 | 1 | ENVS 460 | 3 |
| BIOL 402 | 4 | Elective $^{4}$ | 4 |
| ENVS 403 | 3 | Elective $^{4}$ | 3 |
| ENVS 405 | 1 | ENVS $499^{5}$ | 4 |
| ENVS 497 | 1 |  |  |
| GEN ED CURR AREA I | 3 |  | 14 |
| GEN ED CURR AREA II | 3 |  |  |
|  | 16 |  |  |

Total Credit Hours: 120

[^57]
## DUAL DEGREE PROGRAM ENVIRONMENTAL SCIENCE - MARINE SCIENCES TRACK

Students enrolled at Salisbury University in the Biology Program may also earn a degree in Environmental Sciences from UMES by taking 30 hours of coursework at UMES including 24 hours of required courses in Environmental Science. These 24 hours may include options at UMES or SU.

Courses to be taken by SU students at UMES
Course \& No. Title
ENVS 201 Marine Biology
ENVS 203 Marine Biology Laboratory
ENVS 202 General Oceanography
ENVS 204 General Oceanography Laboratory
ENVS 221 Principles of Environmental Science I
ENVS 222 Principles of Environmental Science Laboratory I
ENVS 403 Ecotoxicology
ENVS 405 Ecotoxicology Laboratory 1
DNSC 400 Senior Proficiency Seminar 1
Electives
Electives 131

## Credits 30

Credit
31313131

13

Total Credits: $\mathbf{3 0}$

## COMBINED B.S. /M.S. PROGRAM ENVIRONMENTAL SCIENCES

The combined four-year/five-year B.S. /M.S. degree program offers two options: Environmental Chemistry and Marine Sciences. The two options are administered under the auspices of the undergraduate Environmental Science and the graduate Marine-Estuarine-Environmental Science (MEES) programs. The student receives the B.S. and M.S. degrees after completing the requirements for the two programs. This is an accelerated program with students wishing to pursue this option beginning under the Environmental Sciences (Environmental Chemistry or Marine Sciences) program but following the curriculum guide for the Combined B.S./M.S. program (Environmental Chemistry or Marine Sciences). At the end of the sophomore year for the student to qualify for the Combined B.S./M.S. program he or she must have a 3.0 GPA. The student can then request to be changed to the combined program prior to the start of their junior year. A student wishing to pursue the 5 -year M.S. program must make a formal application to the MEES program in the first semester of the senior year. Students must take the GRE (General Test) during the junior year. When applying for admission into the MEES program students must select an area of specialization which for the Environmental Sciences track would be Environmental Chemistry, Environmental Science or Oceanography (Chemical) and for the Marine Sciences track would be Ecology, Environmental Molecular Biology/Biotechnology, Fisheries Science, or Oceanography (Biological).

## ENVIRONMENTAL CHEMISTRY OPTION

This program is designed to enable students to earn both the B.S. and M.S. degrees in five years. The curriculum is more advanced than the traditional B.S. degree program, and students become involved in directed research earlier. The Environmental Chemistry track provides students with training in environmental contamination and toxicology, air and water pollution, waste treatment and disposal, and energy resources.

Students in the first two years of the program take courses to satisfy the General Education requirements, along with courses in Biology, Chemistry, Math, \& Computer Sciences, and Physics. The junior year provides training in topics specific to the field and prepares students who seek to pursue the M.S. program with prerequisites for the graduate level courses.

During the fourth year, additional courses providing advanced training in pollution and energy are offered. Majors who choose the B.S. program will graduate at the end of the fourth year with the requisite 120 credits. The 12month period (5th year) subsequent to satisfying requirements for the B.S. degree are spent completing the M.S. requirements, including research work during the summer. For additional information, contact Chairperson, Department of Natural Sciences or Director, B.S./M.S. Program in Environmental Chemistry.

## DEPARTMENTAL REQUIREMENTS

Students enrolled in the Environmental Chemistry option must complete 120 semester hours of undergraduate courses and 30 semester hours graduate courses for their degrees: 42 semester hours in general education courses, 29 semester hours in undergraduate program core courses, and 45 semester hours of supportive courses. To receive the M.S. degree, students must satisfy degree requirements which include a total of 30 course credits: course work ( 24 credits) and Master's Thesis research ( 6 credits).

## BS/MS IN ENVIRONMENTAL SCIENCES - CHEMISTRY OPTION Required Courses

## GENERAL EDUCATION REQUIREMENTS

All environmental science majors with Chemistry option are expected to complete a common body of academic course work ( 42 cr .). The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. Fundamental courses, MATH 101 and 109 do not meet the General Education Requirement for a degree in biology, chemistry or environmental sciences, and do not apply toward graduation requirements. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required MATH 110 and higher level Math courses.

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss the details with your advisor.

General Education Requirements are distributed as follows:

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH plus one course from each of two different disciplines (A - D): Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101, FREN 102, SPAN 101, SPAN 102, ASLS 203, ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203 ${ }^{1}$

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course from each of two disciplines:
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES
BIOL 111/H
BIOL 113/H
BIOL 112/H
BIOL 114/H

Principles of Biology I
Principles of Biology I Laboratory
Principles of Biology II
Principles of Biology II Laboratory

## Credits 8

Curriculum Area IV - MATHEMATICS
MATH 110 Trigonometry \& Analytical Geometry or Higher
Credits 3
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

ENGL 101/ H English Composition I 3
ENGL 102/H English Composition II ..... 3
ENGL 001 English Proficiency Exam*
ENGL 305/H/Online Technical Writing/Honors/Online Or
ENGL 310/H/Online Advanced Composition/Honors/Online ..... 3
Curriculum Area VI - EMERGING ISSUES
DNSC 100 Freshman Seminar ..... 1Credits 7
EXSC 111 Personalized Health Fitness ..... 3
HUEC 230 Multicultural Perspectives on Families in the U.S. ..... 3
Total Required for General Education
PROGRAM REQUIREMENTS
CORE REQUIREMENTS ..... Credits 33A grade of " $C$ " or better is required in each of the Program Core Requirements.
CHEM 311 Analytical Chemistry I ..... 4
CHEM 312 Analytical Chemistry II ..... 4
CHEM 621 Advanced Environmental Chemistry ..... 3
CHEM 622 Advanced Environmental Chemistry Laboratory ..... 1
ENVS 221 Principles of Environmental Science ..... 3
ENVS 222 Principles of Environmental Science Laboratory ..... 1
ENVS 497 ENVS Seminar ..... 1
ENVS 498 Independent Study ..... 3
ENVS 499 Undergraduate Research ..... 4
DNSC 400 Senior Proficiency Seminar ..... 1
ENVS 603 Marine Ecotoxicology ..... 3
ENVS 405 Marine Ecotoxicology Laboratory ..... 1
ENVS 660 Earth Science ..... 4**Student may substitute ENVS 460 ( 3 cr .) and make up 1 cr. somewhere else.
SUPPORTIVE REQUIREMENTS
Credits 45
A grade point average of "C" or better is required in supportive courses.
BIOL 301 Microbiology ..... 3
BIOL 303 Microbiology Laboratory ..... 1
CHEM 111 Principles of Chemistry I ..... 3
CHEM 112 Principles of Chemistry II ..... 3
CHEM 113 Principles of Chemistry I Laboratory ..... 1
CHEM 114 Principles of Chemistry Laboratory II ..... 1
CHEM 211 Fundamentals of Organic Chemistry I ..... 3
CHEM 212 Fundamentals of Organic Chemistry II ..... 3
CHEM 213 Fundamentals of Organic Chemistry Laboratory I ..... 1
CHEM 214 Fundamentals of Organic Chemistry Laboratory II ..... 1
${ }^{1}$ ENGL 001 is English proficiency exam.
CHEM 341 Biochemistry I ..... 3

| CHEM 343 | Biochemistry Laboratory I | 1 |
| :---: | :---: | :---: |
| BUED 212 | Computer Concepts and Applications* or |  |
| CSDP 121 | Microcomputer Applications* | 3 |
| ECON 200 | Principles of Microeconomics | 3 |
| MATH 112 | Calculus I | 4 |
| MATH 210 | Elementary Statistics | 3 |
| PHYS 121 | General College Physics I and |  |
| PHYS 123 | General College Physics Laboratory I Or |  |
| PHYS 181H | Introductory Physics I (Honors) and | 3 |
| PHYS 183H | Introductory Physics I (Honors) Laboratory | 1 |
| PHYS 122 | General College Physics II and |  |
| PHYS 124 | General College Physics II Laboratory Or |  |
| PHYS 182H | Introductory Physics II (Honors) and | 3 |
| PHYS 184H | Introductory Physics II (Honors) Laboratory | 1 |
| *CSDP220 may be substituted for CSDP 121 or BUED 212. |  |  |
| MEES REQU | IREMENTS | Credits 30 |
| PROGRAM ELECTIVES (Choose any course from the following elective groups): A grade of "C" or better is required in each of these courses. |  |  |
| Undergradua | e Elective | Credits 7 |
| BIOL 402 | Ecology | 4 |
| BIOL 426M | Biotechnology | 4 |
| CHEM 401 | Physical Chemistry I | 4 |
| CHEM 402 | Physical Chemistry II | 4 |
| CHEM 422M | Bio-Inorganic Chemistry | 3 |
| ENVS 456 | Future Sources of Energy | 3 |
| ENVS 498 | Independent Study ${ }^{1}$ | 1-3 |
| MATH 211 | Calculus II ${ }^{2}$ | 4 |

${ }^{1}$ ENVS 498 is repeatable; students may take 1 , 2 or 3 credits and accumulate to the required 3 credits.
${ }^{2}$ MATH 211 is required for admission into the MEES program; but it does not count toward credits for B.S. or M.S. degree. Students are advised to take it in addition to 7 cr .

MEES (AOS: Environmental Chemistry) ELECTIVES
Select MEES 608 ( 1 cr .) and 10 cr . of additional courses. MEES 608
CHEM 632 Applied Water Chemistry
CHEM 670 Advanced Biochemistry
BIOL 600 Marine and Estuarine Ecology
BIOL 601 Environmental Microbiology
ENVS 611 Water Pollution 4
ENVS 634 Air Pollution and Control 4
ENVS 639 Sources and Effects of Pollutants 3
ENVS 641 Environmental Toxicology 3

## STATISTICS ELECTIVE

MATH 410 Mathematical Statistics II or
CSDP 604 Computer Methods in Statistics
MANAGEMENT ELECTIVE

## Credits 11

13344433Credits 3

3
Credits 3

THESIS RESEARCH
MEES 799 Thesis Research
FREE ELECTIVES
Total Required Credits: 150

CURRICULUM GUIDE B.S. /M.S. (ENVIRONMENTAL CHEMISTRY OPTION)

|  | Fredit |  |  |
| :--- | :--- | :--- | :--- | $\left.\begin{array}{lll}\text { First Semester } & 3 & \text { Second Semester }\end{array}\right]$| Credit |
| :--- |
| BIOL 111/H |
| BIOL 113/H |
| CHEM $111 / \mathrm{H}$ |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 211/H | 3 | CHEM 212/H | 3 |
| CHEM 213/H | 1 | CHEM 214/H | 1 |
| PHYS 121and |  | ENGL 203 | 3 |
| PHYS 123 or | MATH 210 | 3 |  |
| PHYS 181H* and | 1 | PHYS 122 and |  |
| PHYS 183 H | PHYS 124 or |  |  |
| MATH 211 | 4 | PHYS 182 H* and | 3 |
| CSDP $121^{1}$ or | 3 | PHYS 184H | 1 |
| BUED 212 | 3 | ECON 201 | 3 |
| ECON 200 | 18 |  | 17 |

*PHYS 181 H and PHYS 182 H require MATH 112, Calculus I, as pre-requisite.

|  | JUNIOR YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Second Semester | Credit |  |
| CHEM 311 | 4 | Curriculum Area I | 3 |
| BIOL 301 | 3 | ENVS 221 | 3 |
| BIOL 303 | 1 | ENVS 222 | 1 |
| ENVS 660 | 4 | CHEM 312 | 4 |
| ENGL305/H/Online or |  | ENVS 4982 | 3 |
| ENGL 310/H/Online | 3 | Elective (Undergraduate) | 4 |
| HUEC 230 | 3 |  | 18 |
|  | 18 |  |  |
|  |  |  |  |
| Session $\boldsymbol{I}$ | 4 |  |  |
| ENVS 499 | 4 |  |  |

SENIOR YEAR

| First Semester | Credit | SENIOR YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 341 | 3 | CHEM 621 | 3 |
| CHEM 343 | 1 | CHEM 622 | 1 |
| DNSC 400 | 1 | MEES 608 | 1 |
| ENVS 603 | 3 | ENVS 684 | 3 |
| ENVS 405 | 1 | CSDP 604 or |  |
| ELECTIVE (Undergraduate) | 3 | MATH 410 | 3 |
| Curriculum Area II | 3 | MEES AOS ${ }^{3}$ | 4 |
| ENVS 497 | 1 |  | 15 |

## Total Required for B.S. - Credit $\mathbf{1 2 0}^{\mathbf{4}}$

${ }^{1}$ CSDP 220 may be substituted for either CSDP 121 or BUED 212.
${ }^{2}$ Students may take CHEM 498 and CHEM 499 for $1,2,3$ and 1, 2, 3, 4 cr . hr., respectively, per semester; but they must repeat the courses to accumulate required credits of 3 and 4 , respectively.
${ }^{3}$ AOS (Area of Specialization) requirements must meet specific AOSs applicable under the program the student chooses. For Environmental Chemistry these are Environmental Chemistry, Environmental Science and Oceanography (Chemical).
${ }^{4}$ Credits in excess of 120 carry over to meet the MS requirements.
SUMMER SESSION

| First Semester | Credits |
| :--- | :--- |
| MES AOS | 3 |
| MEES 799 | 3 |
|  | 6 |

FIFTH YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| MEES AOS | 3 | MEES799 | 3 |
|  | 3 |  | 3 |

## Total Requirement for BS/MS

${ }^{* *}$ The total adds up to 154 cr . which includes MATH 211 ( 4 cr .). MATH 211is required for getting admission into the MEES program but it does not count toward credits for M.S. degree in Environmental Sciences.

Total Credit Hours: 150

## General Required Courses <br> BS/MS IN ENVIRONMENTAL SCIENCES - MARINE SCIENCE OPTION

## GENERAL EDUCATION REQUIREMENTS

All BS/MS environmental science majors with Marine Science option are expected to complete a common body of academic course work ( 42 cr .). The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. Fundamental courses, MATH 101 and 109 do not meet the General Education Requirement for a degree in Biology, Chemistry or Environmental Sciences, and do not apply toward graduation requirements. However, students placed in MATH 101 or MATH 109 should take these courses to prepare them for the required MATH 110 and higher level Math courses.

## Alternative Credits

Students in the Honors program should take honors courses designated by HONORS. All students are encouraged to take a couple of courses online or during summer and winter sessions to develop skills that will support lifelong learning. Discuss the details with your advisor.

General Education Requirements are distributed as follows:

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH plus one course from each of two different disciplines (A - D):
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101, FREN 102, SPAN 101, SPAN 102, ASLS 203, SLS204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203 ${ }^{1}$

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course from each of two disciplines;
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

[^58]| Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES |  | Credits 8 |
| :---: | :---: | :---: |
| PHYS 121 | General College Physics I and |  |
| PHYS 123 | General College Physics I Lab or |  |
| PHYS 181H ${ }^{1}$ | Introductory Physics I and | 3 |
| PHYS 183H ${ }^{1}$ | Introductory Physics I Lab and | 1 |
| PHYS 122 | General College Physics II and |  |
| PHYS 124 | General College Physics II Lab or |  |
| PHYS 182H ${ }^{1}$ | Introductory Physics II and | 3 |
| PHYS 184H ${ }^{1}$ | Introductory Physics II Lab | 1 |
| Curriculum Area IV - MATHEMATICS |  | Credits 3 |
| MATH 110 | Trigonometry \& Analytical Geometry or Higher | 3 |
| Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ |  | Credits 9 |
| ENGL 101/H | Basic Composition I/ (Honors) | 3 |
| ENGL 102/H | Basic Composition II/ (Honors) | 3 |
| ENGL 001² | English Proficiency Exam | 0 |
| ENGL 305/H/O | Online Technical Writing/Honors/Online or |  |
| ENGL 310/H/O | Online Advanced Composition/Honors/Online | 3 |
| Curriculum Area VI - EMERGING ISSUES |  | Credits 7 |
| DNSC 100 | Freshman Seminar | 1 |
| EXSC 111 | Personalized Health Fitness | 3 |
| HUEC 230 | Multicultural Perspectives on Families in the U.S. | 3 |
| Total Required for General Education |  | Credits 42 |
| PROGRAM CORE REQUIREMENTS |  | Credits 40 |
| A grade of "C" or better is required in each of these courses. |  |  |
| ENVS 202 | General Oceanography | 3 |
| ENVS 204 | General Oceanography Lab | 1 |
| ENVS 221 | Principles of Environmental Science and | 3 |
| ENVS 222 | Principles of Environmental Science Laboratory | 1 |
| ENVS 497 | Environmental Science Seminar | 1 |
| ENVS 498 | Independent Study | 3 |
| ENVS 499 | Undergraduate Research ${ }^{1}$ | 4 |
| ENVS 460 | Earth Science | 3 |
| BIOL 201 | Marine Zoology | 4 |
| BIOL 202 | Marine Botany | 3 |
| BIOL 203 | Marine Botany Lab | 1 |
| BIOL 301 | Microbiology | 3 |
| BIOL 303 | Microbiology Lab | 1 |
| BIOL 402 | Ecology | 4 |
| ENVS 603 | Marine Ecotoxicology | 3 |
| ENVS 405 | Marine Ecotoxicology Lab | 1 |
| DNSC 400 | Senior Proficiency Seminar | 1 |

[^59]SUPPORTIVE REQUIREMENTS ..... Credits 34A grade point average of "C" or better is required in supportive courses.
BIOL 111/H Principles of Biology I ..... 3
BIOL 113/H Principles of Biology I Laboratory ..... 1
BIOL 112/H Principles of Biology II ..... 3
BIOL 114/H Principles of Biology II Laboratory ..... 1
CHEM 111/H Principles of Chemistry I ..... 3
CHEM 113/H Principles of Chemistry Laboratory I ..... 1
CHEM 112/H Principles of Chemistry II ..... 3
CHEM 114/H Principles of Chemistry Laboratory II ..... 1
CHEM 211/H Fundamentals of Organic Chemistry I ..... 3
CHEM 213/H Fundamentals of Organic Chemistry I Laboratory ..... 1
CHEM 212/H Fundamentals of Organic Chemistry II ..... 3
CHEM 214/H Fundamentals of Organic Chemistry II Laboratory ..... 1
MATH 112 Calculus I ..... 4
BUED 212 Computer Concepts and Applications* or
CSDP 121 Microcomputer Applications* ..... 3
MATH 210 Elementary Statistics ..... 3
MATH 211 Calculus II** ..... 4
*CSDP 220 may be substituted for BUED 212 or CSDP 121
**Math 211 is required for admission into the MEES program but does not count toward credits for the B. S. or M. S. in Environmental Sciences.
PROGRAM ELECTIVES (Choose from the following electives) Credits 4
A grade of "C" or better is required in each of these courses.
BIOL 341 Introductory Physiology 4
BIOL 311 Vertebrate Embryology 4
BIOL 322 Comparative Vertebrate Anatomy 4
BIOL 326 Cell Biology 3
BIOL 327 Cell Biology Lab 1
BIOL 330 Evolution 3
BIOL 335 Biogeography 3
BIOL 361 Animal Behavior 4
BIOL 420 Animal Histology 4
BIOL 426M Biotechnology 4
BIOL 436 General Endocrinology 3
BIOL 441 Comparative Physiology 4
BIOL 461 Invertebrate Zoology 4
CHEM 311 Analytical Chemistry I 4
CHEM 312 Analytical Chemistry II 4
CHEM 341 Biochemistry I and 3
CHEM 343 Biochemistry Laboratory I 1
CHEM 342 Biochemistry II and 3
CHEM 344 Biochemistry Laboratory II 1
CHEM 401 Physical Chemistry I 4
CHEM 402 Physical Chemistry II 4
CHEM 421 Instrumental Analysis 4
CHEM 422M Bio-Inorganic Chemistry 3

## MEES REQUIREMENTS

MEES AOS (Area of Specialization) ELECTIVES
MEES 608 Seminar 2
BIOL 600 Marine \& Estuarine Ecology 4
BIOL 601 Environmental Microbiology 4
BIOL 633 Adaptation to Marine Environment 3
BIOL 681 Barrier Island Management 4
BIOL 683 Wild Life Management 4
BIOL 688A Community Ecology 4
BIOL 688B Ichthyology
STATISTICS ELECTIVE

## Credits 3

MATH 410 Mathematical Statistics II or
CSDP 604 Computer Methods in Statistics 3
THESIS RESEARCH
Credits 6
MEES 799
FREE ELECTIVES
Credits 0

Total Required Credits: 150**

[^60]
## CURRICULUM GUIDE FOR B.S./M.S. ENVIRONMENTAL SCIENCE (MARINE SCIENCE OPTION)

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111/H | 3 | BIOL 112/H | 3 |
| BIOL 113/H | 1 | BIOL 114/H | 1 |
| CHEM 111/H | 3 | CHEM 112/H | 3 |
| CHEM 113/H | 1 | CHEM 114/H | 1 |
| DNSC 100 | 1 | EXSC 111 | 3 |
| ENGL 101/H | 3 | ENGL 102/H | 3 |
| MATH 110 | 3 | ENGL 001 | 0 |
| Curriculum Area I | 3 | MATH 112 | 4 |
|  | 18 |  | 18 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :---: | :---: | :---: | :---: |
| CHEM 211/H | 3 | BIOL201 | 4 |
| CHEM 213/H | 1 | CHEM212/H | 3 |
| ENGL 203 | 3 | CHEM214/H | 1 |
| ENVS 202 | 3 | ENGL305/H/Online | 3 |
| ENVS 204 | 1 | BUED212 ${ }^{3}$ or |  |
| MATH $211^{2}$ | 4 | CSDP $121^{3}$ | 3 |
| Curriculum Area II | 3 | BIOL 202 | 3 |
|  |  | BIOL 203 | 1 |
|  | 18 |  | 18 |
| JUNIOR YEAR |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| Curriculum Area I | 3 | BIOL 301 | 3 |
| BIOL 402 | 4 | BIOL 303 | 1 |
| PHYS 121 or PHYS 181H | 3 | ENVS 221 | 3 |
| PHYS 123 or PHYS 183H | 1 | ENVS 222 | 1 |
| ENVS 603 | 3 | MATH 210 | 3 |
| ENVS 405 | 1 | PHYS 122 or PHYS 182H | 3 |
| Curriculum Area II | 3 | PHYS 124 or PHYS 184H | 1 |
|  |  | ENVS 498 | 3 |
|  | 18 |  | 18 |
| SUMMER OF JUNIOR YEAR |  |  |  |
| Session I | Credit |  |  |
| ENVS 499 | 4 |  |  |
|  | 4 |  |  |
| SENIOR YEAR |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| DNSC 400 | 1 | ENVS $460{ }^{5}$ | 3 |
| Program Elective | 4 | MEES 608 | 1 |
| (Undergraduate) |  | MEES AOS | 4 |
| ENVS 497 | 1 | MEES AOS | 4 |
| Curriculum Area VI | 3 |  | 12 |
| MEES AOS ${ }^{4}$ | 4 |  |  |
| HUEC 230 | 3 |  |  |
|  | 16 |  | 12 |

Total: $\mathbf{1 2 0}$ cr. for B.S. completed; the extra credits carry over to the M.S. part of the program
${ }^{1}$ ENGL 001 is English Proficiency Exam.
${ }^{2}$ MATH 211 is required for admission into the MEES program but it does not count toward credits for the B. S. or M. S. in Environmental Sciences ${ }^{3}$ CSDP 220 may be substituted with either CSDP 121 or BUED 212.
${ }^{4}$ AOS (Area of Specialization) requirements must meet specific AOSs applicable under the program the student chooses. For Environmental Chemistry these are Ecology, Environmental Molecular Biology/Biotechnology, Fisheries Science, or Oceanography (Biological).
${ }^{5}$ ENVS 660 may be substituted for ENVS 460.
SENIOR SUMMER

| Session 1 | Credit |  |  |
| :--- | :--- | :---: | :--- |
| MEES AOS | 3 |  |  |
| MEES799 | 3 |  |  |
|  | 6 | FIFTH YEAR | Credit |
| First Semester | Credit | Second Semester | 1 |
| MEES AOS | 4 | MEES 608 | 3 |
|  | 4 | MEES 799 | 4 |

Total Required Credits: 150**
${ }^{* *}$ The total adds up to 154 cr . which includes MATH 211 ( 4 cr .). MATH 211 is required for getting admission into the MEES program, but it does not count toward credits for M.S. degree in Environmental Sciences.

## PRE-PHARMACY1

## DEPARTMENTAL REQUIREMENTS

Pre-Pharmacy students must complete 73 semester hours of courses with a grade of "C" or better, which include a minimum of 20 hours of biology and chemistry at the 200 level or above and 8 hours of physics courses.

## OBJECTIVES

The objectives of the pre pharmacy program are to:

1. Provide the prerequisite courses for admission into the pharmacy program; and,
2. Prepare students interested in the pharmacy program for the courses they will encounter in the PharmD curriculum.

## CAREER OPPORTUNITIES

A PharmD degree prepares students to work in chain drug stores, corporate community settings such as a hospital pharmacy, an independent pharmacist in their own business, pharmaceutical industry, conduct research and educational institutions.

## CURRICULUM FOR PRE-PHARMACY PRE-PROFESSIONAL PROGRAM

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 | 1 | BIOL 114 | 1 |
| DNSC 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 | 0 |
| HIST 201 | 3 | MUSI 101 | 3 |
| MATH 110 | 3 | MATH 112 | 4 |
|  | 18 |  | 18 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 211 | 3 | CHEM 212 | 3 |
| CHEM 213 | 1 | CHEM 214 | 1 |
| BIOL 211 | 3 | BIOL 232 | 3 |
| BIOL 233 | 1 | BIOL 234 | 1 |
| PHYS 121 | 3 | PHYS 122 | 3 |
| PHYS 123 | 1 | PHYS 124 | 1 |
| PSYC 100 | 3 | BIOL 301 | 3 |
| SOCI 101 | 3 | BIOL 303 | 1 |
|  |  | ENGL 203 | 3 |
|  | 18 |  | 19 |

## Total Credit Hours: 73

[^61]
## MINOR PROGRAMS

## BIOLOGY

The Minor Program in Biology is designed to provide supportive instruction for Biology and Mathematics majors. Students must complete 20 credit hours for a minor with a grade of "C" or better. Courses in Biology that are used to satisfy requirements for science majors may not count towards the minor curriculum. In addition to the curriculum for non-science majors, students must select any three (3) additional courses ( 12 cr . hours) from the Biology Program Electives.

$$
\begin{array}{lll}
\text { BIOL 111 } & \text { BIOL 112 } & \text { Program Electives }^{1} \\
\text { BIOL 113 } & \text { BIOL 114 } &
\end{array}
$$

## CHEMISTRY

A minor can be obtained with 20 semester hours of program courses with a grade of "C" or better in addition to those courses used to fulfill graduation requirements in a major program. Chemistry courses used to satisfy requirements for science majors may not be used for the minor curriculum. Courses for a minor in Chemistry for science majors will depend on the student's desired professional/graduate program. Minor courses for non-science majors include:

| CHEM 111 | CHEM 211 | CHEM $^{2}$ |
| :--- | :--- | :--- |
| CHEM 112 | CHEM 212 |  |
| CHEM 113 | CHEM 213 |  |
| CHEM 114 | CHEM 214 |  |

## ENVIRONMENTAL SCIENCES

The Minor program in Environmental Sciences is designed to provide supportive instruction for Biology, Chemistry and Physics majors. Courses that are used to satisfy requirements for science majors may not count towards the minor curriculum. Students must select three (3) additional courses from the Biology Program Electives for a total of eight (8) credits.

BIOL 402 ENVS 202 ENVS 221
ENVS 204 ENVS 222
Program Elective ${ }^{3}$

## PHYSICS

The Minor program in Physics is designed to provide supportive instruction for Biology, Chemistry, Environmental Science, Mathematics and Computer Science majors. The program also provides courses for preparing students for secondary school science teaching. Courses in Physics that are used to satisfy requirements for science majors may not be used for minor curriculum. Students must select any other physics courses above the 200 level (PHYS 498, 499 are recommended) for a total of two (2) credits making a total of 20 credits. Courses for minor in physics include:

| PHYS 161/181H | PHYS 262/182H | PHYS 283 |
| :--- | :--- | :--- |
| PHYS 163/183H | PHYS 264/184H | PHYS 423 |
|  | PHYS 263 | PHYS $^{4}$ |
|  | PHYS 265 |  |

[^62]
## DIRECTORY OF FACULTY

Ayuk, Mary, Lecturer

B.Sc. \& M.Sc., University of Jos, Nigeria; Ph.D., Howard University

## Chen, Nianhong, Assistant Professor

B.S., U. Sci. Tech. of China, Chem.; M.S.; U. Southern Mississippi, Mar. Sci.; Ph.D., Tulane University, Geochem

## Cheney, Marcos, Professor

B.S., Univ. of Baja Chem., .M. Sci. Bio-Inorg., U.C. Davis, Ph.D. Anal \& Envir. Chem., U.C. Davis

Chigbu, Paulinus, Director, LMRCSC \& Professor
B.Sci. \& M. Sci.; University of Benin, Nigeria; Ph.D., University of Washington, Seattle

## Dodoo, Joseph, Lecturer

B.Sc. Polytechnic of South Bank; M. Sci., Bedford College University of London; Ph.D., King's College, University of London

## Elnaiem, Dia-Eldin A., Associate Professor

B.Sc., M.Sc., University of Khartoum, Sudan; Ph.D., University of Liverpool, Liverpool, UK

Hearne, Jennifer Associate Professor
B.S., University of Maryland Eastern Shore; Ph.D., University of Delaware

Ishaque, Ali B., Associate Professor
B.Sc., University of Science \& Technology, Ghana; M.Sc.; Ph.D., Free University of Brussels

## Johnson, Andrea, Research Assistant Professor

B.S., University of Miami; M.S., University of South Florida; Ph.D., North Carolina State University

Johnson, Linda, Associate Professor
B.S., Lincoln University; M.S., \& Ph.D., Temple University School of Medicine

May, Eric, Associate Professor
B.S., Oregon State University; M.S., North Arizona State University; Ph.D., Oregon State University

Mazzaccaro, Anthony, Lecturer
B.S., University of Maryland College Park; M.S., Texas A\&M University; Ph. D., Texas A\&M University

Mitra, Madhumi, Associate Professor
B.S., Presidency College, India; M.S., Calcutta University, India; Ph.D. North Carolina State University

Morales-Nunez, Andres, Research Associate
B.S., Universidad de Bogota, Jorge Tadeo Lozano; M.S. \& Ph.D., University of Puerto Rico; Ph.D.

Nyame, Anthony, Professor
B.S., University of Science \& Technology, Kumasi, Ghana; M.S., Tulane University School of Public Health \& Tropical Medicine; Ph.D., University of Georgia

Okulate, Mobolaji, Associate Professor
B.Sc., Ph.D., University of Lagos, Lagos, Nigeria

Pitula, Joseph, Associate Professor
B.S., Rutgers University; M.S., Ph.D., University of Buffalo, New York

Potter, Amelia, Lecturer
B.S., Birmingham Southern University; M.S., University of Maryland Eastern Shore

Ruby, Douglas, Professor
B.S., Gettysburg College; M.S., Ph.D., University of Michigan

Singh, Gurbax, Professor Emeritus
B.S., M.S., Delhi University; Ph.D., University of Maryland College Park

## Stevens, Bradley, Professor

S.B., University of Cincinnati; M.S., College of Charleston; Ph.D., University of Washington

## Taabodi, Maryam, Lecturer

B.S., Salisbury University; M.S., University of Maryland Eastern Shore; Ph. D., University of Maryland Eastern Shore

Uche, Udeochu, Associate Professor
B.Sc. \& M.Sc. University of Ibadan, Nigeria; Ph.D., Howard University

Volkis, Victoria, Assistant Professor
B.A. and M.S., Leningrad Institute of Chemical Technology; M.S. Chemistry \& Ph.D., The Technion - Israeli Institute of Technology

Waguespack, Yan, Professor
B.S., Beijing Polytechnic University; Ph.D., Tulane University

Xia, Meng, Assistant Professor
B.S., Ocean University of Qingdao; M.S., First Institute of Oceanography, State Oceanic Administration of China; Ph.D., North Carolina State University

## School of the Arts and Professions

The primary focus of the School of The Arts and Professions is to prepare students to excel as professionals, leaders, managers, and creative thinkers in a global community. Students are afforded an opportunity to nurture and refine their creativity in the visual and performing arts, as well as pursue academic studies in the arts, education, criminal justice, social/behavior sciences, and communications. By providing the best practices of teaching, learning, thinking, student engagement, research, and leadership, the school focuses on preparing all graduates to succeed in their selected career paths.

Eighteen-degree programs are offered among five academic departments within the school. These include twelve bachelors, four masters, and two doctoral-degree programs. Students may also pursue a minor course of study in selected departments. The departments and degree programs are as follows:

## Department of Criminal Justice

- Criminal Justice (B.S.)
- Criminology and Criminal Justice (M.S.)


## Department of Education

- Special Education (B.A.)
- Master of Art in Teaching (MAT)
- Counselor Education (M.A.)
- Special Education (M.A.)
- Education Leadership (Ed.D.)


## Department of English and Modern Languages

- English - (B.A.) Minors:
- English - teaching (B.A.) English

Spanish
Telecommunications

## Department of Fine Arts

- Art Education (B.A.)
- Applied Art (B.A.)
- Graphic Illustration
- Commercial Photography
- Sequential Art (Comics)
- Jazz and Popular Music (B.A.)
- Music Education (B.A.)


## Department of Social Sciences

- History (B.A.)
- Sociology (B.S.)
- Sociology/Social Work (B.S.)
- Social Studies Education (B.A.)
- Organization Leadership (Ph.D.)

Minors:
History
Political Science
Public Policy
Sociology

## General Studies Program

The Bachelor's of General Studies degree is offered through departments. The goal of the General Studies Degree Program is to provide students with a variety of learning experiences that will enable them to function successfully in our global society by acquiring competencies and skills that will enhance their career plans, personal and professional development.

## OBJECTIVES

The objectives of the General Studies degree program are to:

1. build a foundation for students to pursue further study in higher education;
2. afford greater access to a baccalaureate degree for the community and the nontraditional student;
3. provide students an avenue for the self-fulfillment that comes with an academic degree;
4. provide students an opportunity to explore a wide variety of career options; and
5. prepare students to enter graduate and professional schools.

General Studies degree program students must select a department in which they will pursue a concentration. For students entering the University as freshmen, the concentration within a department must be declared at the beginning of the freshman year. Upon completion of the suggested course of study, students earn a Bachelor's of General Studies degree with a concentration in their selected major. For example, a student seeking a Bachelor's of General Studies degree with a concentration in Sociology would receive the degree from the Social Sciences Department.

## Not all departments at the University offer a concentration in the General Studies Degree Program and

 students interested in pursuing this option should make inquiry with the specific department in which the concentration is sought.In consultation with their department advisor, a four-year plan of study is designed for freshmen students upon entry into the area of concentration. Students transferring into the concentration from an on-campus major or from another college/university plan their course of study in consultation with their advisor upon entry into the selected department. Courses of study for all students are planned to ensure that a concentration in a major area of study requires students to matriculate in the area of concentration for at least two semesters.

## GENERAL STUDIES PROGRAM REQUIREMENTS

The General Studies degree program major must complete at least 120 credit hours of University courses. Included in the 120 credit hours are a minimum of 27 credit hours of upper level courses from within the academic department (area of concentration). A minimum grade of " C " must be achieved in these courses. Course distribution requirements for the Bachelor's of General Studies degree are as follows:

## GENERAL EDUCATION REQUIREMENTS

TOTAL REQUIRED FOR GENERAL EDUCATION - 41 Credits Minimum
Students should consult with their departmental advisor when making course selections.
Curriculum Area I - ARTS AND HUMANITIES
Students must select ENGL $203{ }^{1}$ plus one course in each of two disciplines.
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY

Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203 ${ }^{1}$

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
AGEC 213 or AGEC 213H
ECON 200 or ECON 200H
ECON 201 or ECON 201H
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 200
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7-8

Students must select two science courses and one science laboratory course from the following. ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PLSC 184, PLSC 185 (lab)
PHYS 101, PHYS 103 (lab)
ANPT 114, ANPT 114H, BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),

[^63]CHEM 111, CHEM 113 (lab)
PHYS 121, PHYS 121H, PHYS 122, PHYS 124 (lab), PHYS 161, PHYS 163 (lab)
PHYS 182H, PHYS 182, PHYS 184 (lab) PHYS 263
PLSC 184, PLSC 185 (lab)

## Curriculum Area IV - MATHEMATICS ${ }^{2}$

Credits 3-8
One course at or above the level of College Algebra

MATH 102, if student needs MATH $101^{3}$, he/she must take MATH 101 before MATH 102;
MATH 109, if a student needs MATH $101^{3}$, he/she must take before Math 109 ;
MATH 110, MATH 111H, MATH 112.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101/H
ENGL 102 or ENGL 102/H
ENGL 305/H or ENGL 310/H
Curriculum Area VI - EMERGING ISSUES

## Credits 7

GNST 100 First Year Experience or departmental first year experience course Credits 1
Additional Emerging Issues course requirement
Credits 6
Students may select from the following three-credit courses or consult with academic advisor for additional courses for this area:

EXSC 111 - Personalized Health Fitness
HUEC 230 - Multicultural Perspectives on Families in the U.S.
TMGT 306 - Ecology and Cultural Tourism
Total Required for General Education
Credits 41
DEPARTMENTAL REQUIREMENTS

## Area of Concentration

Credits 27
Courses must be from a specific major area and at the 300-400 level
Lower Level Electives
Credits 34
Any 100-200 level courses
Upper Level Electives

## Credits 18

Courses may be from any area at the 300-400 level
Total credit hours required - 120

[^64]
## Department of Criminal Justice

www.umes.edu/Criminal

Dr. Nelseta Walters-Jones, Interim Chair

## MISSION

The mission of the Department of Criminal Justice is to prepare students for careers in a variety of criminal justice-related settings. The program is also designed to prepare its graduates to enter master's programs in criminology and criminal justice.

## OBJECTIVES

The objectives of the Criminal Justice Department are to:

1. Prepare students for careers in a variety of Criminal Justice related settings; and,
2. Prepare its graduates to enter master's level programs in criminology and criminal justice.

The specific objectives of the Criminal Justice program are to develop in each student:

1. an understanding of the principles underlying the functions of the criminal justice system and its relationship to the larger society in which it is embedded;
2. the ability to think clearly, independently, and critically about the fundamental issues in criminal justice;
3. the ability to research, analyze and write about criminal justice issues;
4. the foundations necessary for graduate study, and for careers in the field of criminal justice.

## DEGREES OFFERED

Criminal Justice - Bachelor of Science
Criminology and Criminal Justice - Master of Science ${ }^{1}$

## DEPARTMENT GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate program in the Department of Criminal Justice is based upon the general admission requirements of the University.

The Criminal Justice Major - Students majoring in Criminal Justice must complete 120 semester hours of University coursework. Included in the 120 hours are a minimum of 41 semester hours of General Education Requirements, 30 hours of major Criminal Justice core courses, 18 semester hours of major elective courses, 15 semester hours of supportive courses, and 16 semester hours of free elective courses. Major electives are criminal justice courses at the 300-400 level which are applicable to one or more of the three strand options available for the degree program.

A minimum grade of " C " must be achieved in the core and the major elective courses. Students must maintain a grade point average of "C" or better for the supportive courses and for courses completed for graduation that are outside the major or minor such as the General Education Requirements and the free electives.

## CAREER OPPORTUNITES

A degree in Criminal Justice prepares students to work in any of the Criminal Justice systems' component areas at local, state or national levels, i.e. law enforcement, corrections, parole and probation, the courts and juvenile services. It also prepares students to pursue graduate and law degrees.

[^65]
## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH, ENGL $203{ }^{1}$ plus:
One course from each of two other disciplines:
Discipline A: ARTS
ARTS 101, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 201, HIST 202, HIST 333, HIST 334, HIST 360, HIST 361
Discipline C: LANGUAGE:
ASLS 203, FREN 101, FREN 102, SPAN 101, SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course from each of the two disciplines:
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
ECON 200 or ECON 201
HIST 101 or HIST 102; POLI 200
Discipline B: BEHAVIORAL SCIENCES
SOCI 201, SOWK 200

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7

Students must select two science courses, one of which must be a laboratory course, from the following: BIOL 101 (LAB-BIOL 103), BIOL 111 (LAB- BIOL 113)
CHEM 101 or CHEM 102 (LAB-CHEM 103), CHEM 111 (LAB-CHEM 113)
ENVS 101 (no LAB)
PHYS 101 (LAB-PHYS 103)

## Curriculum Area IV - MATHEMATICS ${ }^{\mathbf{2}}$

Credits 3
MATH 102 or above
Curriculum Area V - ENGLISH COMPOSITION
Credits 9
ENGL 001
ENGL 101
ENGL 102
ENGL 305 or ENGL 310

[^66]
## Curriculum Area VI - EMERGING ISSUES

## Credits 7

CRJS 100
EXSC 111
HUEC 230 or CRJS 302Total Required for General Education
Credits 41
Major Core Courses ..... Credits 30
CRJS 101 Introduction to Criminal Justice ..... 3
CRJS 200 Law Enforcement ..... 3
CRJS 201 Introduction to Corrections ..... 3
CRJS 204 Courts ..... 3
CRJS 203 Criminal Law/Honors ..... 3
CRJS 212 Criminology/Honors ..... 3
CRJS 226 Juvenile Delinquency/Honors ..... 3
CRJS 290 Research Methods in Criminology and Criminal Justice ..... 3
CRJS 370 Statistical Methods in Criminal Justice and Criminology ..... 3
CRJS 495 Senior Capstone in Criminology and Criminal Justice
Major Electives ..... Credits 18Students may select any 300 or 400 level course except CRJS 370 and CRJS 495.
Support Course RequirementsBUED 212 Computer-Concepts/Applications I/Hybrid/Online OR3
CRJS 435 Psychology of Criminal Behavior ..... 3
CSDP 220 Introduction to Computer Programming ..... 4
PSYC 100 Introduction to Psychology ..... 3
PSYC 271 Abnormal Psychology/Online or ..... 3
SOCI 101 Introduction to Sociology/Online ..... 3
SOCI 201 Social Problems/Online OR ..... 3
SOCI 202 Social Deviance and Social Control ..... 3

## Free Electives

## Credits 16

With the exception of the EXSC 111 courses, which cannot be repeated for credit, students may take any course at the University for which they meet the prerequisites

## CURRICULUM GUIDE FOR CRIMINAL JUSTICE

|  |  | IAN YEAR |  |
| :---: | :---: | :---: | :---: |
| First Semester | Credit | Second Semester | Credits |
| CRJS 101 | 3 | CRJS 200 | 3 |
| EXSC $111^{1}$ | 3 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 | 0 |
| CRJS 100 | 1 | GEN ED CURR AREA III | 4 |
| MATH 102 | 3 | PSYC $100^{2}$ | 3 |
| SOCI 101 ${ }^{2}$ | 3 | SOCI $201^{2}$ or |  |
|  |  | SOCI 202 ${ }^{2}$ | 3 |
|  | 16 |  | 16 |
|  |  | ORE YEAR |  |
| First Semester | Credit | Second Semester | Credits |
| CRJS 370 | 3 | BUED 212 ${ }^{2}$ or | 3 |
| ENGL 203 | 3 | CSDP $220{ }^{2}$ | 4 |
| GEN ED CURR AREA I 3 |  | CRJS 201 | 3 |
| GEN ED CURR AREA II 3 |  | CRJS 203 | 3 |
| GEN ED CURR AREA III | 3 | CRJS 204 | 3 |
|  |  | GEN ED CURR AREA I | 3 |
|  | 15 |  | 15/16 |
|  |  | R YEAR |  |
| First Semester | Credit | Second Semester | Credits |
| CRJS Elective ${ }^{5}$ | 3 | CRJS Elective ${ }^{5}$ | 3 |
| CRJS Elective ${ }^{5}$ | 3 | CRJS 226 | 3 |
| CRJS 212 | 3 | ENGL 305 or |  |
| CRJS 290 | 3 | ENGL 310 | 3 |
| GEN ED CURR AREA VI | 3 | GEN ED CURR AREA II | 3 |
|  |  | PSYC $271{ }^{2}$ | 3 |
|  | 15 |  | 15 |
|  |  | R YEAR |  |
| First Semester | Credit | Second Semester | Credits |
| CRJS Elective ${ }^{5}$ | 3 | CRJS 495 | 3 |
| CRJS Elective ${ }^{5}$ | 3 | Free Elective ${ }^{4}$ | 3 |
| CRJS Elective ${ }^{5}$ | 3 | Free Elective ${ }^{4}$ | 3 |
| Free Elective ${ }^{4}$ | 3 | Free Elective ${ }^{4}$ | 3/4 |
| Free Elective ${ }^{4}$ | 3 |  |  |
|  | 15 |  | 12/13 |

## Total Credit Hours: 120

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## MINOR PROGRAM

The Minor program in Criminal Justice is designed to provide a secondary concentration for students majoring in other disciplines. The program objectives are to (1) promote informed understanding of the manner in which the criminal justice system functions, (2) closely examine the fundamental issues in criminal justice, and (3) explore criminological theory. The program consists of eighteen (18) credit hours in the following Criminal Justice courses:

## REQUIRED MINOR1 COURSES

CRJS 101
CRJS 200
CRJS 212
RJS 430
CRJS 201
CRJS 204

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# DIRECTORY OF FACULTY 

Dahlgren, Daniel C., Assistant Professor
B.A., M.A., Kent State University; Ph.D., Kent State University/University of Akron

Ejiogu, Kingsley, Assistant Professor
B.S., Abia State University, Nigeria; M.S., Imo State University, Nigeria; Ph.D., Texas Southern University

Mosley, Thomas S., Associate Professor
B.A., University of Memphis; M.A., University of Memphis; Ph.D., Howard University

Nwokeji, Ekwuniru C., Assistant Professor
LL.B., University of Nigeria; LL.M., Tulane University Law School; M.A., Southern University; Ph.D., Southern University

Onyeozili, Emmanuel C., Professor
B.A., University of Ibadan; M.A., Clark-Atlanta University; Ph.D., Florida State University

## Tsai, Lily Chi-Fang, Assistant Professor

LL.B, Soochow University; LL.M National Taipei University; Ph.D., Sam Houston State University
Walters-Jones, Nelseta V., Assistant Professor
B.S., Prairie View A\&M University; M.S., Prairie View A\&M University; Ph.D. Prairie View A\&M University

## Department of Education

http://www.umes.edu/Education

## Dr. Nomsa E. Geleta, Chairperson

## MISSION

The mission of the Department of Education and Professional Education Unit is to advance the science and practice of education, and to promote related careers in counseling and mental health. Toward this end, the Department and Unit offer state-of-the-art undergraduate and graduate teacher education programs, a graduate counselor education program, and a doctoral program in Education Leadership. The Department of Education and Professional Education Unit seek to nurture minds, advance knowledge, promote life-long learning, and prepare skilled educators and counselors to meet the needs of the twenty-first century.

## OBJECTIVES

The objectives of the Department of Education are to prepare teachers, counselors, and administrators who:

1. have the professional knowledge base of change strategies that enables them to participate in school restructuring;
2. become engaged critical and creative thinkers, problem solvers, and reflective professionals;
3. review and embrace their personal heritage in order to facilitate learning for individuals from diverse ethnic and cultural backgrounds;
4. are consumers, brokers, and generators of school-based research;
5. are innovative users of and advocates for content technology-based instruction;
6. integrate state, national, and international priorities into instructional and assessment strategies;
7. incorporate national and state professional standards into their practice;
8. incorporate the Professional Education Unit's Conceptual Framework into their practice;
9. demonstrate appropriate human, conceptual, and technical skills when working with students and other educational stakeholders; and
10. have a commitment to the moral obligations of teaching so as to ensure equitable access to and engagement in the best possible P-12 education for all children and youth from all ethnic and religious groups, as well as those with disabilities, those for whom English is a second language, and those who are gifted and talented.

## DEGREES OFFERED IN DEPARTMENT OF EDUCATION

Bachelor of Science - Special Education (Through content discipline in collaboration with the Department of Education: Agriculture, Art, Biology, Business, Chemistry, English, Family and Consumer Sciences, Mathematics, Music, Social Studies, Technology)
Master of Arts in Teaching ${ }^{1}$ (Agriculture, Art, Biology, Business, Chemistry, English, Family and Consumer
Sciences, Mathematics, Music, Social Studies, Technology)
Master of Education - Counselor Education ${ }^{1}$
Master of Education - Special Education ${ }^{1}$
Doctorate of Education - Education Leadership1

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## GENERAL PROGRAM REQUIREMENTS

The initial admission of students to the undergraduate programs in the Department of Education and Teacher Education is based upon the general admission requirements of the University. The program requirements increase as students move through their teacher education program. The only teacher education program housed in the Department of Education is Special Education. However, all 12 undergraduate teacher education programs (i.e., Agriculture, Art, Biology, Business, Chemistry, English, Family and Consumer Sciences, Mathematics, Music, Social Studies, Special Education, and Technology) are administered in collaboration with the Department of Education.

The undergraduate teacher education programs lead to the Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) degree in a variety of areas. The course of study prepares students to become qualified teachers, and to assume the complex role of a teacher in the classrooms of the twenty-first century. The primary goal of the undergraduate teacher education program is to ensure success within the teaching profession by: 1) providing a comprehensive knowledge base that ensures competency in the subject matter and in the processes of education; and 2) providing the opportunity to develop sophisticated clinical skills to work with a diverse population. This program reflects current research-based trends in the field of education and emphasizes excellence in both the theoretical and applied domains.

## DEPARTMENTAL AND TEACHER EDUCATION REQUIREMENTS

The course of study prescribed for all Education majors (SPECIALTY AND SECONDARY) is composed of four major phases. These four (4) phases of study constitute the standardized curriculum that all Education majors should complete. The teacher education program includes the following designated phases of study. Each program has an approved scope and sequence of courses listed in the most current edition of the Teacher Education Handbook, found on the departmental website (www.umes.edu/Education) and in the UMES Undergraduate Catalog.

## PHASE ONE

## GENERAL EDUCATION REQUIREMENTS

The student completes the general education requirements established by the University. These courses are usually taken during the first two years of enrollment. All students at UMES are expected to complete a common body of academic course work. Teacher Education majors should consult their academic advisors and the UMES Undergraduate Catalog for the specific courses in their majors. TOTAL NUMBER OF SEMESTER HOURS REQUIRED: 44 Hours.

## PHASE TWO

## PROFESSIONAL EDUCATION FOUNDATION

A series of core education courses and integrated clinical experiences, are carefully designed to provide all Education majors with a critical foundation of knowledge. This knowledge-base is an essential prerequisite to advanced study in the specialization phase. All Education majors are required to complete this standardized core curriculum. Additional courses may be required by specific programs. A total of $\mathbf{1 5}$ credits is required. Students must also pass a criminal background check at this phase in the program and purchase the Unit's electronic assessment system. Professional Education courses in phases two, three, and four may be repeated only once.

| EDCI 200 | EDCI 201 ${ }^{1}$ | EDSP 200 |
| :--- | :--- | :--- |
| PSYC 203 | PSYC 205 | PSYC 207 |

## PHASE THREE

MAJOR/SPECIALIZATION FOUNDATION - Only students who have formally advanced to Teacher Candidate status are eligible to enroll in the major/specialization phase. Standards have been established for advancement and are published by the Department of Education in the Teacher Education Handbook. Students are selectively admitted to this phase of the program. They must have a grade point average of $\mathbf{3 . 0}$ and passing PRAXIS Core scores (or passing scores on other Maryland State approved tests) for program entry, in addition to meeting
other requirements. Students must complete and submit a Teacher Education Application which can be obtained online or from the Department of Education.

In this phase of study, each student must complete the specific courses required in their major/specialization area. This third phase of study and preparation includes coursework and integrated field work in the student's major area of specialization or concentration. The courses which comprise the specialization phase organize and structure an indepth study of a content/specialty area. Prospective teachers are thoroughly trained in both the content area and effective instructional delivery. Once admitted to Teacher Education, teacher candidates must maintain a minimum overall grade point average of 3.0 as well as a minimum 3.0 grade point average in their major, with no grade of "D" or lower in the major or in education courses.

The curriculum in this phase of study is established jointly by the Department of Education and the respective academic department. The number of required semester hours in the specialization phase of the Teacher Education program will vary depending on the content area. A total of 18 semester hours is required in specialization courses for specialty majors. A total of 39 semester hours is required for specialization courses for Special Education majors. These requirements are listed in the Teacher Education Handbook.

## COMMON REQUIRED SPECIALIZATION COURSES FOR SPECIALTY ${ }^{1}$

 (Except Special Education Majors)$$
\begin{array}{lll}
\text { EDCI 311 } & \text { EDCI 406 } & \text { EDCI 409 } \\
\text { EDCI 410 } & \text { EDCI 4XX } & \text { EDSP 428 }
\end{array}
$$

Note: EDCI 306 is also required for Art, English, Music, and Social Studies.

## COMMON REQUIRED SPECIALIZATION COURSES FOR SPECIAL EDUCATION MAJORS

A total of 39 semester hours is required for specialization courses for Special Education Majors. These requirements are listed in the Teacher Education Handbook.

| EDSP 401 | EDSP 402 | EDSP 403 | EDSP 404 | EDCI 306 |
| :--- | :--- | :--- | :--- | :--- |
| EDSP 414 | EDSP 416 | EDSP 422 | EDSP 426 |  |
| EDSP 428 | EDSP 430 | EDSP 431 | PSYC 406 |  |

## CLINICAL AND FIELD EXPERIENCES

The Department of Education requires a variety of clinical and field experiences during which students work in the field, including a full-time teaching internship. Students must be fully prepared to assume the responsibility associated with these experiences. The clinical and field experiences are a critical part of the teacher preparation programs. The Clinical and Field Experiences Handbook outlines all expectations and requirements. Students who wish to become Teacher Education majors will need to successfully complete a criminal background check prior to any field placements in a school setting.

## PHASE FOUR

TEACHING INTERNSHIP (SUPERVISED CLASSROOM TEACHING) - The internship is the culmination of the Teacher Education program. The Teaching Internship consists of two full-time placements in two (2) different classroom settings, in Professional Development Schools. Each setting exposes students to a different age group or level. Students will be assigned to the Teaching Internship based on program requirements and school system availability. In order to be eligible for admission to the Teaching Internship, students must meet the following requirements:

1. Minimum 3.0 overall grade point average. Any courses transferred into UMES will be counted as part of the cumulative grade point average.
2. Minimum 3.0 grade point average in major.
3. Successful completion of the PRAXIS II-Specialty Area Tests. Students must take and pass the PRAXIS II in their content area before being eligible for their Teaching Internship. Cut-off scores are determined by the Maryland State Department of Education. Registration for the PRAXIS II should be completed as early as possible, but no later than the semester before the Teaching Internship. Passing scores must be submitted to UMES from ETS before the internship begins.
4. All courses, with the exception of the Teaching Internship and Senior Seminar must be completed (i.e., no incomplete grades).
5. Two recommendations from Teacher Education faculty.
6. Completion of the Application for Teaching Internship.
7. Interview with faculty that includes review of candidate's professional dispositions and cultural competencies.
8. The Department of Education is committed to providing a quality, supervised internship experience and to providing every student with rich and varied internship options. Every student in a degree-seeking program, who is an Education major, is assigned to an internship on a full-time basis. Students must provide their transportation to all internship and field experience sites. Each student must also attend a 3-4 day workshop in preparation for the internship.

| SPECIALTY EDUCATION Art/Music (PreK-12) |  |  |
| :---: | :---: | :---: |
| EDCI 440 | EDCI 450 | EDCI 400 |
| Special Education (1-8; 6-12) |  |  |
| EDSP 442 (E) | EDSP 450 (S) | EDSP 400 |
| SECONDARY EDUCATION <br> Secondary (7-12) |  |  |
| EDCI 460X/480x | le) EDCI470X/490X (High) | EDCI 400 |

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## SPECIAL EDUCATION <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
and
One course from:
Discipline B: HISTORY
HIST HIST 201, HIST 202, PHIL 201
Or:
Discipline C: LANGUAGE
SPAN 101; SPAN 102; ASLS 203, ASLS 204
Or:
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
HIST 101 or HIST 102
Discipline B: BEHAVIORAL SCIENCES
PSYC 100 or SOCI 201
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7
Students must select two science courses and one science laboratory course from the following.
Those suggested are in bold. ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab); or BIOL 111, BIOL 113 (lab), or BIOL 112, BIOL 114 (lab), CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
Credits 6
MATH 102 or higher; if a student needs MATH 101, he/she must take it before taking Math 102 or higher; MATH 210

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101
ENGL 102
ENGL 001
ENGL 305 or ENGL 310

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## Curriculum Area VI - EMERGING ISSUES

## Credits 4

EDCI 100 First Year Experience Course
In addition, students must take 3 credits that include:
EXSC 111

Total Required for General Education
PROGRAM OR MAJOR CORE REQUIREMENTS
*EDCI 201 does not count toward graduation and is taken only if the PRAXIS I or state-approved basic skills test has not been passed.
EDCI 200 Introduction to Contemporary Education 3

EDCI 201* PRAXIS Preparation 1
EDSP 200 Introduction to Special Education 3
PSYC 205 Developmental Psychology or
HUEC 203 Human Development: A Lifespan Perspective 3
PSYC 207 Educational Psychology 3
PSYC 271 Abnormal Psychology 3
POLI 200 American Government or
HIST 201 or 202 U.S. History 3

## PROFESSIONAL COURSES (SPECIAL EDUCATION MAJORS)

EDCI 306 Integrating Technology into the Curriculum
EDCI 406 Classroom Management
EDSP 401 Processes and Acquisition of Reading and Language for Students with Disabilities
EDSP 402 Instruction of Reading and Language for Students with Disabilities
Credits 57
3 3
EDSP 403 Materials for Teaching Reading and Language for Students with Disabilities3
$\begin{array}{ll}\text { EDSP } 404 & \begin{array}{l}\text { Assessment, Diagnosis, and Remediation of Reading } \\ \text { Problems for Students with Disabilities }\end{array}\end{array}$
EDSP 414 Psychoeducational Assessment I 3
EDSP 416 Program Development and Instructional Delivery in Special Education3
EDSP 422 Psychoeducational Assessment II ..... 3
EDSP 426 Instruction of Mathematics for Students with Disabilities ..... 3
EDSP 428 Communication and Collaboration in Special Education ..... 3
EDSP 430 Technology in Special Education ..... 3
EDSP 431 Instruction of Prevocational/Vocational and Transition Programs in Special Education ..... 3
PSYC 406 Applied Behavior Analysis ..... 3
EDSP $400 \quad$ Senior Seminar in Special Education ..... 3
EDSP 442 Internship in Special Education (Elementary) ..... 6
EDSP 450 Internship in Special Education (Secondary) ..... 6

## ELECTIVES

Credits 6
Any 6 credits

Credits 122

## CURRICULUM GUIDE FOR SPECIAL EDUCATION

Preparing Teachers to Work with Students with
Mild and Moderate Disabilities (grades 1-8; 6-12)
FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | ENGL 102 | 3 |
| MATH 102 or higher | 3 | ENGL 001 ${ }^{1}$ | 0 |
| ENVS 101 | 3 | Elective | 3 |
| HIST 101 | 3 | BIOL 101 | 3 |
| ARTS 101 | 3 | BIOL 103 | 1 |
| EDCI 100 | 1 | EXSC 111 | 3 |
|  |  | PSYC 100 | 3 |
|  |  |  | 16 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 203 | 3 | PSYC 271 | 3 |
| EDCI 200 | 3 | PSYC | 3 |
| EDSP200A | 3 | GEN ED IB, IC or ID | 3 |
| PSYC205 | 3 | MATH | 3 |
| POLI 200 | 3 | EDCI 306 | 3 |
| \#EDCI 201 | 1 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| *EDSP 401 | 3 | *EDSP 402 | 3 |
| *EDSP 414 | 3 | *EDSP 403 | 3 |
| *EDSP 416 | 3 | *EDSP 422 | 3 |
| *EDSP 426 | 3 | *PSYC 406 | 3 |
| *EDCI 406 | 3 | *ENGL 305 or 310 | 3 |
|  | 15 |  | 15 |


|  | SENIOR YEAR |  |  |
| :--- | :--- | :---: | :--- |
| First Semester | Credit | Second Semester | Credit |
| *EDSP 404 | 3 | *EDSP 400 | 3 |
| *EDSP 428 | 3 | *EDSP 442 | 6 |
| *EDSP 430 | 3 | *EDSP 450 | 6 |
| *EDSP 431 | 3 |  |  |
| Elective | 3 |  | 15 |

## Total Hours: 122

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## DIRECTORY OF FACULTY

Baldwin, C. Grattan, Assistant Professor
B.A., Weslyan University; M.A., Harvard University; Ph.D., Rutgers Graduate School of Education

## Bowers, Cheryl D., Assistant Professor

B.A., Mount Holyoke College; M.S., University of Pennsylvania; Ph.D., University of Pennsylvania

## Goslee, Patricia A., Assistant Professor

B.S., University of Maryland Eastern Shore; M.Ed., Wilmington College; Ed.D., Wilmington University

Geleta, Nomsa E., Professor, Chair
B.A., University of Zululand, South Africa; M.S., Ed.D., Oklahoma State University

## Foust, Gretchen, Assistant Professor

B.A., M.Ed., and Ph.D.., The Pennsylvania State University

Lewis, Jamie, Lecturer/Coordinator of Professional Development Schools
B.A., Southern Illinois University at Edwardsville; M.A.T., University of Maryland Baltimore County; ABD; University of Maryland Eastern Shore

## Nugent, Michael A., Lecturer II

B.A., Marist College; M.Ed., St. John's University; Ph.D., University of Maryland Eastern Shore

Patterson, Michael, Assistant Professor
B.A., Hampshire College; M.A. and Ph.D., Claremont Graduate University

Poole-Sykes, Kimberly J., Associate Professor
B.S., University of Maryland Eastern Shore; M.S., Southern Illinois University at Carbondale; Rh.D., Southern Illinois University at Carbondale

Reed, Michael, Associate Professor
B.A; BSW; M.A., Ph.D; Bowling Green State University

Stufft, Derry, Associate Professor
B.A., Rutgers College; M.Ed., Indiana University of Pennsylvania; Ed.D., Indiana University of Pennsylvania

## Department of English and Modern Languages

www.umes.edu/English/

Dr. Jacqueline Brice-Finch, Chair

## MISSION

The mission of the Department of English \& Modern Languages is to prepare individuals for graduate schools, professional schools, and career opportunities; to prepare teachers of English for middle and secondary schools; to provide service courses for the various departments; and to provide outreach services for surrounding schools and communities.

## OBJECTIVES

The objectives of the Department of English \& Modern Languages are as follows:

1. to provide opportunities for students to develop facility in communicative skills: reading, writing, speaking and listening;
2. to provide opportunities for students to speak and write a foreign language effectively;
3. to provide opportunities for students to understand, interpret, and analyze literary material;
4. to prepare students for graduate study and professional careers;
5. to prepare students for teaching middle and secondary school English.

## DEGREES OFFERED

- Bachelor of Arts - English
- Bachelor of Arts - English Education


## ENGLISH PROGRAM

## A. GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

General Education Requirements [a minimum of 41 credits] are distributed as follows:

## Curriculum Area I Arts and Humanities

9 Credits
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus one course from Discipline A and B.

## Discipline A: ARTS

ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
and
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201, PHIL 202
Discipline E: SPEECH
ENGL $203{ }^{1}$

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## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

6 Credits
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201, PHIL 202
POLI 200 or POLI 200H,
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES 7 Credits

Students must select three science courses, one of which must be a laboratory course, from the following:
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
3 Credits
MATH $102^{1}$ or MATH $109^{2}$
${ }^{1}$ Preferred
${ }^{2}$ Students must pass MATH 101 with grade of "C" or above before taking MATH 102 or MATH 109.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

ENGL 101/H/Online
ENGL 102/H/Online
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

## Curriculum Area VI - EMERGING ISSUES

ENGL 100 First Year Experience or other Departmental orientation course EXSC 111 Personal Health \& Fitness

In addition, students must take 3 credits from the following approved list:
ENGL 317 Shakespeare

ENGL 324 Literature and Film
ENGL 325 Literary Criticism
ENGL 345 Special Topics in Literature
ENGL 413/H/Online The Novel-East and West
ENGL 490 Senior Capstone In English
Total Required for General Education
41 Total Credits

## B. REQUIRED LANGUAGE COURSES

12 Credits
Any four-semester sequence in a single foreign language [SPAN 101, SPAN 102, SPAN 201 and SPAN 202]
C. REQUIRED MAJOR COURSES

Course \& No.
ENGL 218
ENGL 327/H
ENGL 330
ENGL 401
Choose two of the following:
ENGL 204/Online
ENGL 205
ENGL 206
ENGL 207/Online
TELC 214
ENGL 215
Choose one of the following:
ENGL 301
ENGL 302

Title
Approaches to Grammar 3
African American Literature 3
Advanced Public Speaking 3
Modern Drama 3

Credit Hr. 3

Introduction to Fiction 3
Introduction to Drama 3
Introduction to Poetry 3
Introduction to Creative 3
Writing
Introduction to 3
Telecommunications
Introduction to Film 3

Choose one of the following:
ENGL 321 English Literature I 3

ENGL 322/H
American Literature I 3
American Literature II 3

## English Literature I <br> 3

English Literature II 3
Choose one of the following:

ENGL 328
ENGL 329

World Literature I
3
World Literature II 3

Choose one of the following:

ENGL 346/Online
ENGL 380

History of the English Language 3
Introduction to Language
Science

Choose one of the following:

| ENGL | 412 | Commonwealth Literature | 3 |
| :--- | :--- | :--- | :--- |
| ENGL | $413 /$ Online | The Novel-East and | 3 |
|  |  | West/Online |  |

D. ENGLISH ELECTIVE COURSES

33 Total Credits
12 Credits
Students may choose any 200, 300 or 400 level course offered by the Department
E. FREE ELECTIVES

22 Credits
Students may choose any undergraduate courses offered by the University.
TOTAL REQUIRED FOR ENGLISH MAJORS
79 Credits

## CURRICULUM GUIDE FOR ENGLISH

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 $1^{2}$ | 0 |
| GEN ED CURR AREA I | 3 | EXSC 111 ${ }^{4}$ | 3 |
| GEN ED CURR AREA II | 3 | GEN ED CURR AREA I 3 |  |
| GEN ED CURR AREA III | 3 | MATH 102 | 3 |
| SPAN 101 | 3 | SPAN 102 | 3 |
|  | 16 |  | 15 |


| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 203 | 3 | ENGL 301 or |  |
| ENGL 204-215 or TELC $214^{6}$ | 3 | ENGL 302 | 3 |
| GEN ED CURR AREA II | 3 |  |  |
| GEN ED CURR AREA III | 3 | ENGL 218 | 3 |
| GEN ED CURR AREA III | 1 | ENGL Elective ${ }^{7}$ | 3 |
| SPAN 201 | 3 | ENGL 204-215 or TELC 214 | 3 |
|  | 3 | SPAN 202 | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or |  | ENGL 357 or |  |
| ENGL 310 | 3 | ENGL 358 | 3 |
| ENGL 330 | 3 | ENGL 346 or |  |
| ENGL 321 or | 3 | ENGL 380 | 3 |
| ENGL 322 | 6 | ENGL Elective | 3 |
| ENGL Elective | 3 | FREE Electives | 3 |
| FREE Electives | 18 |  | 15 |


|  | SENIOR YEAR |  | Credit |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester |  |
| ENGL 328 or | 3 | ENGL 412 or | 3 |
| ENGL 329 | 3 | ENGL 413 | 3 |
| ENGL 401 | 9 | ENGL 490 ${ }^{8}$ | 7 |
| FREE Electives ${ }^{9}$ | 15 | FREE Electives ${ }^{9}$ | 13 |

Total Degree Credit Hours: 120

[^74]
## ENGLISH EDUCATION DEPARTMENTAL REQUIREMENTS

UMES offers the Bachelor of Arts (B.A.) degree in English Education. In addition to the completion of the 41 required credits in General Education, all students are expected to complete 85 credit hours from a common body of academic coursework. The 85 credit hours must consist of 30 credit hours selected from the program core requirements, 6 credit hours of English electives, 6 credit hours in either French or Spanish language instruction, and 43 credit hours of professional education requirements.

## CAREER OPPORTUNITIES

The teaching program is designed to prepare individuals to become teachers of English/Language Arts in middle and high schools. The program of study provides the prospective English teacher with a broad and integrated liberal arts background, a concentrated study of English literature and language, and the techniques, knowledge, and experience to help middle, junior, and senior high school students develop to their highest potential.

## A. GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

General Education Requirements [a minimum of 41 credits] are distributed as follows:

## Curriculum Area I Arts and Humanities

Credit 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus one course from Discipline A and B.
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
and
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline E: SPEECH
ENGL $203{ }^{1}$

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credit 6

Students must select one course in each of two disciplines.

## Discipline A: SOCIAL SCIENCES

GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 111H
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

Discipline B: BEHAVIORAL SCIENCES
HUEC 203, HUEC 220, HUEC 361
PSYC 100 (Prerequisite for PSYC 203 and PSYC 207)

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credit 7
Students must select two science courses, one of which must be a laboratory course, from the following: ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).

## Curriculum Area IV - MATHEMATICS

Credit 3
MATH 102, if a student needs MATH 101, he/she must take before Math 102;

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credit 9

ENGL 101/H/Online
ENGL 102/H/Online
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
Curriculum Area VI - EMERGING ISSUES
Credit 7
ENGL 100 First Year Experience or other Departmental orientation course
In addition, students must take 6 credits from approved international liberal arts courses:

| ARTS 211/212 | Art History I or II |
| :--- | :--- |
| ENGL 317 | Shakespeare |
| ENGL 321/322 | English Literature 1/II |
| ENGL 324 | Literature and Film |
| ENGL 328/329 | World Literature I/II |
| ENGL 332 | The African Writer |
| ENGL 346 | History of English Language |
| ENGL 347/Online | Adolescent and Adult Literature |
| GEOG 201/201 | World Geography I/II |
| HIST 101 | World Civilization I |
| HIST 102 | World Civilization II |
| HIST 150 | History of Philosophy |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| HIST 350 | Contemporary World Issues |
| HIST 351 | Latin America |
| HIST 360 | Ancient African History |
| HIST 361 | African History after 1800 |
| MUSI 288 | World Music |
| MUSI 313/314 | Music History and Literature I/II |
| PHIL 201 | Logic |
| PHIL 202 | Ethics |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |
| SOCI 201 | Social Problems |

SOCI 303
TMGT 306

Social Inequality
Ecology and Cultural Tourism

## Total Required for General Education

## B. COMMON REQUIRED COURSES

One (1) ENGL 200, 300, or 400 Level Course [3 credits]
Two (2) ENGL 400 Level Courses [6 credits]
Any two-semester sequence in French or Spanish-six credits]

## C. REQUIRED MAJOR COURSES

Course \& No.
ENGL 218
ENGL 327/H
ENGL 330
Choose two of the following:
ENGL 204/Online
ENGL 205
ENGL 206
ENGL 207/Online
TELC 214
ENGL 215

Title
Approaches to Grammar African American Literature 3

$$
\text { Introduction to Fiction } 3
$$

Introduction to Drama 3
Introduction to Poetry 3
Introduction to Creative Writing 3
Introduction to Telecommunications 3
Introduction to Film
Choose one of the following:
ENGL 301 American Literature I 3

ENGL 302
American Literature II
Choose one of the following:


English Literature I
3
ENGL 322/H
Choose one of the following:

ENGL 328
ENGL 329
Choose one of the following:

| ENGL | 346/Online | History of the English Language | 3 |
| :--- | :--- | :--- | :--- |
| ENGL | 380 | Introduction to Language Science | 3 |

## 42 Credits

Professional Education Requirements
EDCI 200 Introduction to Contemporary Education 3
EDCI 201 PRAXIS Preparation 1
PSYC 203 Adolescent Psychology 3
PSYC 207 Educational Psychology 3
EDCI 311 Comprehensive Assessment 3
EDCI 400 Senior Seminar 3
EDCI 406 Classroom Management 3
EDCI 409 Teaching Reading in Content Areas I 3
EDCI 410 Teaching Reading in Content Areas II 3

EDCI 425
EDCI 428
EDCI 480
EDCI 490

Curriculum \& Instruction in English 3

Communication and Collaboration in Special Education 3
Teaching Internship - MS 6
Teaching Internship - HS

6
43 Credits

## CURRICULUM GUIDE FOR ENGLISH EDUCATION <br> FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | ENGL 102 | 3 |
| FREN 101 or |  | ENGL 001 | 0 |
| SPAN 101 | 3 | FREN 102 or |  |
| EDCI 100 | 1 | SPAN 102 | 3 |
| GEN ED CURR AREA I $^{1}$ | 3 | GEN ED CURR AREA III ${ }^{3}$ | 4 |
| GEN ED CURR. AREA III | 3 | GEN ED CURR AREA I 3 |  |
| GEN ED CURR AREA IV | 3 | PSYC 100 | 3 |
|  | 16 |  | 16 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 203 | 3 | ENGL 200-400 Elective ${ }^{5}$ | 3 |
| EDCI 200 | 3 | ENGL 204-2156 | 3 |
| EDCI 201 | 1 | ENGL 218 | 3 |
| GEN ED CURR. AREA II | 3 | ENGL 301 or |  |
| GEN ED CURR. AREA VI | 3 | ENGL 302 | 3 |
| PSYC 203 | 3 | PSYC 207 | 3 |
|  | 16 |  | 15 |

JUNIOR YEAR

|  | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 204-215 ${ }^{6}$ | 3 | ENGL 328 or |  |
| ENGL 321 or |  | ENGL 329 | 3 |
| ENGL 322 | 3 | ENGL 346 or |  |
| ENGL 305 or | 3 | ENGL 380 | 3 |
| ENGL 310 | 3 | ENGL 347 | 3 |
| ENGL 204-2156 | 3 | EDCI 306 | 3 |
| ENGL 330 | 15 | EDCI 406 | 3 |
|  |  | EDCI 409 | 3 |
|  | Credit | SENIOR YEAR | 18 |
| First Semester | 3 | EDCI 400 | Credit |
| ENGL 400 Elective ${ }^{5}$ | 3 | EDCI 480 | 3 |
| EDCI 311 | 3 | EDCI 490 | 6 |
| EDCI 410 | 3 |  | 6 |
| EDCI 425 | 3 |  |  |
| EDSP 428 | 15 |  | 15 |

Total Credits Hours: 126

[^75]
## MINOR PROGRAMS

The Department of English and Modern Languages offers minors in English, Spanish, and Telecommunications. For a student to earn a minor in a subject, a minimum of eighteen semester hours, according to department specifications, must be met. The specifications in the Department of English \& Modern Languages are as follows:

## English

The English Minor is for students in major programs of study outside the Department of English and Modern Languages. English courses taken to meet General Education requirements DO NOT meet department requirements for the minor in English. In addition to General Education requirements, students selecting English as a minor must choose a sequence of English courses from the list in number one below. The English Minor requires the following:

1. The following courses are the only English courses that a student may take to meet the 18 semester hour requirement for the English minor:

ENGL 204, 205, 206, 215, 218
ENGL 301, 302, 305 ${ }^{1}$, $310^{1}$, 321, 322, 325, 327, 328, 329, 332, 345, 346, 347
ENGL 401, 404, 405, 408, 412, 413, 481
2. Any sequence of 18 semester hours, chosen from the above list, meets the numerical requirement for the minor in English.
3. A grade of "C" or better is required in each course to meet the requirements for the English minor.

## Spanish

The Spanish Minor is for English majors and students in major programs of study outside the Department of English and Modern Languages:

1. The following courses are the only Spanish courses that a student may take to meet the 18 semester hour requirement for the Spanish minor:

SPAN 201, SPAN 202, SPAN 301, SPAN 302, SPAN 401 and SPAN 402.
2. Any sequence of 18 semester hours, chosen from the above list, meets the numerical requirement for the minor in Spanish.
3. A grade of "C" or better is required in each course to meet the requirements for the Spanish minor.

## The Foreign Language Instructional Center (FLIC)

The mission of the Foreign Language Instructional Center is to provide instruction in the Less Commonly Taught Languages (LCTLs) in order to help meet the need for critical language acquisition in the United States. Customized instructional materials have been developed by FLIC in Akan-Twi, Arabic, Chinese (Mandarin), Hindi, Russian, Yoruba as well as Haitian Creole which, along with Spanish, is taught in response to the needs of growing Haitian and Hispanic community. In addition to advancing language proficiency, instructors at FLIC emphasize cultural understanding. Students are exposed to the traditions and norms of the countries where the foreign language is spoken so that they may put the language in practical context for interaction with native speakers either in the United States or in the respective world regions. FLIC has created a state-of-the-art classroom with the most advanced instructional technology available.
${ }^{1}$ This course can be used only if it is not used to fulfill a General Education requirement.

## Telecommunications

The Telecommunications Minor is for English majors and students in major programs of study outside the Department of English and Modern Languages. The Telecommunications Minor is designed to satisfy the varied interests of students who seek careers in radio, television, public relations, journalism, social media, and/or other digital outlets. Students will focus on both content creation and product delivery, tailoring their minors to suit their individualized needs. This broadly-based minor is reflective of the expanding and encompassing field of
communications studies in the $21^{\text {st }}$ century. Students who major in English or other programs of study can minor in Telecommunications by completing 18 credit hours from the list of courses below. The specifications are as follows:

1. The following courses are the only Telecommunications courses that a student may take to meet the 18 semester hour requirement for the Telecommunications minor:
TELC 214, TELC 236, TELC 237, TELC 238, TELC 239, TELC 241
TELC 303, TELC 333, TELC 336, TELC 337, TELC 351
TELC 472, TELC 481
2. Any sequence of 18 semester hours, chosen from the above list, meets the numerical requirement for the minor in Telecommunications.
3. A grade of "C" or better is required in each course to meet the requirements for the Telecommunications minor.
4. Departmental internships may be earned in 3 credit increments ( $3,6,9$, or 12 credits), but no combination of academic internships may exceed a total of 12 credits.

## CAREER OPPORTUNITIES

Employment prospects in telecommunications are wide ranging in a digital age where global information is a critical commodity. Communication experts are highly sought after in private industry, at academic institutions, and throughout all levels of government. The Telecommunications Minor provides students with specific skills and concepts required for careers in radio, television, and other media related fields. Depending on course selection, students are prepared to engage in a variety of occupations including, but not limited to, broadcast news reporting, radio and television program creation and delivery, the production of commercial and promotional messaging, computer-generated graphic design, and social media distribution. Particular emphasis is placed on experiential learning which may include participation in campus radio and television productions and/or multiple internships. In this way, students are able to discover which area of the communication industry is the best fit for their talents.

## DIRECTORY OF FACULTY

Anderson, Mignon, Associate Professor
B.A., Fisk University; M.F.A, Columbia University

## Brice-Finch, Jacqueline, Chair

B.A., Howard University; M.A., Indiana University, Bloomington; Ph.D., University of Maryland, College Park.

## Buerkle, Marilyn, Lecturer, Visual Information Specialist

B.A., Edinboro University of Pennsylvania; M.A., American University

Champagne, Carole A., Associate Professor
B.S., Wake Forest University; M.Ed., M.A., Ph.D., University of Massachusetts, Amherst

Cooledge, Dean R., Associate Professor
B.A., Trinity University; M.A., Ph.D., University of Arizona

Cravens, Cynthia, Assistant Professor
B.A., Emerson College; M.F.A., Emerson College; Ph.D., University of Illinois at Chicago

## Davis, Joseph, Lecturer

B.M.E., Music, Henderson State University; M.M., Music History, Memphis State University; M.M., Piano Performance, Memphis State University; M.F.A., Towson University

## Gregory, Nydia, Lecturer

B.A., University of Puerto Rico; M.A., Assumption College; Ph.D., University of Maryland Eastern Shore

## Hagenrater-Gooding, Amy, Assistant Professor

B.S., M.A., Radford University; Ph.D, Indiana University of Pennsylvania

Harned, Courtney, Lecturer
B.A., M.A.T., University of Virginia

Johnson, David, Assistant Professor
B.S., North Carolina A\&T State University; M.Ed., Salisbury University; Ph.D., The Union Institute \& University

Johnston, Sandra, Lecturer
B.A., M.Ed., Shippensburg University; M.A., Salisbury University

Miller, Bonni, Lecturer
B.A., M.A., Salisbury University

Moore, Melissa, Lecturer
B.A., St Mary's College; M.A., Salisbury University;

Okafor, Clement, Professor
B.A., University of Nigeria; M.A., University of East Africa; Ph.D., Harvard University

Rose, Wilton, Lecturer
B.F.A., New York University

# Seabrook, Barbara, Associate Professor 

B.S., M.Ed., Shippensburg University; M.Ed., Ed.D., Wilmington College

Shoge, Simeon, Lecturer
B.A., University of Ibadan; M.A., Washington College; MFA, Columbia University

Smith, Terry, Associate Professor
B.A., M.A., Salisbury University; Ph.D., Indiana University of Pennsylvania

Vlahovici-Jones, Gabriela, Lecturer
B.A., M.A., Al. I. Cuza University; M.A., Salisbury University

## Department of Fine Arts

## www.umes.edu/arts

www.umes.edu/music

Mr. Christopher J. Harrington, Chairperson

## MISSION

The mission of the Fine Arts Department is to provide art and music teachers for elementary and secondary schools; to prepare students for professional careers in graphic illustration, commercial photography and sequential arts; to prepare students for professional careers in jazz and popular music; to prepare students for graduate and professional schools; provide service courses for other departments; and to provide outreach services for surrounding schools and communities. In addition the Fine Arts Department provides exhibits, cultural events and other programs necessary to promote the arts and make the University and general community artistically and musically richer.

## OBJECTIVES

Students having completed the Art Education Program will:

1. Have the facility to understand and appreciate the philosophical nature of art, its meaning, and contribution to the individual and society in contemporary and past cultures.
2. Create, critically analyze, and evaluate works of art from a wide variety of media.
3. Develop, organize, evaluate, and administer effectively an art education curriculum in grades PreK-12.
4. Demonstrate an understanding of the developmental stages of art through which children and adolescents pass.
5. Demonstrate a working knowledge of safety precautions and hazards that are unique to studio work.
6. Design and deliver developmentally appropriate experiences in art for children in grades PreK-12.

Students having completed the Applied Design program will demonstrate the ability to do the following:

1. Operate and manage a small business.
2. Work as photojournalists or as commercial photographers.
3. Work at management level positions in the applied design field.
4. Integrate conventional illustrations with high tech digital illustrations.
5. Demonstrate mastery of computer software, such as Adobe Photoshop, Illustrator, InDesign, Lightroom, Dreamweaver, and Flash.
6. Manipulate, retouch, and alter photographic images for commercial applications.
7. Prepare layouts for newsletters, brochures, magazines, and newspapers.

Students having completed the Music Education Program will:

1. Demonstrate suitable skills and knowledge in music pedagogy, applied music, and related subject areas.
2. Demonstrate appropriate skills necessary for the teaching of music (general/choral or instrumental) in elementary, middle and secondary schools for pupils with varying learning abilities.
3. Develop evaluation instruments and assess musical performances.
4. Develop and implement classroom management procedures that contribute to a desirable learning environment.
5. Demonstrate skill in oral and written communication in music, as well as in other academic areas.

Students having completed the Jazz and Popular Music program will be able to demonstrate the following:

1. Competency in basic fundamentals and advanced concepts of music theory.
2. Professional-level performance, composition, and arranging skills.
3. Practical knowledge of basic business skills and standard procedures for studio work/concert productions, and the basic skills to work with other musicians in a professional situation.
4. Understanding of the cultural and social relationships between jazz/popular music and the societies in which they existed as well as familiarization with the historical context of jazz, popular music, and traditional western art music.
5. Appropriate communication skills, including common lingo used in jazz and popular music.

## DEGREES OFFERED

Bachelor of Arts - Art Education
Bachelor of Arts - Applied Design
Bachelor of Arts - Music Education
Bachelor of Arts - Jazz and Popular Music

## GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate programs in the Department of Fine Arts is based upon the general admission requirements of the University. *Admission to the Jazz and Popular Music program includes an audition requirement.

## ART EDUCATION TEACHING DEPARTMENTAL REQUIREMENTS

This program leads to the Bachelor of Arts degree in Art Education with specific preparation for teaching Art in elementary and secondary schools. Students who complete the program will be eligible for Pre-12 teaching certification. Students in this program must complete 126 semester hours of University courses. Included in the 125 semester hours are a minimum of 42 hours of Fine Arts core courses and 42 hours of Professional Education courses. A minimum GPA of 3.00 is required for all courses.

## CAREER OPPORTUNITIES

A degree in Fine Arts prepares Art and Music teachers for elementary and secondary schools; prepares students for professional careers in graphic illustration, commercial photography and sequential arts; and provides students a foundational development for graduate study.

## ART EDUCATION TEACHING <br> Program Requirements

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
One course from either
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: FOREIGN LANGUAGE
Languages: Chinese, French, Spanish, American Sign Language

Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES
Credits 7
Students must select two science courses and one science laboratory course from the following. ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 102 (Students testing into MATH 101 must take MATH 101 before MATH 102 or MATH 109)

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

## Curriculum Area VI - EMERGING ISSUES

Credits 7
ARTS 100 First Year Experience Course EXSC 111,
In addition, students must take 3 credits from approved liberal arts courses:
CRJS 101 Introduction to Criminal Justice
TMGT 306 Ecology and Cultural Tourism
Total Required for General Education

## Credits 41

${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

## REQUIRED MAJOR COURSES

EDCI 200 EDCI 440A EDSP 200B PSYC 305
EDCI 201 ${ }^{2}$ EDCI 450A PSYC 307
EDCI 311
EDCI 400
EDCI 406
EDCI 409
EDCI 410

## PHASE ONE

## GENERAL EDUCATION REQUIREMENTS

The student completes the general education requirements established by the University. These courses are usually taken during the first two years of enrollment. All students at UMES are expected to complete a common body of academic course work. Teacher education majors should consult their academic advisors and the UMES Course Catalog for the specific courses in their majors. TOTAL NUMBER OF SEMESTER HOURS REQUIRED: 4043 Hours.

## PHASE TWO

## PROFESSIONAL EDUCATION FOUNDATION

A series of core education courses and integrated clinical experiences are carefully designed to provide all education majors with a critical foundation of knowledge. This knowledge-base is an essential prerequisite to advanced study in the specialization phase. All education majors are required to complete this standardized core curriculum. Additional courses may be required by specific programs. A total of $\mathbf{1 5}$ credits is required. Students must also pass a criminal background check at this phase in the program and purchase the Unit's electronic assessment system. Professional Education courses in phases two, three, and four may be repeated only once.

| EDCI 200 | EDCI 201 $^{1}$ | EDSP 200 |
| :--- | :--- | :--- |
| PSYC 203 |  |  |
|  | PSYC 205 $^{\boldsymbol{5}}$ | PSYC 207 |

${ }^{1}$ Does not count toward graduation
${ }^{2}$ Or approved substitute course
${ }^{3}$ Special Education majors only
${ }^{4}$ Secondary Majors only
${ }^{5}$ Special Education and Specialty Education majors only

## PHASE THREE

MAJOR/SPECIALIZATION FOUNDATION - Only students who have formally advanced to Teacher Candidate status are eligible to enroll in the major/specialization phase. Standards have been established for advancement and are published by the Department of Education in the Teacher Education Handbook. Students are selectively admitted to this phase of the program. They must have a grade point average of $\mathbf{3 . 0 0}$ and passing PRAXIS I scores (or passing scores on other Maryland State approved tests) for program entry, in addition to meeting other requirements. Students must complete and submit a Teacher Education Application which can be obtained online or from the Department of Education.

In this phase of study, each student must complete the specific courses required in their major/specialization area. This third phase of study and preparation includes coursework and integrated field work in the student's major area of specialization or concentration. The courses which comprise the specialization phase organize and structure an indepth study of a content/specialty area. Prospective teachers are thoroughly trained in both the content area and effective instructional delivery. Once admitted to Teacher Education, teacher candidates must maintain a minimum overall grade point average of 3.00 as well as a minimum 3.00 grade point average in their major, with no grade of "D" or lower in the major or in education courses.

The curriculum in this phase of study is established jointly by the Department of Education and the respective academic department. The number of required semester hours in the specialization phase of the teacher education program will vary depending on the content area. A total of 18 semester hours is required in specialization courses for Specialty majors. A total of 39 semester hours is required for specialization courses for Special Education Majors. These requirements are listed in the Teacher Education Handbook.

# COMMON REQUIRED SPECIALIZATION COURSES FOR SPECIALTY1 (Except Special Education Majors) <br> EDCI $311 \quad$ EDCI $406 \quad$ EDCI 409 <br> EDCI $410 \quad$ EDCI 4XX EDSP 428 <br> Note: EDCI 306 is also required for Art, English, Music, and Social Studies. 

## COMMON REQUIRED SPECIALIZATION COURSES FOR SPECIAL EDUCATION MAJORS

A total of 39 semester hours is required for specialization courses for Special Education Majors. These requirements are listed in the Teacher Education Handbook.

| EDSP 401 | EDSP 402 | EDSP 403 | EDSP 404 | EDCI 306 |
| :--- | :--- | :--- | :--- | :--- |
| EDSP 414 | EDSP 416 | EDSP 422 | EDSP 426 |  |
| EDSP 428 | EDSP 430 | EDSP 431 | PSYC 406 |  |

## CLINICAL AND FIELD EXPERIENCES

The Department of Education requires a variety of clinical and field experiences during which students work in the field, including a full-time teaching internship. Students must be fully prepared to assume the responsibility associated with these experiences. The clinical and field experiences are a critical part of the teacher preparation programs. The Clinical and Field Experiences Handbook outlines all expectations and requirements. Students who wish to become teacher education majors will need to successfully complete a criminal background check prior to any field placements in a school setting.

## PHASE FOUR

TEACHING INTERNSHIP (SUPERVISED CLASSROOM TEACHING) - The internship is the culmination of the teacher education program. The Teaching Internship consists of two full-time placements in two (2) different classroom settings, in Professional Development Schools. Each setting exposes students to a different age group or level. Students will be assigned to the Teaching Internship based on program requirements and school system availability. In order to be eligible for admission to the Teaching Internship, students must meet the following requirements:

1) Minimum 3.00 overall grade point average. Any courses transferred into UMES will be counted as part of the cumulative grade point average.
2) Minimum 3.00 grade point average in major.
3) Successful completion of the PRAXIS II-Specialty Area Tests. Students must take and pass the PRAXIS II in their content area before being eligible for their Teaching Internship. Cut-off scores are determined by the Maryland State Department of Education. Registration for the PRAXIS II should be completed as early as possible, but no later than the semester before the Teaching Internship. Passing scores must be submitted to UMES from ETS before the internship begins.
4) All courses, with the exception of the Teaching Internship, and Senior Seminar must be completed (i.e., no incomplete grades).
5) Two recommendations from Teacher Education faculty.
6) Completion of the Application for Teaching Internship.
7) Interview with faculty that includes review of candidate's professional dispositions and cultural competencies.
8) The Department of Education is committed to providing a quality, supervised internship experience and to providing every student with rich and varied internship options. Every student in a degree-seeking program who is an Education major is assigned to an internship on a full-time basis. Students must provide their transportation to all internship and field experience sites. Each student must also attend a 3-4 day workshop in preparation for the internship.

## SPECIALTY EDUCATION

## Art/Music (PreK-12)

EDCI 450

[^76]
## CURRICULUM GUIDE FOR ART EDUCATION <br> (Grades PreK-12)

FRESHMAN YEAR

| First Semester | Credit | FRESHMAN YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | ENGL 102 | 3 |
| EXSC 111 | 3 | ENGL $001^{1}$ | 0 |
| ARTS 101 | 3 | ARTS 103 | 3 |
| ARTS 102 | 3 | ARTS107 | 3 |
| ARTS106 | 3 | MATH 102 | 3 |
| EDCI 100 | 1 | PSYC100 | 3 |
|  |  | EDCI 200 | 3 |
|  |  | EDCI $201^{3}$ | 1 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 203 | 3 | ENGL 310 | 3 |
| ARTS 121 | 3 | ARTS122 | 3 |
| BIOL 101 | 3 | ARTS 221 | 3 |
| BIOL 103 | 1 | ARTS241 | 3 |
| PSYC 205 | 3 | ARTS 212 | 3 |
| ARTS211 | 3 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ARTS 206 | 3 | ARTS 205 | 3 |
| ARTS 342 | 3 | ARTS 210 | 3 |
| GEN ED CURR AREA $I I^{4}$ | 3 | PSYC 207 | 3 |
| EDCI 306 | 3 | EDCI 406 | 3 |
| GEN ED CURR. AREA I ${ }^{5}$ | 3 | EDCI 409 | 3 |
|  |  | GEN ED CURR AREA IV | 3 |
|  | 15 |  | 18 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| EDSP 428 | 3 | EDCI 400 | 3 |
| EDCI 430 | 3 | EDCI 440A | 6 |
| GEN ED CURR AREA III | 3 | EDCI 450A | 6 |
| EDCI 410 | 3 |  |  |
| EDCI 311 | 3 |  | 15 |

## Total Credit Hours: 129

[^77]
## DEPARTMENTAL REQUIREMENTS <br> APPLIED DESIGN

The Applied Design Program accepts as its mission the role of providing learning experiences for students who wish to pursue careers in the applied design fields of graphic illustration, commercial photography, and sequential arts. The goal of this program is to offer an intensified curriculum in applied design that will enable students graduating from the program to think logically and creatively, and to function as practicing artists/crafts persons. Students in this program must complete 121 semester hours of University courses. Included in these 121 hours are 42 hours of required Foundation Courses and 38 hours of Fine Arts Core Courses. All students must earn a grade of C or higher in all ARTS Prerequisites. A student must earn a grade of C or higher in all ARTS courses to graduate.

## GRAPHIC ILLUSTRATION

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101², ARTS 310, MUSI 100, MUSI 101, MUSI 109
One course from either
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: FOREIGN LANGUAGE
Languages: Chinese, French, Spanish, American Sign Language
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100
SOCI 201

Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES
Credits 7
Students must select two science courses and one science laboratory course from the following. BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)

[^78]
## Curriculum Area IV - MATHEMATICS

MATH 102, if a student needs MATH 101, he/she must take before Math 102
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H; ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

## Curriculum Area VI - EMERGING ISSUES

ARTS 100 First Year Experience Course
EXSC 111
In addition, students must take 3 credits from approved liberal arts courses:
CRJS 101 Introduction to Criminal Justice
TMGT 306 Ecology and Cultural Tourism
HUEC 230 Multicultural Perspectives on Families in the U.S.
Total Required for General Education
FOUNDATION KNOWLEDGE

## Credits 41

ARTS 102 Drawing I 3
ARTS 103 Drawing II 3
ARTS 122 Sculpture I 3
ARTS 106 Design I 3
ARTS 107 Design II 3
ARTS 205 Printmaking I 3
ARTS 206 Photography I 3
ARTS 211 Art History I 3
ARTS 212 Art History II 3
ARTS 204 Drawing III 3
ARTS 241 Painting I 3
ARTS 342 Painting II 3
ECON 201 Principles of Economics 3
BUAD 132 Introduction to Business 3
MAJOR REQUIREMENTS
Credits 38
ARTS 313 Foundations of Visual Computing 3
ARTS 314 Advanced Visual Computing 3
ARTS 319 Representational Painting 3
ARTS 320 Advanced Representational Painting 3
ARTS 321 Water Based Media 3
ARTS 322 Illustration I 3
ARTS 323 Illustration II 3
ARTS 340 Anatomy for Artists 3
ARTS 411 Digital Photography 3
$\begin{array}{llll}\text { ARTS } & 412^{2} & \text { Digital Photography II or } & 3 \\ \text { ARTS } & 330^{2} & \text { Sequential Arts I } & 3\end{array}$
ARTS 420 Illustration III 3
ARTS 451 Senior Seminar 3
ARTS 498J Internship: Illustration 2

## Total Credit Hours - 121

[^79]
## CURRICULUM GUIDE FOR APPLIED DESIGN GRAPHIC ILLUSTRATION

FRESHMAN YEAR

|  | FRESHMAN YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| ENGL 101 | 3 | ENGL 102 | 3 |
| EXSC 111 | 3 | ENGL 001 $1^{1}$ | 0 |
| ARTS 100 | 1 | ARTS 103 | 3 |
| ARTS 102 | 3 | ARTS107 | 3 |
| ARTS 101 | 3 | ARTS 211 | 3 |
| ARTS 106 | 3 | MATH 102 | 3 |
|  | 16 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ARTS 212 | 3 | ARTS 122 | 3 |
| ARTS 204 | 3 | ARTS 241 | 3 |
| BUAD 132 | 3 | ARTS 205 | 3 |
| ECON 201 | 3 | ARTS 206 | 3 |
| ENGL 203 | 3 | GEN ED CURR AREA I | 3 |
|  | 15 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 101 | 3 | GEN ED CURR AREA II ${ }^{2}$ | 3 |
| BIOL 103 | 1 | GEN ED CURR AREA II ${ }^{3}$ | 3 |
| ARTS 321 | 3 | ARTS 323 | 3 |
| ARTS 342 | 3 | ARTS 319 | 3 |
| ARTS 313 | 3 | ARTS 314 | 3 |
| ARTS 322 | 3 |  | 15 |
|  | 16 |  |  |
|  |  | Sredit |  |
| SRTS 498 J | 2 |  |  |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| GEN ED CURR AREA III | 3 | ARTS 340 | 3 |
| ARTS 420 | 3 | ARTS 451 | 3 |
| ENGL 305 or |  | GEN ED CURR AREA VI | 3 |
| ENGL 310 | 3 | ARTS 412 or |  |
| ARTS 320 | 3 | ARTS 330 | 3 |
| ARTS 411 | 3 |  | 12 |

Total Credit Hours: 121

[^80]
## COMMERCIAL PHOTOGRAPHY <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base, which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 310, MUSI 100, MUSI 101, MUSI 109
One course from either
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: FOREIGN LANGUAGE
Languages: Chinese, French, Spanish, American Sign Language
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES <br> Credits 7

Students must select two science courses and one science laboratory course from the following.
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
Curriculum Area IV - MATHEMATICS
MATH 102, if a student needs MATH 101, he/she must take before Math 102

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

[^81]Curriculum Area VI - EMERGING ISSUESCredits 7ARTS 100 First Year Experience Course
EXSC 111
In addition, students must take 3 credits from approved liberal arts courses:
HUEC 230- Multicultural Perspectives on Families in the U.S.
CRJS 101 Introduction to Criminal JusticeTMGT 306 Ecology and Cultural Tourism
ENGL 215 Introduction to Film
Total Required for General Education Credits 41
FOUNDATION KNOWLEDGE
ARTS 101 Exploration of Visual Arts ..... 3Credits 45
ARTS 102 Drawing I ..... 3
ARTS 103 Drawing II ..... 3
ARTS 122 Sculpture I ..... 3
ARTS 106 Design I
ARTS 107 Design II ..... 3
ARTS 205 Printmaking I ..... 3
ARTS 206 Photography I ..... 3
ARTS 207 Design of Photography ..... 3
ARTS 211 Art History I ..... 3
ARTS 212 Art History II ..... 3
ARTS 309 Photography II ..... 3
ARTS 241 Painting I ..... 3
ECON 201 Principles of Macroeconomics ..... 3
BUAD 132 Introduction to Business3
MAJOR REQUIREMENTS
Credits 35
ARTS 311 Photography III ..... 3
ARTS 312 Photography IV 3
ARTS 313 Foundations of Visual Computing ..... 3
ARTS 314 Advanced Visual Computing ..... 3
TELC 333 Principles of Photo Journalism ..... 3
ARTS 410 Studio Photography ..... 3
ARTS 411 Digital Photography ..... 3
ARTS 412 Digital Photography II ..... 3
ARTS 499K Independent Study in Photography ..... 3
ARTS 499K Independent Study in Photography ..... 3
ARTS 499K Independent Study in Photography ..... 3
ARTS 451 Senior Seminar ..... 3
ARTS 498J Internship: Illustration ..... 2
Total Credit - 121

## CURRICULUM GUIDE FOR APPLIED DESIGN COMMERCIAL PHOTOGRAPHY

|  | Fredit |  |  |
| :--- | :--- | :--- | :--- | | FRESHMAN YEAR |
| :--- |
| First Semester |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 101 | 3 | GEN ED CURR AREA II | 3 |
| BIOL 103 | 1 | GEN ED CURR AREA $I^{4}$ | 3 |
| ARTS 411 | 3 | ARTS 314 | 3 |
| ARTS 313 | 3 | ARTS 311 | 3 |
| ENGL 203 | 3 | ARTS 499K ${ }^{6}$ | 3 |
| ARTS 499K |  |  | 15 |

SUMMER SEMESTER

|  | Credit |
| :--- | :--- |
| ARTS 498K | 2 |
| 2 |  |

## SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ARTS 410 | 3 | ARTS 412 | 3 |
| ARTS 312 | 3 | ARTS 451 | 3 |
| ENGL 305 or |  | GEN CURR AREA VI | 3 |
| ENGL 310 | 3 | TELC 333 | 3 |
| GEN ED CURR AREA III | 3 |  |  |
| ARTS 499K ${ }^{6}$ | 3 |  | 12 |

## Total Credit Hours: 121

[^82]
## APPLIED DESIGN SEQUENTIAL ARTS Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base, which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS $101^{2}$, ARTS 310, MUSI 100, MUSI 101, MUSI 109
One course from either
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: FOREIGN LANGUAGE
Languages: Chinese, French, Spanish, American Sign Language
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

## Credits 7

Students must select two science courses and one science laboratory course from the following.
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
Curriculum Area IV - MATHEMATICS
MATH 102, if a student needs MATH 101, he/she must take before Math 102

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

[^83]Curriculum Area VI - EMERGING ISSUES ..... Credits 7
ARTS 100 First Year Experience Course
EXSC 111
In addition, students must take 3 credits from approved liberal arts courses:
CRIS 101 - Introduction to Criminal Justice
TMGT 306 Ecology and Cultural Tourism
Total Required for General Education
Credits 41
FOUNDATION KNOWLEDGE ..... Credits 45
ARTS 102 Drawing I ..... 3
ARTS 103 Drawing II ..... 3
ARTS 122 Sculpture I ..... 3
ARTS 106 Design I ..... 3
ARTS 107 Design II ..... 3
ARTS 205 Printmaking I ..... 3
ARTS 206 Photography I ..... 3
ARTS 211 Art History I ..... 3
ARTS 212 Art History II ..... 3
ARTS 304 Drawing III ..... 3
ARTS 333 History of Sequential Arts ..... 3
ARTS 341 Painting I ..... 3
ARTS 342 Painting II ..... 3
ECON 201 Principles of Economics ..... 3
BUAD 132 Introduction to Business ..... 3
MAJOR REQUIREMENTS
Credits 35
ARTS 313 Foundations of Visual Computing ..... 3
ARTS 314 Advanced Visual Computing ..... 3
ARTS 319 Representational Painting ..... 3
ARTS 321 Water Based Media ..... 3
ARTS 330 Sequential Arts I ..... 3
ARTS 331 Sequential Arts II ..... 3
ARTS 332 Sequential Arts III ..... 3
ARTS 334 Elements of Cartooning ..... 3
ARTS 340 Anatomy for Artists ..... 3
ARTS 411 Digital Photography ..... 3
ARTS 451 Senior Seminar ..... 3
ARTS 498J Internship: Illustration ..... 2

Total Credits 121

[^84]
## CURRICULUM GUIDE FOR <br> APPLIED DESIGN SEQUENTIAL ARTS

|  |  | IAN YEAR |  |
| :---: | :---: | :---: | :---: |
| First Semester | Credit | Second Semester | Credit |
| ENGL 101 | 3 | ENGL 102 | 3 |
| EXSC 111 | 3 | ENGL 001 | 0 |
| ARTS 100 | 1 | ARTS 103 | 3 |
| ARTS 102 | 3 | ARTS-107 | 3 |
| ARTS 101 | 3 | MATH 102 | 3 |
| ARTS 106 | 3 | ARTS 211 | 3 |
|  | 16 |  | 15 |
|  |  | ORE YEAR |  |
| First Semester | Credit | Second Semester | Credit |
| ARTS 206 | 3 | ARTS 241 | 3 |
| ARTS 212 | 3 | ARTS 340 | 3 |
| BUAD 132 | 3 | ARTS 122 | 3 |
| ECON 201 | 3 | ARTS 205 | 3 |
| ARTS 204 | 3 | GEN ED CURR AREA I ${ }^{2}$ | 3 |
|  | 15 |  | 15 |
|  |  | R YEAR |  |
| First Semester | Credit | Second Semester | Credit |
| BIOL 101 | 3 | GEN CURR AREA II ${ }^{3}$ | 3 |
| BIOL 103 | 1 | ARTS 331 | 3 |
| ARTS 333 | 3 | ARTS 314 | 3 |
| ARTS 330 | 3 | ARTS 319 | 3 |
| ARTS 313 | 3 | ENGL 203 | 3 |
| ARTS 342 | 3 |  |  |
|  | 16 |  | 15 |
|  |  | SEMESTER |  |
|  | Credit |  |  |
| ARTS 498Q ${ }^{4}$ | 2 |  |  |
|  | 2 |  |  |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ARTS 321 | 3 | ARTS 344 | 3 |
| ARTS 332 | 3 | ARTS 451 | 3 |
| ENGL 305 or |  | GEN ED CURR AREA III | 3 |
| ENGL 310 | 3 | GEN ED CURR AREA VI | 3 |
| GEN ED CURR AREA II $^{5}$ | 3 |  |  |
| ARTS 411 | 3 |  | 12 |

Total Credit Hours: 121

[^85]
## MUSIC EDUCATION PROGRAM

The Music Education Program accepts as its mission the role of providing learning experiences for students who wish to pursue careers in elementary and secondary music education, providing performance opportunities through applied music study, providing performance opportunities through ensemble participation, providing foundational development for graduate study, and providing instruction for students who do not desire music as a career but wish to develop skills and knowledge of music as an avocation. The program also provides opportunities for students and members of the non-University community to experience a better quality of life through music exposure and study. Concerts, lectures, seminars, and workshops are presented to meet this aspect of our mission. Piano proficiency and musical achievement tests may be administered to freshmen and new students who elect the Music Education program. These tests are administered at designated periods prior to registration for each semester. Test results are used to counsel students in music course selection and aid them in pursuing a curriculum suitable to their abilities, talents and potential for success.

## DEPARTMENTAL REQUIREMENTS

Students who are accepted as majors in Music Education must select a major applied instrument, with the approval of the appropriate applied music instructor and coordinator of the Music Program. Students who elect an orchestral or band instrument must fulfill the six-semester requirement in an instrument al large ensemble such as Concert Band or Jazz Band. Students who elect piano or voice for their major applied concentration must fulfill the six semester requirement in Concert Choir though piano majors may fulfill the requirement in an instrumental ensemble. Music Education majors are expected to perform in recitals twice each semester.

Students in this program must complete 132 semester hours of University courses. Included in these 132 hours are 43 hours of required core Music courses and 48 hours of Professional Education courses. All students must maintain a grade of C or higher in all MUSI prerequisite courses. Students must maintain a grade of C or higher in all MUSI courses to graduate.

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base, which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
One course from either
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: FOREIGN LANGUAGE
Languages: French, Spanish, American Sign Language
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select PSYC 100 and one course in Discipline A.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202

POLI 200 or POLI 200H; POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must select two science courses and one science laboratory course from the following. BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab), CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)

## Curriculum Area IV - MATHEMATICS

## Credits 3

MATH 102, if a student needs MATH 101, he/she must take before Math 102

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

## Curriculum Area VI - EMERGING ISSUES

## Credits 7

EDCI 100 First Year Experience Course
In addition, students must take 6 credits from foreign language or approved international liberal arts courses:

| EXSC 111 | Personal Health and Fitness |
| :--- | :--- |
| CRJS 101 | Introduction to Criminal Justice |
| TMGT 306 | Ecology and Cultural Tourism |

## Total Required for General Education

## Credits 41

${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

## FOUNDATION KNOWLEDGE

## Credits 44

MUSI 102 Music Theory and Application I 4
MUSI 103 Music Theory and Application II 4
MUSI 104 Woodwind Methods 1
MUSI 105 Percussion Methods 1
MUSI 106 String Methods 1
MUSI 107 Brass Methods 1
MUSI 108 Voice Methods 1
MUSI 111 Major Applied with Selected Topics 1
MUSI 112 Major Applied with Selected Topics 1
MUSI $113^{1}$ or Concert Band ( 6 semesters @ 1 credit ea.) 6 or
MUSI $114^{1}$ or Jazz Band ( 6 semesters @ 1 credit ea.) 6 or
MUSI $116^{1}$ Concert Choir (6 semesters @ 1 credit ea.) 6
MUSI 201 Harmony 3
MUSI 203 Form and Analysis 3
MUSI 205 Piano Class I 1
MUSI 206 Piano Class II 1

[^86]MUSI 211 Major Applied with Selected Topics 1
MUSI 212 Major Applied with Selected Topics 1
MUSI 306 Instrumentation and Arranging 3
MUSI 308 Conducting 2
MUSI 309 Piano Class III 1
MUSI 310 Piano Class IV 1
MUSI 311 Major Applied with Selected Topics 1
MUSI 312 Major Applied with Selected Topics 1
MUSI 313 Music History and Literature I 2
MUSI 314 Music History and Literature II 2
PROFESSIONAL CORE COURSES
EDCI 200 Introduction to Contemporary Education 3
EDCI 201 ${ }^{2}$ PRAXIS Preparation (1)
EDCI 306 Integrating Technology into the Curriculum 3
EDCI 311 Comprehensive Assessment in Education 3
EDCI 400 Senior Seminar in Education 3
EDCI 406 Classroom Management 3
EDCI 409 Teaching Reading in the Content Areas: I 3
EDCI 410 Teaching Reading in the Content Areas: II 3
EDCI 421C Curriculum and Instruction in Music: Elementary Middle 3
EDCI $423 \mathrm{C}^{3}$ or Curr. and Instruction: Choral/General Secondary 3 or
EDCI 423D ${ }^{3}$ Curr. and Instruction: Instrumental Secondary 3
EDCI 440C Teaching Internship: Elementary 6
EDCI $450 \mathrm{C}^{4}$ or Teaching Internship: Choral - Secondary 6 or
EDCI $450 \mathrm{D}^{4}$ Teaching Internship: Instrumental - Secondary 6
EDSP 428 Communication and Collaboration in Special Ed 3
PSYC 205 Developmental Psychology 3
PSYC 207 Educational Psychology 3

[^87]
## CURRICULUM GUIDE FOR MUSIC EDUCATION <br> INSTRUMENTAL or CHORAL GENERAL <br> Grades PreK-12

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | PSYC 100 | 3 |
| EXCS $111^{2}$ | 3 | ENGL 102 | 3 |
| EDCI 100 | 1 | ENGL 001 | 0 |
| BIOL 101 | 3 | MATH 102 | 3 |
| MUSI 102 | 4 | BIOL 103 | 1 |
| MUSI 111 | 1 | MUSI 103 | 4 |
| MUSI 113, 114, or 116 | 1 | MUSI 112 | 1 |
| MUSI 205 | 1 | MUSI 113, 114, or 116 | 1 |
|  |  | MUSI 206 | 1 |


| First Semester | Credit | SOPHOMORE YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| GEN ED CURR AREA VI | 3 | GEN ED CURR AREA III | 3 |
| ENGL 203 | 3 | PSYC 205 | 3 |
| EDCI 200 | 3 | MUSI 101 or 109 | 3 |
| EDCI 2013 | 1 | MUSI 107 | 1 |
| MUSI 105 | 1 | MUSI 108 | 1 |
| MUSI 201 | 3 | MUSI 203 | 2 |
| MUSI 309 | 1 | MUSI 310 | 1 |
| MUSI 211 | 1 | MUSI 212 | 1 |
| MUSI 113,114 or 116 | 1 | MUSI 113, 114, or 116 | 1 |
|  | 17 |  | 16 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or |  | GEN ED CURR AREA II | 3 |
| ENGL 310 | 3 | EDCI 409 | 3 |
| PSYC 207 | 3 | EDCI 406 | 3 |
| EDCI 306 | 3 | EDCI 421C | 3 |
| MUSI 104 | 1 | MUSI 106 | 1 |
| MUSI 306 | 3 | MUSI 314 | 2 |
| MUSI 313 | 2 | MUSI 312 | 1 |
| MUSI 311 | 1 | MUSI 113. 114 or 116 | 1 |
| MUSI 113, 114 or 116 | 1 |  | 17 |


| First Semester | Credit | SENIOR YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| GEN ED CURR AREA I | 3 | EDCI 400 | 3 |
| EDCI 410 | 3 | EDCI 440C | 6 |
| EDCI 423D | 3 | EDCI 450D | 6 |
| EDCI 311 | 3 |  |  |
| EDSP 428 | 3 |  | 15 |
| MUSI 308 | 2 |  |  |

## Total Credit Hours: 132

[^88]
## JAZZ AND POPULAR MUSIC STUDIES

The Jazz and Popular Music Studies Program prepares competent, professional musicians for careers in the many fields associated with jazz and popular music performance. Through intense performance and theoretical studies in a traditional liberal arts setting, students will develop skills, knowledge, and abilities through a curriculum that is based on an interdisciplinary setting, with a focus on practical performance applications in a diverse society. Graduates will have many choices of future endeavors, and will be prepared for immediate careers or graduate school in the fields of jazz and popular music performance, arranging, composing, teaching, and other areas. Admission to the program is by audition only; students must also be admitted to the University.

The Jazz and Popular Music program requires 122 credit hours for completion, which includes 41 credits in general education requirements, 75 credits for core music courses, and 6 credits in supporting areas.

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I Arts and Humanities

Credit 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
One course from either
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: FOREIGN LANGUAGE
Languages: Arabic, Chinese, French, Spanish, American Sign Language, Hindi, Russian, Discipline D: LITERATURE

ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credit 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202, POLI 200 or POLI 200H,
POLI 220H or POLI 342, SOCI 101 or SOCI 111H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credit 7
Students must select two science courses, one of which must be a laboratory course, from the following:

ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

| Curriculum Area VI - EMERGING ISSUES |  |
| :--- | :--- |
| MUSI 121 First Year Experience or other Departmenta |  |
| In addition, students must take 6 credits from foreign la |  |
| CRJS 101 | Introduction to Criminal Justice |
| MUSI 288 | World Music |
| TMGT 306 | Ecology and Cultural Tourism |

Curriculum Area VI - EMERGING ISSUES

## Credit 7

MUSI 121 First Year Experience or other Departmental orientation course
In addition, students must take 6 credits from foreign language or approved international liberal arts courses:
CRJS 101 Introduction to Criminal Justice
TMGT 306 Ecology and Cultural Tourism
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

## REQUIRED CORE MUSIC COURSES

| MUSI 102 | MUSI 201 | MUSI 218 | MUSI 308 | MUSI 405 |
| :--- | :---: | :--- | :--- | :--- |
| MUSI 103 | MUSI 203 | MUSI 231 | MUSI 312 | MUSI 407 |
| MUSI 111 | MUSI 205 | MUSI 232 | MUSI 313 | MUSI 411 |
| MUSI 112 | MUSI 206 | MUSI 302 | MUSI 314 |  |
| MUSI 113, 114,MUSI 211 <br> or 116 <br> MUSI 121 | MUSI 212 | MUSI 306 | MUSI 321 |  |
|  |  | MUSI 307 | MUSI 403 |  |
|  |  | SUPPORTING COURSES |  |  |

BUAD 132
TELC 214
TELC 237

|  | CURRICULUM GUIDE FOR JAZZ/POPULAR MUSIC STUDIES <br> FRESHMAN YEAR |  |  |
| :--- | :--- | :--- | :--- |
| Fall Semester | Credits | Spring Semester | Credits |


|  | SENIOR YEAR |  |  |
| :--- | :--- | :--- | :--- |
| Fall Semester | Credits | Spring Semester Credits |  |

[^89]
## DIRECTORY OF FACULTY

## Brame, David, Associate Professor

B.F.A. Columbus College of Art \& Design, M.F.A. The University of Cincinnati College of Design, Art, Architecture and Planning

Butler, Isrea, Associate Professor
B.M. and M.M., Eastman School of Music; D.M.A., Rutgers University

## Dean, Brian, Assistant Professor

B.A., Central Washington University; M.M. Jazz Pedagogy, University of Miami; D.M.A., University of Colorado

## Demanche, Michel, Professor

B.F.A., University of Texas at Arlington; M.F.A., North Texas State University

Harleston, Sheila, Associate Professor
B.S. and M.M., Norfolk State University; Ed.D., Wilmington University

## Harrington, Christopher, Chair \& Associate Professor

B.A, Binghamton University; M.A. and Ed.M., Teachers College, Columbia University; M.F.A., Maryland Institute, College of Art

Holt, Susan, Lecturer, Director of Mosely Gallery
B.F.A. University of Michigan Ann Arbor, M.F.A. Vermont College of Fine Arts

Hudson, Bradley, Assistant Professor
B.A., University of Maryland, College Park; M.F.A., University of Maryland, College Park

Knier, Veronica, Instructor
B.F.A., University of Connecticut; M.M., University of Connecticut

Perez, Brian, Instructor
B.M., University of Minnesota; M.M., Miami University D.M.A. University of Maryland College Park

Schiff, Marcelle, Instructor
B.A., University of Delaware; M.M. Westminster Choir College - Rider University; D.M.A. Boston University

## DEPARTMENT OF SOCIAL SCIENCES

www.umes.edu/SAPS

## Dr. Joyce Bell, Chairperson

## MISSION

The mission of the Department of Social Sciences at the University of Maryland Eastern Shore, a Historically Black University, is to educate undergraduate and graduate students for the purpose of developing ethical leaders and global citizens who are informed about social phenomena. Our programs provide a learning environment that emphasizes awareness and appreciation of cultural diversity, critical thinking skills, and the development and application of research competencies.

## OBJECTIVES

The objectives of the Department of Social Sciences are to:

1. Encourage students to analyze the operation of their own and other societies.
2. Provide students with the scientific tools and cognitive skills to analyze societies.
3. Establish a forum within which students can learn to examine and evaluate, for themselves, the major social problems confronting their own and other societies.
4. Provide students with educational opportunities that will enable them to achieve their educational and career goals.

## GOALS

The goals of the Department of Social Sciences are:

- To stimulate in students the desire to analyze social problems of their own and other societies.
- To provide students with the scientific and imaginative skills by which such an analysis can be made
- To establish a forum within which students can learn to evaluate and examine for themselves the major dilemmas confronting their own and other societies
- To make opportunities available to students which will enable them to realize their career goals.


## OUTCOMES

The specific objectives of the Department of Social Sciences are to develop in each student:

- An understanding of the principles that influence human societies,
- The ability to think clearly, independently, and critically;
- The ability to do social research
- The foundations necessary for life-long learning and for careers in the service professions.


## DEGREES OFFERED

Bachelor of Arts - African American Studies
Bachelor of Arts - History
Bachelor of Arts - Social Studies Teacher Education: History
Bachelor of Arts - Sociology
Doctor of Philosophy ${ }^{1}$ - Organizational Leadership

[^90]
## GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate programs in the Department of Social Sciences is based upon the general admission requirements of the University.

## DEPARTMENTAL REQUIREMENTS

African American Studies - The major must complete 120 semester hours of University courses. Included in the 120 semester hours are a minimum of 21 hours of courses at the 100/200 level, 26 to 30 hours at the 300/400 level, and 12 to 16 hours at the 400 level. A minimum grade of "C" must be achieved in these courses.

History - The major must complete 120 semester hours of University courses. Included in the 120 semester hours are a minimum of 36 hours of courses in history. A minimum grade of " C " must be achieved in these courses. The student must maintain a 2.5 overall GPA and 2.5 in the history courses.

Social Studies - The major must complete 129 semester hours of University courses. Included in the 129 semester hours are a minimum of 34 hours of courses in professional development courses, 42 hours in social studies specialization courses, and 12 hours in the Teaching Internship. Students must be admitted into the Teacher Education Program which requires an overall grade point average of 2.75 and a passing score of the PRAXIS I test as set by the State of Maryland.

Sociology - The major must complete 120 semester hours of University courses. Included in the 120 semester hours are a minimum of 21 hours of required sociology courses and 15 hours of sociology electives. A minimum grade of "C" must be achieved in these courses. The student must maintain a 2.5 overall GPA and 2.5 in the sociology courses.

Sociology/Social Work-UMES (Sociology) and Salisbury University (Social Work) have established a DualDegree program through which students at UMES can earn a Bachelor of Arts in Social Work (B.A.S.W.) from SU and a Bachelor of Arts in Sociology from UMES. The program can be completed in 120 semester hours and is accredited by the Council on Social Work Education through Salisbury University. A minimum of grade of "C" must be achieved in all required Sociology (UMES) and Social Work (SU) courses. The student must maintain a 2.5 overall GPA and a 2.7 social work GPA. Included in the social work GPA is BIOL 101, BIOL 103, SOWK 200, SOWK 300, SOWK 302, MATH 102, PSYC 100, SOCI 101 and SOCI 222.

## CAREER OPPORTUNITIES

A degree in the fields of the social sciences prepares students to teach, to conduct social research, to go on to graduate programs and professional schools (such as law, social work, policy, and public administration), and to work in government, public policy, business, the non-profit sector and other areas where a strong background in the social sciences is needed.

## AFRICAN AMERICAN STUDIES

The African American Studies program is a four-year, multi-disciplinary, degree leading to the Bachelor of Arts (B.A.) in African American Studies. The major provides students with an objective of Africa and the African Diaspora in the United States. The program helps students gain an understanding of relevant historical, economic, social and political problems and possible resolutions.

## DEPARTMENTAL REQUIREMENTS

The African American Studies major must complete 120 semester hours of University courses. Included in the 120 semester hours are a minimum of 21 hours of courses at the 100/200 level, 26 to 30 hours at the 300/400 level, and 12 to 16 hours at the 400 level. A minimum grade of " C " must be achieved in these courses. ARTS, MUSI, HIST, POLI, ENGL, SOCI and CRJS courses must be related to the field of African American Studies. Majors should check with their advisor to be sure that their selection fulfills the requirement.

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
Students must select one course in each of two disciplines:
Discipline A: ARTS
ARTS 101, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
or
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
POLI 200 or POLI 200 H ,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101; HUEC 203, HUEC 220, HUEC 361; PSYC 100; SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must complete 7-8 credit hours from the following courses:
ANPT 114/114H, BIOL 101, BIOL 103, CHEM 101, CHEM 102, CHEM 103, CHEM 104, ENVS 101, NUDT 210, PLSC 184, PLSC 185, PHYS 121/121H, PHYS 122, PHYS 161, PHYS 182H, PHYS 263.

[^91]
## Curriculum Area IV - MATHEMATICS

## Credits 3

MATH 102 or higher: Students MUST pass the proficiency exam or MATH 101 with a grade of "C" before taking MATH 102.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credits 9

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online ${ }^{1}$

## Curriculum Area VI - EMERGING ISSUES

## Credits 7

Students must complete SOSC 100 and 6 credits of 100/200 level General Education courses from among the following disciplines: EDHE, BUED, ENGL, SOWK, HIST, SOCI, POLI, EDCI, EDSP, and PSYC.


SOCI 221 Research Methods in the Behavioral Sciences 3
SOCI 303 Social Inequalities 3
SOCI 331 American Minority Groups 3
SOCI 430 The African American Family 3
SOCI 450 Contribution of Afro-Americans 3
FREE ELECTIVES
Credits 16
Students must complete at least 16 credit hours of Free Electives as defined by the Academic Department. Priority should be given to fulfilling required course pre-requisites.

## CURRICULUM GUIDE FOR AFRICAN AMERICAN STUDIES ${ }^{1}$

## FRESHMAN YEAR

|  | Fredit |  | FRESHMAN YEAR |
| :--- | :--- | :--- | :--- |
| First Semester | Second Semester | Credit |  |
| GEN ED CURR AREA I | 3 | MATH 102 or Higher | 3 |
| GEN ED CURR AREA II | 3 | HIST 200A | 3 |
| ENGL 101 | 3 | GEN ED CURR AREA III ${ }^{3}$ | 4 |
| EXSC $111^{2}$ | 3 | GEN ED CURR AREA I | 3 |
| SOSC 100 | 1 | ENGL 102/H/Online | 3 |
| HIST 101 | 3 | ENGL $001^{4}$ | 0 |
|  | 16 |  | 16 |

## SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| GEN ED AREA IV | 3 | CRJS 101 | 3 |
| GEN ED CURR AREA III | 3 | ARTS 101 | 3 |
| SOCI 101 | 3 | HIST 100 or 200 level | 3 |
| PSYC 100 | 3 | POLI 100 or 200 level | 3 |
| ENGL 203 | 3 | SOCI 200 or 300 level | 3 |
|  | 15 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or 310 | 3 | HIST 300 or 400 Level | 3 |
| ARTS 310 | 3 | ENGL 300 or 400 Level | 3 |
| SOCI 331 | 3 | HIST 400 level | 3 |
| HIST 100 or 300 Level | 3 | POLI 342 | 3 |
| SOCI 221 | 3 | Free Elective | 3 |
|  | 15 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CRJS 300 or 400 Level | 3 | ART or MUSI |  |
| EDCI 300 or 400 Level | 3 | 300 or 400 level | 3 |
| HIST 400 level | 3 | HIST 400 level | 3 |
| SOCI 303 | 3 | HIST 400 level | 3 |
| Free Elective | 3 | Free Elective | 3 |
|  |  | Free Elective | $\underline{1}$ |
|  | 15 |  | 13 |

Total Credit Hours: 120

[^92]
## HISTORY

The History major offers students a detailed study of world civilizations with an emphasis on issues impacting our contemporary world. Students will develop critical skills needed to assess both primary and secondary sources to better understand the past.

## DEPARTMENTAL REQUIREMENTS

The major must complete 120 semester hours of University courses. Included in the 120 semester hours are a minimum of 36 hours of courses in history. In addition, 18 semester hours of the history major must be in 300 or 400 level history courses. A minimum grade of "C" must be achieved in these courses. The student must maintain a 2.5 overall GPA and 2.75 in history courses. Majors will also master research skills necessary to develop an historical argument or thesis. Students must complete 12 credit hours in a foreign language. Effective written communication is a significant emphasis.

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
Students must select one course in each of two disciplines:
Discipline A: ARTS
ARTS 101, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
or
Discipline B: HISTORY
ART 211

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101; HUEC 203, HUEC 220, HUEC 361; PSYC 100; SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must complete 7-8 credit hours from the following courses:
ANPT 114/114H, BIOL 101, BIOL 103, CHEM 101, CHEM 102, CHEM 103, CHEM 104, ENVS 101, NUDT
210, PLSC 184, PLSC 185, PHYS 121/121H, PHYS 122, PHYS 161, PHYS 182H, PHYS 263.

[^93]
## Curriculum Area IV - MATHEMATICS

## Credits 3

MATH 102 or higher: Students MUST pass the proficiency exam or MATH 101 with a grade of "C" before taking MATH 102.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online ${ }^{1}$

## Curriculum Area VI - EMERGING ISSUES

## Credits 7

Students must complete SOSC 100 and 6 credits of 100/200 level General Education courses from among the following disciplines: EDHE, BUED, ENGL, SOWK, HIST, SOCI, POLI, EDCI, EDSP, and PSYC.


[^94]
## Program Core II

Credits 18
History BA: Program Core II: Students must complete 18 additional credits of 300/400 level History courses earning at least a " C " in each course The following list of course provides options for students but is in no way a comprehensive list. Please see advisor in selecting courses.

| HIST | 333 | African American History I | 3 |
| :--- | :--- | :--- | :--- |
| HIST | 334 | African American History II | 3 |
| HIST | 350 | Contemporary World Issues | 3 |
| HIST | 351 | Latin America | 3 |
| HIST | 360 | Ancient African History | 3 |
| HIST | 361 | African History after 1800 | 3 |
| HIST | 405 | The Presidents of the United States - Seminar | 3 |
| HIST | 414 | Cross-Cultural Internship in Africa | 9 |
| HIST | 418 | Cross-Cultural Internship in Africa Seminar | 3 |
| HIST | 440 | East Asia from 1600 to the Present | 3 |
| HIST | 450 | Southeast Asia from 1600 to the Present | 3 |
| HIST | 460 | Russia: From 1600 to the Present | 3 |
| HIST | 498 | Independent study of History | 3 |
| HIST | 499 | Independent study of History | 3 |

History Major Support

## Credits 30

## Support I

## Credits 9

ART 212 Art History II 3
ENGL 218 Approaches to Grammar 3
ENGL 346 History of the English Language 3
Support II

## Credits 3

ECON 200 Principles of Economics (Micro) 3
ECON 201 Principles of Economics (Macro) 3
Support III
Credits 12
Students must complete 12 Credit hours in one foreign language
Support IV
Credit 6
Students must complete 6 credit hours of $\mathbf{3 0 0 / 4 0 0}$ level courses in: ARTS, MUSI, THAR, or ENGL.
History Free Electives
Students must complete at least 13 credit hours of Free Electives as defined by the Academic Department.

## CURRICULUM GUIDE FOR HISTORY

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| SOSC 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 ${ }^{1}$ | 0 |
| HIST 101 | 3 | ARTS 211 | 3 |
| ARTS 101 | 3 | MATH 102 or Higher | 3 |
| SOCI 101 | 3 | BUED 212 | 3 |
| GEN ED AREA III | 3 | HIST 102 | 3 |
|  | 16 |  | 15 |


|  | SOPHOMORE YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| ENGL 203 | 3 | FREN or SPAN | 3 |
| FREN or SPAN | 3 | ENGL 218 | 3 |
| HIST 201 | 3 | HIST 202 | 3 |
| GEN ED AREA III | 3 | GEN ED AREA II | 3 |
| GEN ED AREA III lab | 1 | GEN ED AREA IV | 3 |
| ECON 201 | 3 |  |  |
|  | 16 |  | 15 |

## JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or 310 | 3 | HIST 350 | 3 |
| HIST 221 | 3 | MUSI 300 or 400 Level or |  |
| FREN or SPAN | 3 | THAR 300 or 400 Level | 3 |
| ART 212 | 3 | HIST 300 or 400 Level | 3 |
| ENGL 346 | 3 | FREN or SPAN | 3 |
|  |  | Free Elective | 3 |
|  | 15 |  | 15 |

## SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| HIST 300 or 400 Level | 3 | HIST 300 or 400 Level | 3 |
| HIST 300 or 400 Level | 3 | HIST 300 or 400 Level | 3 |
| ARTS, MUSI, THAR |  | HIST 497 | 3 |
| 300 or 400 level | 3 | FREE Elective | 3 |
| Free Elective | 3 |  | $\underline{1}$ |
| Free Elective | 3 |  | 13 |
|  | 15 |  | 13 |

## Total Credit Hours: 120

[^95]
## SOCIAL STUDIES TEACHER EDUCATION

The Social Studies Education major must complete 128 semester hours of University courses. Included in the 128 semester hours are 41 hours in general education coursework, 33 hours in courses for the major, 9 hours in social studies support courses, and 45 hours in professional development, including 12 hours in the Teaching Internship. Students must be admitted to into the Teacher Education Program which requires an overall grade point average of 2.75 and a passing score on the PRAXIS I test as set by the State of Maryland.

## SOCIAL STUDIES TEACHER EDUCATION Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I ARTS AND HUMANITIES

9 Credits
Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
6 Credits
Students must select one course in each of Disciplines A and B.
Discipline A: SOCIAL SCIENCES
ECON 200 or ECON 201
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ; POLI 300 or 400 level
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES 7 Credits

Students must select two science courses and one science laboratory course from the following.
BIOL 101, BIOL 103 (lab)
ENVS 101

## Curriculum Area IV - MATHEMATICS

3 Credits
MATH 102 or MATH 109

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

9 Credits
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 305 or ENGL 310
Curriculum Area VI - EMERGING ISSUES
7 Credits
SOSC 100 First Year Experience Course
EXSC 111 Personalized Health Fitness
BUED 212

## Total Required for General Education

## 41 Credits

${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

## MAJOR REQUIREMENTS

HIST 202 American Civilization II

## 33 Credits

HIST 300/400 Level Course
HIST 300/400 Level Course 3
HIST 300/400 Level Course 3
HIST 300/400 Level Course 3
GEOG 201 World Geography I 3
GEOG 202 World Geography II 3
POLI 200 Intro to American Government 3
POLI 300/400 Level Course 3
SOCI 101 Intro to Sociology 3
SOCI 201 Social Problems 3
SOCI 221 Research Methods 3
SOCI 222 Statistical Methods 3
SOCIAL STUDIES SUPPORT COURSES 9 Credits
Students must complete the following three Social Science courses with a "C" average or better.
ECON 201 Principals of Economics 3
SOCI 221 Research Methods in Behavioral Science 3
SOCI 222 Statistical Methods in Behavioral Science 3
PROFESSIONAL COURSES
45 Credits
EDCI 200 Intro to Contemporary Education 3
EDCI 201 Praxis Preparation (credit does not count toward graduation) 1
EDCI 306 Integrating Technology into Curriculum 3
EDCI 311 Comprehensive Assessment in Education 3
EDCI 400 Senior Seminar 3
EDCI 406 Classroom Management 3
EDCI 409 Reading in the Content Area I 3
EDCI 410 Reading in the Content Area II 3
EDCI 425 e Curriculum \& Instructional Methods in Soc. Studies 3
EDSP 428 Communication and Collaboration in Special Ed. 3
EDCI 480 Teaching Internship: Middle School 6
EDCI 490 Teaching Internship: High School 6
PSYC 305 Human Growth and Development 3
PSYC 307 Educational Psychology 3

## CURRICULUM GUIDE FOR SOCIAL STUDIES <br> TEACHER EDUCATION

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | BIOL 101 | 3 |
| ENVS 101 | 3 | BIOL 103 | 1 |
| SOCI 101 | 3 | ENGL 102 | 3 |
| SOSC 100 | 1 | ENGL 001 | 0 |
| HIST 101 | 3 | HIST 102 | 3 |
| MATH 102 or Higher | 3 | PSYC 100 | 3 |
|  |  | SOCI 201 | 3 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ECON 201 | 3 | ECON 200 | 3 |
| EDCI 200 | 3 | EDCI $306^{4}$ or |  |
| EDCI 201 |  | 1 | Approved Course Substitute |
| ENGL 203 | 3 | EXSC $111^{3}$ | 3 |
| GEOG 201 | 3 | GEOG 202 | 3 |
| HIST 201 | 3 | HIST 202 | 3 |
| POLI 200 | 3 |  | 3 |
|  | 19 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305/H/ Online or |  | SOCI 222 | 3 |
| ENGL 310/H/Online | 3 | EDCI $406^{4}$ | 3 |
| PSYC 203 or |  | HIST 300 or 400 Level | 3 |
| PSYC 205 | 3 | EDCI $409^{4}$ | 3 |
| EDCI 410 | 3 | POLI 300 or 400 Level | 3 |
| HIST 300 or 400 Level | 3 | PSYC 207 | 3 |
| SOCI 221 | 3 |  | 18 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| EDCI $311^{4}$ | 3 | EDCI $400^{4}$ | 3 |
| EDCI $425 \mathrm{E}^{4}$ | 3 | EDCI $480^{4}$ | 6 |
| EDSP $428^{4}$ | 3 | EDCI $490^{4}$ | 6 |
| HIST 300 or 400 Level | 3 |  |  |
| HIST 300 or 400 Level | 3 |  | 15 |

## Total Credit Hours: 129

[^96]
## SOCIOLOGY <br> DEPARTMENTAL REQUIREMENTS

The Sociology major must complete 120 semester hours of University courses. Included in the 120 semester hours are a minimum of 21 hours of required sociology courses and 15 hours of sociology electives. Sociology majors must also complete six (6) additional hours in other Social Science areas (e.g., POLI, ECON, etc.). A minimum grade of "C" must be obtained in all major courses. Students must maintain a 2.5 overall GPA and 2.5 in sociology courses.

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General
Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I ARTS AND HUMANITIES

## Credit 9

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course in each of two disciplines:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
or
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credit 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 201/201H; ECON 200/ 200H; GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H, POLI 220H or POLI 342
Discipline B: BEHAVIORAL SCIENCES
CRJS 101; HUEC 203; HUEC 220 or PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

## Credit 7

Students must select 3 science courses one of which must be a 1 credit course (Laboratory) from the following: ANPT 114/114H; BIO 101; BIO 103; CHEM 101, CHEM 102; CHEM 103; ENVS 101, NUDT 210; PHYS 101, PLSC 184,

## Curriculum Area IV - MATHEMATICS

## Credit 3

MATH 102or higher:
Students MUST pass the proficiency exam or MATH 101 with a grade of "C" before taking MATH 102.

[^97]
## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credit 9

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

## Curriculum Area VI - EMERGING ISSUES

Credit 7
SOSC 100: First Year Experience Course
In addition, it is recommended that students take
EXSC 111 and BUED 212 or approved electives from the following disciplines:

| BUAD 213 | Business Software Application |
| :--- | :--- |
| TELC 214 | Introduction to Telecommunications |
| ENGL 218 | Approaches to Grammar |
| ENGL 215 | Introduction to Film |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |

## Total Required for General Education

## Credit 41

## SOCIOLOGY

## Sociology Program Core I

Credit 74

SOCI 101 Introductory to Sociology 3
SOCI 221 Research Methods in Behavioral Sciences 3
SOCI 222 Statistics Methods in Behavioral Sciences 3
SOCI 231 Theory I: Found. In Sociological theory 3
SOCI 232 Theory II: Contemporary Sociological Theory 3
SOCI 303 Social Inequalities 3
SOCI 431 Senior Seminar 3

## Program Core II

## Credit 9

Students must complete a minimum of 9 elective credits in sociology at the 300/400 level earning at least a "C" in each course. The following list of course provides options for students but is in no way a comprehensive list. Please see advisor in selecting courses.
SOCI 303 Social Inequality ..... 3
SOCI 313 Criminology and Penology ..... 3
$\begin{array}{lll}\text { SOCI } & 315 & \text { Urban Sociology }\end{array}$ ..... 3
SOCI 316 Marriage and Family life ..... 3
SOCI 318 Social Welfare Policy ..... 3
SOCI 320 Social Movement and Social Change ..... 3
SOCI 322 Population Studies: Demography ..... 3
SOCI 326 Social Psychology ..... 3
SOCI 329 Sociology of Medicine ..... 3
SOCI 331 American Minority Groups ..... 3
SOCI 334 Sociology of Mental Health ..... 3

[^98]SOCI 340 Small Group Analysis ..... 3
SOCI 344 Social Organization ..... 3
SOCI 361 Social Gerontology ..... 3
SOCI 370 Sociology of Education ..... 3
SOCI 388 Special Topics in the Social Sciences ..... 3
SOCI 388A Experimental Course: Medical Sociology ..... 3
SOCI 488 Organizational Leadership ..... 3
SOCI 490 Sociological Internship ..... 3
SOCI 498 Independent Study ..... 3
SOCI 499 Independent study ..... 3

## Program Core III

## Credit 6

Students must complete 6 credits of sociology elective courses with a grade of "C" or better in each of these courses. The following list of courses provides options for students but is in no way a comprehensive list. Please see advisor in selecting courses.

| SOCI | 201 | Social Problem | 3 |
| :--- | :--- | :--- | :--- |
| SOCI | 202 | Social Deviance and Social Control | 3 |
| SOCI | 250 | Juvenile Delinquency | 3 |

Sociology Major Support
Credit 6
Students must complete two social science courses with a "C" average or better. They may choose courses from the following:
CRJS; ECON; GEOG; HIST; PHIL; POLI; SOCI; SOWK

## Sociology Free Electives

## Credit 37

Students must take 37 credit hours of free electives. These courses may also be applied towards the completion of a minor field. If student is not completing a minor it is strongly recommended that students take courses in sociology, criminal justice; political sciences; philosophy and history that will contribute significantly in increasing their knowledge of their major. Suggested courses are: SOCI 490, 498, and 499.

## CURRICULUM GUIDE FOR SOCIOLOGY

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| SOSC 100 | 1 | BIOL 101 | 3 |
| SOCI 101 | 3 | BIOL 103 | 1 |
| PSYC 100 | 3 | ENGL 102 | 3 |
| GEN ED CURR AREA I ${ }^{1}$ | 3 | ENGL 001 ${ }^{3}$ | 0 |
| GEN ED CURR AREA II ${ }^{2}$ | 3 | MATH 102 | 3 |
| ENGL 101 | 3 | GEN ED CURR AREA I ${ }^{4}$ | 3 |
|  |  | EXSC 1115 | 3 |
|  | 16 |  | 16 |
|  |  | SOPHOMORE YEAR |  |
| First Semester | Credit | Second Semester | Credit |
| HIST 101 | 3 | SOCI 200 Level | 3 |
| ENGL 203 | 3 | SOCI 222 | 3 |
| ENVS 101 | 3 | SOCI 232 | 3 |
| SOCI 221 | 3 | BUED 212 | 3 |
| SOCI 231 | 3 | Free Elective | 3 |
|  |  |  | 15 |

## JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or 310 | 3 | SOCI 300 or 400 Level | 3 |
| ECON 201 | 3 | SOCI 300 or 400 Level | 3 |
| SOCI 303 | 3 | CRJS 101 | 3 |
| SOCI 300 or 400 Level | 3 | SOCI Free Elective | 3 |
| SOCI Free Elective | $\underline{3}$ | SOCI Free Elective | $\underline{3}$ |
|  | 15 |  | 15 |

## SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| SOCI 300 or 400 Level | 3 | SOCI 431 | 3 |
| SOCI FREE Elective | 3 | SOCI Free Elective | 3 |
| SOCI FREE Elective | 3 | SOCI FREE Elective | 3 |
| SOCI FREE Elective | 3 | SOCI FREE Elective | 3 |
| SOCI FREE Elective | $\underline{3}$ | SOCI FREE Elective | $\underline{1}$ |
|  | 15 |  | 13 |

## Total Credit Hours: 120

[^99]
## SOCIOLOGY/SOCIAL WORK

The Dual Degree Program in Sociology (UMES) and Social Work (SU) has as its objective to prepare graduates for entry level professional social work positions, state social work licensure, and graduate education in social work. The program is made possible through the shared resources of the University of Maryland Eastern Shore (UMES) and Salisbury University (SU). UMES students can earn a Bachelor of Arts Degree in Social Work (BASW) from SU and a Bachelor of Arts Degree in Sociology from UMES. The program is accredited by the Council on Social Work Education through SU.

## DEPARTMENTAL REQUIREMENTS

The program can be completed in 120 credit hours. Included in the 120 semester hours are a minimum of $21^{2}$ hours of required sociology courses and 15 hours of sociology ${ }^{3}$ electives. A minimum grade of " C " must be achieved in these courses by the fall of the Junior Year. The student must maintain a 2.5 overall GPA, a 2.5 in the sociology courses and a 2.7 in social work courses. Majors must be in their second semester of the sophomore year and have junior standing, and have completed 56-60 hours or, if graduating at the end of the fall semester, 57 hours by the end of the sophomore year. Students should have completed the following courses:

BIOL 101 PSYC 100 SOCI 101 SOWK 200
BIOL 103 SOCI 221 SOWK 300
SOCI 222 SOWK 302

## ADMISSION PROCEDURES

To become a Social Work major is a three-step process. The first step occurs at the University level where a student may indicate "social work" as a desired major at the time of admission to the University as part of the admissions process, or by completing a "Change of Major" form and filing the form with the Office of the Registrar sometime after the initial admission and registration.

The second step occurs during the spring of the sophomore year. Students interested in the Dual Degree must first be admitted to SU. During the spring of the sophomore year, students complete an online Application for Admission to SU. The fee for the application is waived. Students will become dually enrolled in both UMES and SU.

The third step occurs at the Salisbury University departmental level during the fall of the junior year. All students are required to complete an Application to Major in Social Work which is reviewed by the Social Work Department Admission Committee.

In order to be accepted in the Social Work major, students must have a 2.5 overall GPA and a 2.7 Social Work GPA. The Social Work GPA will include the following courses; MATH $102^{1}$, BIOL 101, BIOL 103, PSYC 100, SOCI 101, SOCI 222, SOWK 200, SOWK 300 and SOWK 302.

## SOCIOLOGY/SOCIAL WORK <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credit 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
Students must select one course in each of two disciplines:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
or
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credit 6

Students must select one course in each of two disciplines.

## Discipline A: SOCIAL SCIENCES

ECON 201/201H; ECON 200/200H; GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H, POLI 220H or POLI 342; SOCI 201; 202
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credit 7
Students must select BIO 101 and BIO 103 and one science course which must be a 3 credit course, from the following:
ANPT 114/114H; CHEM 101, CHEM 102; ENVS 101, NUDT 210; PHYS 101, PLSC 184,

## Curriculum Area IV - MATHEMATICS

## Credit 3

MATH 102 or higher:
Students MUST pass the proficiency exam or MATH 101 with a grade of "C" before taking MATH 102.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credit 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

[^100]
## Curriculum Area VI - EMERGING ISSUES

Credit 7
SOSC 100: First Year Experience Course
In addition, it is recommended that students take EXSC 111 and BUED 212 or approved electives from the following disciplines:

| BUAD 213 | Business Software Application |
| :--- | :--- |
| TELC 214 | Introduction to Telecommunications |
| ENGL 218 | Approaches to Grammar |
| ENGL 215 | Introduction to Film |
| HIST 150 | History of Philosophy |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |
| SOCI 201 | Social Problems |

## Total Required for General Education

## Credit 41

## Sociology/Social Work BA

## Credit 74

| Sociology Program Core Requirements |  |  | Credit 21 |
| :--- | :--- | :--- | :--- |
| SOCI | 101 | Introductory to Sociology | 3 |
| SOCI | 221 | Research Methods in Behavioral Sciences | 3 |
| SOCI | 222 | Statistics Methods in Behavioral Sciences | 3 |
| SOCI | 231 | Theory I: Found. In Sociological theory | 3 |
| SOCI | 232 | Theory II: Contemporary Sociological Theory | 3 |
| SOCI | 303 | Social Inequalities | 3 |
| SOCI | 431 | Senior Seminar | 3 |

## Program Core Elective

## Credit 12

Students must take at least 3 SOCI courses at the 300/400 level. The following list of courses provides options for students but is in no way a comprehensive list. Please see your advisor when selecting courses.

| SOCI | 303 | Social Inequality | 3 |
| :--- | :--- | :--- | :--- |
| SOCI | 313 | Criminology and Penology | 3 |
| SOCI | 315 | Urban Sociology | 3 |
| SOCI | 316 | Marriage and Family Life | 3 |
| SOCI | 318 | Social Welfare Policy | 3 |
| SOCI | 320 | Social Movement and Social Change | 3 |
| SOCI | 322 | Population Studies: Demography | 3 |
| SOCI | 326 | Social Psychology | 3 |
| SOCI | 329 | Sociology of Medicine | 3 |
| SOCI | 331 | American Minority Groups | 3 |
| SOCI | 334 | Sociology of Mental Health | 3 |
| SOCI | 340 | Small Group Analysis | 3 |
| SOCI | 344 | Social Organization | 3 |
| SOCI | 361 | Social Gerontology | 3 |
| SOCI | 370 | Sociology of Education | 3 |
| SOCI | 388 | Special Topics in the Social Sciences | 3 |
| SOCI | 388 A | Experimental Course: Medical Sociology | 3 |
| SOCI | 488 | Organizational Leadership | 3 |
| SOCI | 490 | Sociological Internship | 3 |

SOCI 498 Independent Study ..... 3
SOCI 499 Independent Study ..... 3
SOCI 201 Social Problem ..... 3
SOCI 202 Social Deviance and Social Control ..... 3
SOCI 250 Juvenile Delinquency ..... 3
Social Work Core I
SOWK 200 Introductory to Social Work ..... 3Credit 32
SOWK 300 Human Behavior I
SOWK 302 Human Behavior II ..... 3 ..... 3
SOWK 305 Social Work Policy ..... 3
SOWK 310 Basic Interviewing Skills and Techniques ..... 3
SOWK 320 Social Work Practice I ..... 3
SOWK 400 Social Work Practice II ..... 3
SOWK 410 Social Work Practice III ..... 3
SOWK 420 Field Instruction and Seminar I ..... 4
SOWK 421 Field Instruction and Seminar II ..... 4

## Social Work Core II

## Credit 3

Students must complete 1 approved Social Work Elective courses from the following courses: SOWK 350, SOWK 450, SOWK 455, SOWK 460, SOWK 465, SOWK 470, SOWK 475, SOWK 484, SOWK 490, SOWK 499.

## Supportive Course Requirements

Credit 6
Student must complete two approved social science courses for a total of 6 credit hours.

## Free Electives

Credit 5
Students must complete 5 credits of free electives.

## CURRICULUM GUIDE FOR SOCIOLOGY/SOCIAL WORK

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| SOSC 100 | 1 | BIOL 101 | 3 |
| SOCI 101 | 3 | BIOL 103 | 1 |
| PSYC $100^{4}$ | 3 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 ${ }^{3}$ | 0 |
| GEN CURR AREA I | MATH 102 | 3 |  |
| EXSC 111 | 3 | GEN CURR AREA I | 3 |
|  | 3 | SOWK 200 | 3 |
|  |  |  | 16 |

## SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| HIST 101 | 3 | SOCI 200 Level | 3 |
| ENGL 203 | 3 | SOCI 222 | 3 |
| SOWK 300 | 3 | SOWK 302 | 3 |
| SOCI 221 | 3 | CRJS 101 | 3 |
| GEN ED AREA III ${ }^{5}$ | 3 | BUED 212 | 3 |
|  | 15 |  | 15 |

## JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 or 310 | 3 | SOCI 232 | 3 |
| SOCI 231 | 3 | SOWK Elective | 3 |
| SOWK 305 | 3 | SOCI 300 or 400 Level | 3 |
| SOCI 310 | 3 | SOWK 320 | 3 |
| SOCI 300 or 400 Level | $\underline{3}$ | SOCI 303 | $\underline{3}$ |
|  | 15 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| SOCI 300 or 400 Level | 3 | SOCI 431 | 3 |
| SOWK 400 | 3 | SOWK 410 | 3 |
| SOWK 420 | 4 | SOWK 421 | 4 |
| Social Science Support Course | 3 |  | $\underline{3}$ |
| Free Elective | $\underline{3}$ |  | 13 |

## Total Credit Hours: 120

[^101]
## DIRECTORY OF FACULTY

Alston Jr., David, Associate Professor
B.A., North Carolina Central University; M.R.P., University of North Carolina; Ph.D., North Carolina State University

## Barrett-Gaines, Katherine, Associate Professor

B.A., Fordham University; M.A., University of Maryland Baltimore County; M.A., Duke University; M.A., Stanford University; Ph.D., Stanford University

## Baughman, T.H., Professor

B.A., Stetson University; M.A., The Ohio State University; Ph.D., Florida State University

Bell, Joyce, Associate Professor; Coordinator of the Dual Degree Program; Chair
B.A., University of Maryland Eastern Shore; B.A.S.W., Salisbury University; M.S.W. University of Maryland Baltimore; Ph.D., Catholic University of America

Hopwood, Junior, Assistant Professor
B.S., University of the West Indies-Trinidad and Tobago; M.S., University of West Indies—Jamaica; Ph.D., Howard University

## Rebach, Howard, Professor

B.A., University of Maryland, College Park; M.A., University of Maryland, College Park; M.A. Salisbury University; M.S.W., University of Maryland at Baltimore; Ph.D., Michigan State University

## Wright, Joshua, Assistant Professor

B.A, Loyola College; M.A., George Washington University; Ph.D., Howard University

## The School of Business and Technology

The School of Business and Technology (SBT) is one of the five schools in the University of Maryland Eastern Shore (UMES) which is part of the University System of Maryland. The SBT is committed to providing excellent education and professional skills through updated curricula across the Departments and has one of the highest numbers of graduates at UMES each year. The faculty members within the SBT are actively engaged in funded research and educational projects, many of which involve undergraduate and graduate students. The SBT strives to be known as the "School of Choice" for those seeking a high-quality values-based education in alignment with our motto which is Producing Leaders with Values. At the SBT, we strongly embrace and value:

- Excellence: We encourage and develop excellence in our faculty, staff, students, and the educational programs we deliver;
- Integrity: We represent ourselves and our intentions to others truthfully, and every action we take reflects the highest ethical standards;
- Respect: We recognize that our colleagues, students, and external stakeholders are the cornerstone of our success and are committed to treating them with respect and dignity; and
- Teamwork: We know that to be successful we must work together; therefore, we encourage collaboration and build and nurture mutually beneficial relationships.

There are five academic departments in the SBT; they are: Department of Business, Management and Accounting; Department of Engineering and Aviation Sciences; Department of Hotel and Restaurant Management; Department of Mathematics and Computer Science; and Department of Technology; as well as one program - PGA Golf Management Program. Academic majors within the School include: accounting, business administration, finance, marketing, business education, construction management, computer science, mathematics, hotel and restaurant management, PGA Golf management, engineering (with specialization in aerospace, electrical, computer, and mechanical), aviation sciences, construction management technology, and technology education. Specific concentrations offered include:
professional pilot, aviation management, software engineering, culinary arts, tourism, electrical engineering technology and mechanical engineering technology. The accreditations for various programs in the School of Business and Technology include: AACSB International, ABET-Engineering, ACCE, ACPHA, NCATE and PGA of America.

We have a talented and diverse group of faculty members who hold impressive academic credentials and have strong industry background including former managers and executives of various Fortune 500 companies. All members of our faculty are at the cutting edge of their fields and being held at the highest standards in terms of instruction and research. Research conducted within the Department of Engineering and Aviation Sciences focus on the close interaction of human and technology, addressing diverse areas ranging from radar, communications, structural health monitoring, and unmanned aerial systems for precision agriculture to on-chip optical interconnected computer architecture. Conducting high-impact research is fundamental to all members of our faculty. Our faculty members are grant recipients and regular contributors, editors, referees of reputable peer-reviewed journals in the fields of finance, accounting, business administration, management, marketing, economics, and business education. Research studies produced by our faculty are actively sought by industry, media outlets and the professions.

## Department of Business, Management and Accounting

www.umes.edu/bma

Dr. Vichet Sum, Interim Chairperson

## MISSION

The mission of the Department of Business, Management and Accounting at the University of Maryland Eastern Shore is to deliver high quality management education to students majoring in Accounting, Business Administration, Business Education, Finance, and Marketing, as well as to provide core management courses to other majors throughout the University. The mission is accomplished primarily through instruction, supported by instructional development, applied research, and service. The focus is on breadth in curricula that facilitates employment and professional career development in the private, public, and not-for-profit sectors of a global economy. In addition, the Department's curricula are designed to enhance students' awareness of the moral and ethical issues confronting organizations. The role of technology in the decision-making process is emphasized by the integration of computer concepts and applications throughout the curricula. The Department's diverse, multicultural student body is assisted in the development of high-level intellectual, interpersonal, technical, and communication skills. The Department is committed to being a regional leader in the preparation of students for viable careers in the 21st Century.

## OBJECTIVES

The objectives of the programs offered in the Department of Business, Management and Accounting are to:

1. Stimulate the intellectual curiosity of students and faculty as they discover new knowledge;
2. Enhance the students' problem solving and critical thinking skills;
3. Sponsor activities that enhance students' professional and social development;
4. Promote an understanding of the economic, ethical, and legal environment in which we live and businesses operate;
5. Provide practical management learning experiences through internship and/or cooperative programs;
6. Foster an awareness of ethical and global issues facing decision makers;
7. Prepare students for careers in professional accounting and managerial positions;
8. Prepare secondary school teachers in the area of business education;
9. Meet the standards of such external bodies as the AACSB, AICPA, The Maryland State Board of Accountancy, and The Maryland State Department of Education, NCATE, and the Middle States Commission on Higher Education;
10. Prepare students for graduate study.

## DEGREES OFFERED

Bachelor of Science - Accounting
Bachelor of Science - Business Administration
Bachelor of Science - Business Education
Bachelor of Science - Finance
Bachelor of Science - Marketing

## DESCRIPTION OF PROGRAMS

The programs offered in the Department of Business, Management and Accounting are grounded in the liberal arts. Nearly 50 percent of the curricula comprise general education and other liberal arts courses necessary for the development of each student's cognitive skills. These programs prepare students for professional careers in accounting and managerial positions. Accounting students are encouraged to meet the 150 credit-hour and residency requirements to sit for the Uniform Certified Public Accountants' Examination in their respective states.

The Department is committed to program enhancement and has been accredited by the Association to Advance Collegiate Schools of Business - International (AACSB). The Business Education major is the only accredited program of its kind in the University System of Maryland. The program is designed to develop competencies among students to teach office administration, accounting, computer concepts and applications, and other business-related courses in secondary education.

## GENERAL PROGRAM REQUIREMENTS Overall Objectives

The overall objectives of the Departmental admission standards, effective from the Fall of 2001, are to promote high quality management education while maintaining high retention and graduation rates for students admitted to the programs offered in the Department of Business, Management and Accounting.

## Criteria

Students admitted to the University who choose to major in business will be admitted unconditionally to the Department of Business, Management, and Accounting if they have a combined SAT score of 950 or higher on the Math and Verbal sections, or a total of 1350 or higher on the three component scores.

Students from other programs in the University can apply to change their major to those in the Department of Business, Management and Accounting if:
a) They have earned 28 semester credit hours with a GPA of 2.5 or higher.
b) They have earned grades of "C" or higher in MATH 109, ENGL 101, and ENGL 102; and
c) They have passed the English Proficiency Examination.

All students must earn a grade of "C" or better in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major course requirements.

## Transfer Students

To major in the Department of Business, Management, and Accounting, students transferring to UMES must have a minimum GPA of 2.5 and be in good standing at their former institution(s). Transfer students with a GPA less than 2.5 will be considered for admission into the Department of Business, Management, and Accounting after earning 28 credits with a 2.5 GPA during the first year of study at UMES. Grades of "C" or better must be earned in MATH 109, ENGL 101, and ENGL 102, if not completed prior to transferring. Also, the English Proficiency Examination must be passed prior to admission to the Department.

## GENERAL RESTRICTIONS

1. Junior and senior level course requirements for a degree in the Department of Business, Management and Accounting cannot be satisfied through credit by examination, or other non-traditional methods.
2. At least 50 percent of the business credit hours required for degrees in the Department of Business, Management and Accounting must be earned at UMES.
3. There is no business concentration in the General Studies Program.
4. Repeat courses should be taken at UMES.

## GENERAL INFORMATION

## Professional Development

Professional development is an integral part of preparing to establish viable management/accounting careers in business, government, and nonprofit organizations. During their sophomore and junior years, students majoring in the Department must enroll in the 0.5 credit Professional Development courses. In addition, participation in departmentally sponsored activities and student organizations is required. Appropriate business attire is required for various functions. During the first semester of the freshman year, all students must acquire appropriate business attire. Guidance is provided by the Department.

## Student Organizations

The following are departmentally sponsored Student Organizations: UMES Student Chapter of the National Association of Black Accountants (NABA), Students in Free Enterprise (SIFE), National Student Business League (NSBL), Business Student Advisory Board (BSAB), the Student Chapter of the American Marketing Association (AMA), and Phi Beta Lambda.

## Honor Society

Beta Gamma Sigma is the international honor society serving business programs accredited by AACSB International - The Association to Advance Collegiate Schools of Business. Membership in Beta Gamma Sigma is the highest recognition a business student anywhere in the world can receive in a business program accredited by AACSB International. Candidates for baccalaureate degrees whose academic rank is in the upper 10 percent of their class may be inducted as follow: (1) Students in the next to last year of study (or its equivalent in course work) ranked among the upper 10 percent of their class may be inducted in the last term or semester (or its equivalent in course work) of that year. (2) Students in their final year who were not previously inducted may be inducted at any time during their final year (or its equivalent in course work) if their academic rank is in the upper 10 percent of their class.

## Communication Skills

Written and oral communication skills are extremely important. Standard English is required for all formal settings and submissions, such as classroom interactions, presentations, written assignments, etc.

## Practical Experience

All students majoring in Business Administration and Accounting are encouraged to acquire meaningful, practical experience in a business, government, or non-profit organization. This requirement can be met in a variety of ways, such as approved work experience, voluntary services, on-campus externship, and/or faculty directed consulting/research projects. No credit is earned for these experiences.

However, students desiring credit for an approved internship must submit for approval a job description and, subsequently, a performance appraisal letter from their supervisor. Following approval by the Department Chairperson (or his/her designee) and enrollment in BUAD 480, the student will write a reflective paper approximately 25 pages in length. The reflective paper should integrate classroom knowledge with practical experiences acquired during the internship. Keeping a daily $\log$ of internship activities/tasks is required.

## Teaching Internship

The Teaching Internship is the culmination of the Business Education Program. It consists of two (2) full-time placements in two (2) different classroom settings for a total of 15 weeks. The Internship Block includes the Teaching Internship and the Senior Seminar.

## DEPARTMENTAL REQUIREMENTS

Accounting - Accounting majors complete 120 hours of course work, of which 41 hours are general education, 6 are supporting liberal arts, and the remaining 73 are foundation knowledge and major requirement courses. A minimum grade of "C" must be earned in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major requirement courses.

Business Administration - Business Administration majors complete 120 hours of course work, of which 41 hours are general education courses, 6 credits are supporting liberal arts, and 73 credits are foundation knowledge and major subject requirements. A minimum grade of "C" must be earned in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major requirement courses.

Finance - Finance majors complete 120 hours of course work, of which 41 hours are general education courses, 6 credits are supporting liberal arts, and 73 credits are foundation knowledge and major subject requirements. A minimum grade of "C" must be earned in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major requirement courses.

Marketing - Marketing majors complete 120 hours of course work, of which 41 hours are general education courses, 6 credits are supporting liberal arts, and 73 credits are foundation knowledge and major subject requirements. A minimum grade of "C" must be earned in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major requirement courses.

Business Education - The Business Education major requires 41 credits of general education, 39.5 credits of foundation knowledge and major subject requirements, and 42-43 credits of Teacher Certification Requirements.

## ACCOUNTING

## DEPARTMENTAL REQUIREMENTS

Accounting majors complete 120 hours of course work, of which 41 hours are general education, 9 are supporting liberal arts, and the remaining 70 are foundation knowledge and major requirement courses. A minimum grade of "C" must be earned in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major requirement courses.

Students in the Honors program must select courses in the area of Honors Accounting.

## OBJECTIVES

The objectives of the Accounting Program are to:

- Provide students with an understanding of the concepts, structure and meaning of accounting and financial data with the ability to produce clear and concise financial reports.
- Provide students with an understanding of the process of identifying, gathering, measuring, summarizing, and analyzing financial data in business organizations.
- Provide students with an understanding of the concepts, methods and process of control that provides for accuracy and integrity of financial data and safeguarding of business assets.
- Provide students with an understanding of the nature of attest services and the conceptual and procedural bases for performing them.
- Provide students with an understanding of taxation and its impact on financial and managerial decisions.
- Provide students with the skills to enter graduate school and conduct research.


## CAREER OPPORTUNITIES FOR ACCOUNTING

The accounting program is designed for students who plan to pursue careers in Public Accounting, Corporate Accounting, Government or Not-For-Profit Accounting and related fields. It is also designed to prepare students for advanced study in Accounting and related fields.

## ACCOUNTING <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H; POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7

Students must select two science courses and one science laboratory course from the following.
ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 109; if a student needs MATH 101, he/she must take before Math 109;
MATH 110, MATH 111H, MATH 112.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 305/H/Online or ENGL 310/H/Online

[^102]
## Curriculum Area VI - EMERGING ISSUES

## Credits 7

BUED 100 First Year Experience Course
In addition, students must take 6 credits from foreign language or approved international liberal arts courses: Languages: Arabic, Chinese, French, Spanish, American Sign Language, Russian International Liberal Arts:

| ARTS 211/212 | Art History I or II |
| :--- | :--- |
| ENGL 317 | Shakespeare |
| ENGL 321/322 | English Literature 1/II |
| ENGL 324 | Literature and Film |
| ENGL 328/329 | World Literature I/II |
| ENGL 332 | The African Writer |
| ENGL 346 | History of English Language |
| ENGL 347 | Adolescent and Adult Literature |
| GEOG 201/201 | World Geography I/II |
| HIST 101 | World Civilization I |
| HIST 102 | World Civilization II |
| HIST 150 | History of Philosophy |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| HIST 350 | Contemporary World Issues |
| HIST 351 | Latin America |
| HIST 360 | Ancient African History |
| HIST 361 | African History after 1800 |
| MUSI 288 | World Music |
| MUSI 313/314 | Music History and Literature I/II |
| PHIL 201 | Logic |
| PHIL 202 | Ethics |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |
| SOCI 201 | Social Problems |
| SOCI 303 | Social Inequality |
| TMGT 306 | Ecology and Cultural Tourism |

Total Required for General Education
SUPPORTING LIBERAL ARTS REQUIREMENTS
Students must complete ECON 200 and ECON 201 with an average GPA of 2.0

## FOUNDATION KNOWLEDGE

ACCT 201 Introductory Financial Accounting
ACCT 202 Introductory Corporate \& Managerial Accounting
BUAD 213 Business Software Applications 3
BUAD 222 The Scientific Method in Business 3
BUAD 252 Calculus with Business and Management Applications 3
BUAD 200 Business Ethics 3
BUAD 302 Management and Organizational Behavior 3
BUAD 233 Business Communications 3
BUAD 253 Business Statistics I 3
BUAD 354 Business Statistics II 3
BUAD 242 The Legal Environment for Business 3
BUAD 495 Strategic Management ..... 3
BUED 101 Sophomore Professional Development ..... 0.5
BUED 102 Junior Professional Development ..... 0.5
FINA 340 Financial Management ..... 3
MKTG 308 Principles of Marketing ..... 3
MAJOR REQUIREMENTS
BUAD 414 Business Law IICredits 27
3ACCT 301 Cost and Budgetary Control3
ACCT 302 Intermediate Accounting I ..... 3
ACCT 303 It dite Accouting II
ACCT 303 Intermediate Accounting II ..... 3
ACCT 304 Managerial Accounting ..... 3
ACCT 308 Accounting Information Systems ..... 3
ACCT 400 Intermediate Accounting III ..... 3
ACCT 402 Federal Income Tax Accounting Individual ..... 3
ACCT 407 Auditing ..... 3
MAJOR ELECTIVES
Credits 3One course in Accounting electives

## CURRICULUM GUIDE FOR ACCOUNTING

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUED 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 $1^{1}$ | 0 |
| MATH 109 | 3 | GEN ED CURR AREA I | 3 |
| PSYC 100 | 3 | GEN ED CURR AREA III | 3 |
| GEN ED CURR AREA III | 3 | BUAD 213 | 3 |
| GEN ED CURR AREA III | 1 | SOCI 101 | 3 |
|  | 14 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 201 | 3 | ACCT 202 | 3 |
| BUAD 252 | 3 | BUAD 222 | 3 |
| ECON 201 | 3 | BUED 101 | .5 |
| ENGL 203 | 3 | ECON 200 | 3 |
| GEN ED CURR AREA | 3 | BUAD 200 | 3 |
|  |  | GEN ED CURR AREA VI | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 301 | 3 | ACCT 303 | 3 |
| ACCT 302 | 3 | ACCT 304 | 3 |
| BUAD 302 | 3 | BUAD 253 | 3 |
| BUAD 233 | 3 | BUED 102 | .5 |
| ACCT 308 | 3 | FINA 340 | 3 |
|  |  | ENGL 305 | 3 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| MKTG 308 | 3 | GEN ED CURR AREA VI | 3 |
| ACCT 402 | 3 | ACCT 407 | 3 |
| BUAD 354 | 3 | ACCT Elective | 3 |
| BUAD 242 | 3 | BUAD 414 | 3 |
| ACCT 400 | 3 | BUAD 495 | 3 |
|  | 15 |  | 15 |

## Total Credit Hours: 120

${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

## ACCOUNTING HONORS <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101H, HIST 102H, HIST 201, HIST 202, PHIL 201
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7

Students must select two science courses and one science laboratory course from the following. ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 111H
Curriculum Area V - ENGLISH COMPOSITION
Credits 9
ENGL 101H
ENGL 102H
ENGL 305H/Online or ENGL 310H/Online

[^103]
## Curriculum Area VI - EMERGING ISSUES

## Credits 7

BUED 100 First Year Experience Course
In addition, students must take 6 credits from foreign language or approved international liberal arts courses: Languages: Arabic, Chinese, French, Spanish, American Sign Language, Russian International Liberal Arts:

| ARTS 211/212 | Art History I or II |
| :--- | :--- |
| ENGL 317 | Shakespeare |
| ENGL 321/322 | English Literature 1/II |
| ENGL 324 | Literature and Film |
| ENGL 328/329 | World Literature I/II |
| ENGL 332 | The African Writer |
| ENGL 346 | History of English Language |
| ENGL 347 | Adolescent and Adult Literature |
| GEOG 201/201 | World Geography I/II |
| HIST 101 | World Civilization I |
| HIST 102 | World Civilization II |
| HIST 150 | History of Philosophy |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| HIST 350 | Contemporary World Issues |
| HIST 351 | Latin America |
| HIST 360 | Ancient African History |
| HIST 361 | African History after 1800 |
| MUSI 288 | World Music |
| MUSI 313/314 | Music History and Literature I/II |
| PHIL 201 | Logic |
| PHIL 202 | Ethics |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |
| SOCI 201 | Social Problems |
| SOCI 303 | Social Inequality |
| TMGT 306 | Ecology and Cultural Tourism |

## Total Required for General Education

## Credits 41

## SUPPORTING LIBERAL ARTS REQUIREMENTS

Credits 6
Students must complete ECON 200H and ECON 201H with an average GPA of 2.0

## FOUNDATION KNOWLEDGE

ACCT 201 Introductory Financial Accounting
ACCT 202 Introductory Corporate \& Managerial Accounting
BUAD 213 Business Software Applications 3
BUAD 222 The Scientific Method in Business 3
BUAD 252 Calculus with Business and Management Applications 3
BUAD 200 Business Ethics 3
BUAD 302H Management and Organizational Behavior 3
BUAD 233 Business Communications 3
BUAD 253H Business Statistics I 3
BUAD 354H Business Statistics II 3
BUAD 242 The Legal Environment for Business 3

## Credits 43

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33
BUAD 495H Strategic Management ..... 3
BUED 101 Sophomore Professional Development ..... 0.5
BUED 102 Junior Professional Development ..... 0.5
FINA 340H Financial Management ..... 3
MKTG 308 Principles of Marketing ..... 3
MAJOR REQUIREMENTS
Credits 27
BUAD 414 Business Law II3
ACCT 301 Cost and Budgetary Control ..... 3
ACCT 302H Intermediate Accounting I ..... 3
ACCT 303H Intermediate Accounting II ..... 3
ACCT 304 Managerial Accounting ..... 3
ACCT 308 Accounting Information Systems ..... 3
ACCT 400 H Intermediate Accounting III ..... 3
ACCT 402H Federal Income Tax Accounting Individual ..... 3
ACCT 407H Auditing ..... 3
MAJOR ELECTIVES
Credits 3One course in Accounting electives

## CURRICULUM GUIDE FOR ACCOUNTING HONORS

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUED 100 | 1 | ENGL 102H | 3 |
| ENGL 101H | 3 | ENGL 001 ${ }^{1}$ | 0 |
| MATH 111H | 3 | GEN ED CURR AREA I | 3 |
| PSYC 100 | 3 | GEN ED CURR AREA III | 3 |
| GEN ED CURR AREA III | 3 | BUAD 213 | 3 |
| GEN ED CURR AREA III | 1 | SOCI 101 | 3 |
|  | 14 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 201 | 3 | ACCT 202 | 3 |
| BUAD 252 | 3 | BUAD 222 | 3 |
| ECON 201H | 3 | BUED 101 | .5 |
| ENGL 203 | 3 | BUAD 200 | 3 |
| GEN ED CURR AREA I | 3 | ECON 200H | 3 |
|  |  | GEN ED CURR AREA VI | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 301 | 3 | ACCT 303H | 3 |
| ACCT 302H | 3 | ACCT 304 | 3 |
| BUAD 302H | 3 | BUAD 253 | 3 |
| BUAD 233 | 3 | BUED 102 | .5 |
| ACCT 308 | 3 | FINA 340 | 3 |
|  | 15 | ENGL 305 | 3 |
|  | 15 |  | 15.5 |

SENIOR YEAR

| First Semester | Credit | First Semester | Credit |
| :--- | :--- | :--- | :--- |
| MKTG 308 | 3 | GEN ED CURR AREA VI | 3 |
| ACCT 402H | 3 | ACCT 407H | 3 |
| BUAD 354H | 3 | ACCT Elective | 3 |
| BUAD 242 | 3 | BUAD 414 | 3 |
| ACCT 400H | 3 | BUAD 495 | 3 |
|  | 15 |  | 15 |

## Total Credit Hours: 120

[^104]
## BUSINESS ADMINISTRATION

## DEPARTMENTAL REQUIREMENTS

Business Administration majors must complete 120 hours of course work, of which 41 hours are general education courses, 6 credits are supporting liberal arts, and 73 credits are foundation knowledge and major subject requirements. A minimum grade of "C" must be earned in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major requirement courses.

Students in the Honors program must select courses in the area of Honors Business Administration.

## OBJECTIVES

The objectives of the Business Administration Program are to:

1. To understand theories and concepts of organizational behavior and their management.
2. To provide opportunities for developing team-work skills.
3. To learn about and become sensitive to the rights and responsibilities of employers, employees and other stakeholders.
4. To develop successful management strategies through scientific methods, simulation and information technology.
5. To help generate critical thinking and problem solving skills to face global economic challenges.
6. Provide students with the skills to enter graduate school and conduct research.

## CAREER OPPORTUNITIES

A degree in Business Administration will allow students to pursue career opportunities in a variety of areas within the field of business including marketing, general management and human resource management. The program also prepares students to be admitted into advanced degree programs.

## BUSINESS ADMINISTRATION <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H; POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7

Students must select two science courses and one science laboratory course from the following.
ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 109; if a student needs MATH 101, he/she must take before Math 109;
MATH 110, MATH 111H, MATH 112.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 305/H/Online or ENGL 310/H/Online

[^105]
## Curriculum Area VI - EMERGING ISSUES

## Credits 7

BUED 100 First Year Experience Course
In addition, students must take 6 credits from foreign language or approved international liberal arts courses: Languages: Arabic, Chinese, French, Spanish, American Sign Language, Russian International Liberal Arts:

| ARTS 211/212 | Art History I or II |
| :--- | :--- |
| ENGL 317 | Shakespeare |
| ENGL 321/322 | English Literature 1/II |
| ENGL 324 | Literature and Film |
| ENGL 328/329 | World Literature I/II |
| ENGL 332 | The African Writer |
| ENGL 346 | History of English Language |
| ENGL 347 | Adolescent and Adult Literature |
| GEOG 201/201 | World Geography I/II |
| HIST 101 | World Civilization I |
| HIST 102 | World Civilization II |
| HIST 150 | History of Philosophy |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| HIST 350 | Contemporary World Issues |
| HIST 351 | Latin America |
| HIST 360 | Ancient African History |
| HIST 361 | African History after 1800 |
| MUSI 288 | World Music |
| MUSI 313/314 | Music History and Literature I/II |
| PHIL 201 | Logic |
| PHIL 202 | Ethics |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |
| SOCI 201 | Social Problems |
| SOCI 303 | Social Inequality |
| TMGT 306 | Ecology and Cultural Tourism |

## Total Required for General Education <br> Credits 41

## SUPPORTING LIBERAL ARTS REQUIREMENTS

## Credits 6

Students must complete ECON 200 and ECON 201 with an average GPA of 2.0

## FOUNDATION KNOWLEDGE

ACCT 201 Introductory Financial Accounting

## Credits 43

ACCT 202 Introductory Corporate \& Managerial Accounting 3
BUAD 213 Business Software Applications 3
BUAD 222 The Scientific Method in Business 3
BUAD 252 Calculus with Business and Management Applications 3
BUAD 200 Business Ethics 3
BUAD 302 Management and Organizational Behavior 3
BUAD 233 Business Communications 3
BUAD 253 Business Statistics I 3
BUAD 354 Business Statistics II 3
BUAD 242 The Legal Environment for Business 3

BUAD 495 Strategic Management 3
BUED 101 Sophomore Professional Development 0.5
BUED 102 Junior Professional Development 0.5
FINA 340 Financial Management 3
MKTG 308 Principles of Marketing 3
MAJOR REQUIREMENTS
BUAD 304 Small Business Management
Credits 18
BUAD 364 Managerial Economics 3
BUAD 410/422 Production Management/Supply Chain Management 3
BUAD 411 Operations Research 3
BUAD 420 International Business 3
FINA 341 Investments 3
MAJOR ELECTIVES
Credits 12
Four courses in any business program elective, i.e., any ACCT, BUAD, FINA or MKTG 300 or 400 level course for which the student has the required prerequisites.

## CURRICULUM GUIDE FOR BUSINESS ADMINISTRATION

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUED 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 $1^{1}$ | 0 |
| MATH 109 | 3 | GEN ED CURR AREA I | 3 |
| PSYC 100 | 3 | GEN ED CURR AREA III | 3 |
| GEN ED CURR AREA III | 3 | BUAD 213 | 3 |
| GEN ED CURR AREA III | 1 | SOCI 101 | 3 |
|  | 14 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 201 | 3 | ACCT 202 | 3 |
| BUAD 252 | 3 | BUED 101 | .5 |
| ECON 201 | 3 | ECON 200 | 3 |
| ENGL 203 | 3 | GEN ED CURR AREA I | 3 |
| BUAD 222 | 3 | BUAD 200 | 3 |
|  |  | GEN ED CURR AREA VI | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUAD 302 | 3 | BUAD Elective | 3 |
| ENGL 305 | 3 | BUAD 354 | 3 |
| BUAD 253 | 3 | BUED 102 | .5 |
| BUAD 233 | 3 | FINA 340 | 3 |
| MKTG 308 | 3 | BUAD 304 | 3 |
|  |  | BUAD 364 | 3 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUAD Elective | 3 | BUAD Elective | 3 |
| BUAD 242 | 3 | BUAD 411 | 3 |
| BUAD 410 or | 3 | BUAD 420 | 3 |
| BUAD 422 | 3 | BUAD 495 | 3 |
| FINA 341 | 3 | BUAD Elective | 3 |
| GEN ED CURR AREA VI |  |  | 15 |

## Total Credit Hours: 120

[^106]
## BUSINESS ADMINISTRATION HONORS Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H,
POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must select two science courses and one science laboratory course from the following. ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 111H
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101H
ENGL 102H
ENGL 305H or ENGL 310H

[^107]
## Curriculum Area VI - EMERGING ISSUES

## Credits 7

BUED 100 First Year Experience Course
In addition, students must take 6 credits from foreign language or approved international liberal arts courses: Languages: Arabic, Chinese, French, Spanish, American Sign Language, Russian International Liberal Arts:

| ARTS 211/212 | Art History I or II |
| :--- | :--- |
| ENGL 317 | Shakespeare |
| ENGL 321/322 | English Literature 1/II |
| ENGL 324 | Literature and Film |
| ENGL 328/329 | World Literature I/II |
| ENGL 332 | The African Writer |
| ENGL 346 | History of English Language |
| ENGL 347 | Adolescent and Adult Literature |
| GEOG 201/201 | World Geography I/II |
| HIST 101 | World Civilization I |
| HIST 102 | World Civilization II |
| HIST 150 | History of Philosophy |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| HIST 350 | Contemporary World Issues |
| HIST 351 | Latin America |
| HIST 360 | Ancient African History |
| HIST 361 | African History after 1800 |
| MUSI 288 | World Music |
| MUSI 313/314 | Music History and Literature I/II |
| PHIL 201 | Logic |
| PHIL 202 | Ethics |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |
| SOCI 201 | Social Problems |
| SOCI 303 | Social Inequality |
| TMGT 306 | Ecology and Cultural Tourism |

## Total Required for General Education

## Credits 41

## SUPPORTING LIBERAL ARTS REQUIREMENTS

## FOUNDATION KNOWLEDGE

ACCT 201 Introductory Financial Accounting
ACCT 202 Introductory Corporate \& Managerial Accounting
BUAD 213 Business Software Applications 3
BUAD 222 The Scientific Method in Business 3
BUAD 252 Calculus with Business and Management Applications 3
BUAD 200 Business Ethics 3
BUAD 302H Management and Organizational Behavior 3
BUAD 233 Business Communications 3
BUAD 253H Business Statistics I 3
BUAD 354H Business Statistics II 3
BUAD 242 The Legal Environment for Business 3

## Credits 43

## 3

333333333BUAD 495H Strategic Management 3
BUED 101 Sophomore Professional Development 0.5
BUED 102 Junior Professional Development 0.5
FINA 340H Financial Management 3
MKTG 308 Principles of Marketing 3
MAJOR REQUIREMENTS
BUAD 304H Small Business Management 3
BUAD 364 Managerial Economics 3
BUAD 410/422 Production Management/Supply Chain Management 3
BUAD 411H Operations Research 3
BUAD 420 International Business 3
FINA 341H Investments 3
MAJOR ELECTIVES
Credits 12
Four courses in any business program elective, i.e., any ACCT, BUAD, FINA or MKTG 300 or 400 level course for which the student has the required prerequisites.

## CURRICULUM GUIDE FOR BUSINESS ADMINISTRATION HONORS

| First Semester | Credit | FRESHMAN YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUED 100 | 1 | ENGL 102H | 3 |
| ENGL 101H | 3 | ENGL 001 1 |  |
| MATH 111H | 3 | GEN CURR AREA I | 0 |
| PSYC 100 | 3 | GEN ED CURR AREA III | 3 |
| GEN ED CURR AREA III | 3 | BUAD 213 | 3 |
| GEN ED CURR AREA III | 1 | SOCI 101 | 3 |
|  | 14 |  | 3 |
|  |  |  | 15 |
| First Semester | Credit | SOPHOMORE YEAR |  |
| ACCT 201 | 3 | Second Semester | Credit |
| BUAD 252 | 3 | ACCT 202 | 3 |
| ECON 201H | 3 | BUED 101 | .5 |
| ENGL 203 | 3 | ECON 200H | 3 |
| BUAD 222 | 3 | GEN ED CURR AREA VI | 3 |
|  |  | BUAD 200 | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUAD 302H | 3 | BUAD 233 | 3 |
| BUAD 304 | 3 | BUAD 354H | 3 |
| BUAD 253H | 3 | BUED 102 | .5 |
| MKTG 308 | 3 | FINA 340H | 3 |
| ENGL 305 | 3 | BUAD 364 | 3 |
|  |  | BUAD Elective | 3 |
|  | 15 |  | 15.5 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUAD Elective | 3 | BUAD Elective | 3 |
| BUAD 242 | 3 | BUAD 411H | 3 |
| BUAD 410H or |  | BUAD 420 | 3 |
| BUAD 422 | 3 | BUAD 495H | 3 |
| FINA 341H | 3 | BUAD Elective | 3 |
| GEN ED CURR AREA VI | 3 |  | 15 |

Total Credit Hours: 120
${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102H.

## BUSINESS EDUCATION PROGRAM

## DEPARTMENTAL REQUIREMENTS

The Business Education major requires 41 credits of general education, 39.5 credits of foundation knowledge and major subject requirements, and 42-43 credits of Teacher Certification Requirements.

## OBJECTIVES

The objectives of the Business Education Program are to:

1. Provide students with the skills to create, analyze, revise and implement curricula to prepare learners for a dynamic and rapidly changing world and to assess learner progress.
2. Provide students with the skills to build relationships with various publics to produce a vibrant, holistic learning environment.
3. Provide students with a solid foundation in general education, business content areas, and professional studies.
4. Provide students with an understanding of the need to grow continuously as a professional.
5. Provide students with the skills to enter graduate school and conduct research.

## CAREER OPPORTUNITIES

A degree in Business Education will allow students to pursue career opportunities in 5-12 schools, higher education, business, government, consulting, training, and with not-for-profit organizations. The program also prepares students to be admitted into advanced degree programs.

## BUSINESS EDUCATION

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 12
Students must select one course in each of Disciplines A and B.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H; POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201
And must complete ECON 200 and ECON 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must select two science courses and one science laboratory course from the following. ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab)
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 109, if a student needs MATH 101, he/she must take before Math 109;
MATH 110, MATH 111H, MATH 112.
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 305/H/Online or ENGL 310/H/Online

| Curriculum Area VI - EMERGING ISSUES BUED 100 First Year Experience Course |  | Credits 1 |
| :---: | :---: | :---: |
| Total Required | for General Education | Credits 41 |
| MAJOR REQU | UIREMENTS | Credits 39.5 |
| ACCT 201 | Introductory Financial Accounting | 3 |
| ACCT 202 | Introductory Corporate \& Managerial Accounting | 3 |
| BUAD 213 | Business Software Applications | 3 |
| BUAD 252 | Calculus with Business and Management Applications | 3 |
| BUAD 302 | Management and Organizational Behavior | 3 |
| BUAD 304 | Small Business Management | 3 |
| BUAD 313 | Advanced Computer Applications | 3 |
| BUAD 233 | Business Communications | 3 |
| BUAD 242 | The Legal Environment for Business | 3 |
| BUAD 430 | Ethical, Economic, Managerial, Societal Cons. | 3 |
| BUED 101 | Sophomore Professional Development | 0.5 |
| BUED 414 | Office Management | 3 |
| FINA 340 | Financial Management | 3 |
| MKTG 308 | Principles of Marketing | 3 |
| PROFESSIONAL COURSES |  | Credits 42 |
| EDCI 200 | Fundamentals of Contemporary Education | 3 |
| EDCI 288 | PRAXIS Preparation | 1+ |
| EDCI 311 | Comprehensive Assessment in Education | 3 |
| EDCI 400 | Senior Seminar | 3 |
| EDCI 406 | Classroom Management | 3 |
| EDCI 409 | Reading in the Content Area I | 3 |
| EDCI 410 | Reading in the Content Area II | 3 |
| EDCI 427B | Curriculum and Instruction in Business Ed- Secondary |  |
| EDCI 428 | Communication and Collaboration in Special Ed. | 3 |
| EDCI 480B | Teaching Internship: Secondary Program | 6 |
| EDCI 490B | Teaching Internship: Secondary Program | 6 |
| PSYC 305 | Human Growth and Development | 3 |
| PSYC 307 | Educational Psychology | 3 |

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## CURRICULUM GUIDE FOR BUSINESS EDUCATION



## Total Credit Hours: 123.5

[^109]
## FINANCE

## DEPARTMENTAL REQUIREMENTS

Finance majors must complete 120 hours of course work, of which 41 hours are general education courses, 6 credits are supporting liberal arts, and 73 credits are foundation knowledge and major subject requirements. A minimum grade of "C" must be earned in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major requirement courses.

## OBJECTIVES

The objectives of the Finance Program are to:

1. Provide students with an understanding of the concepts that underlie the raising and spending of capital.
2. Provide students with an understanding of the process of cash flows within an organization.
3. Provide students with an understanding of the concepts of forecasting and discounting to determine appropriate investments.
4. Provide students with an understanding of the nature of financial markets and institutions in the current global context.
5. Provide students with an understanding of finance as it relates to them.
6. Provide students with the skills to enter graduate school and conduct research.

## CAREER OPPORTUNITIES

A degree in Finance will allow students to pursue career opportunities in banking, business advising, budgeting, financial analysis, brokerage, and other finance related areas. The program also prepares students to be admitted into advanced degree programs.

## FINANCE <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H; POLI 220H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7

Students must select two science courses and one science laboratory course from the following.
ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 109, if a student needs MATH 101, he/she must take before Math 109;
MATH 110, MATH 111H, MATH 112.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 305/H/Online or ENGL 310/H/Online

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## Curriculum Area VI - EMERGING ISSUES

## Credits 7

BUED 100 First Year Experience Course
In addition, students must take 6 credits from foreign language or approved international liberal arts courses: Languages: Arabic, Chinese, French, Spanish, American Sign Language, Russian International Liberal Arts:

| ARTS 211/212 | Art History I or II |
| :--- | :--- |
| ENGL 317 | Shakespeare |
| ENGL 321/322 | English Literature 1/II |
| ENGL 324 | Literature and Film |
| ENGL 328/329 | World Literature I/II |
| ENGL 332 | The African Writer |
| ENGL 346 | History of English Language |
| ENGL 347 | Adolescent and Adult Literature |
| GEOG 201/201 | World Geography I/II |
| HIST 101 | World Civilization I |
| HIST 102 | World Civilization II |
| HIST 150 | History of Philosophy |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| HIST 350 | Contemporary World Issues |
| HIST 351 | Latin America |
| HIST 360 | Ancient African History |
| HIST 361 | African History after 1800 |
| MUSI 288 | World Music |
| MUSI 313/314 | Music History and Literature I/II |
| PHIL 201 | Logic |
| PHIL 202 | Ethics |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |
| SOCI 201 | Social Problems |
| SOCI 303 | Social Inequality |
| TMGT 306 | Ecology and Cultural Tourism |

## Total Required for General Education <br> Credits 41

## SUPPORTING LIBERAL ARTS REQUIREMENTS

## Credits 6

Students must complete ECON 200 and ECON 201 with an average GPA of 2.0

## FOUNDATION KNOWLEDGE

Credits 43
ACCT 201 Introductory Financial Accounting 3
ACCT 202 Introductory Corporate \& Managerial Accounting 3
BUAD 213 Business Software Applications 3
BUAD 222 The Scientific Method in Business 3
BUAD 252 Calculus with Business and Management Applications 3
BUAD 200 Business Ethics 3
BUAD 302 Management and Organizational Behavior 3
BUAD 233 Business Communications 3
BUAD 253 Business Statistics I 3
BUAD 354 Business Statistics II 3
BUAD 242 The Legal Environment for Business 3

BUAD 495 Strategic Management 3
BUED 101 Sophomore Professional Development 0.5
BUED 102 Junior Professional Development 0.5
FINA 340 Financial Management 3
MKTG 308 Principles of Marketing 3
MAJOR REQUIREMENTS
BUAD 304 Small Business Management
Credits 18
BUAD 410/422 Production Management/Supply Chain Management 3
BUAD 411 Operations Research 3
BUAD 420 International Business 3
FINA 341 Investments 3
FINA 440 Advanced Financial Management 3
MAJOR ELECTIVES
Credits 12
Four courses in Finance electives

## CURRICULUM GUIDE FOR FINANCE

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUED 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 $1^{1}$ | 0 |
| MATH 109 | 3 | GEN ED CURR AREA I | 3 |
| PSYC 100 | 3 | GEN ED CURR AREA III | 3 |
| GEN ED CURR AREA III | 3 | BUAD 213 | 3 |
| GEN ED CURR AREA III | 1 | SOCI 101 | 3 |
|  | 14 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 201 | 3 | ACCT 202 | 3 |
| BUAD 252 | 3 | BUED 101 | .5 |
| ECON 201 | 3 | ECON 200 | 3 |
| ENGL 203 | 3 | BUAD 222 | 3 |
| GEN ED CURR AREA VI | 3 | BUAD 200 | 3 |
|  |  | GEN ED CURR AREA I | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUAD 302 | 3 | BUAD 233 | 3 |
| ENGL 305 | 3 | BUAD 354 | 3 |
| BUAD 253 | 3 | BUED 102 | .5 |
| FINA 340 | 3 | FINA 341 | 3 |
| MKTG 308 | 3 | GEN ED CURR AREA VI | 3 |
|  |  | BUAD 304 | 3 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| FINA Elective | 3 | FINA 440 | 3 |
| FINA Elective | 3 | FINA Elective | 3 |
| BUAD 411 | 3 | FINA Elective | 3 |
| BUAD 242 | 3 | BUAD 420 | 3 |
| BUAD 410 or | 3 | BUAD 495 | 3 |
| BUAD 422 | 15 |  | 15 |

Total Credit Hours: 120
${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

## MARKETING

## DEPARTMENTAL REQUIREMENTS

Marketing majors must complete 120 hours of course work, of which 41 hours are general education courses, 6 credits are supporting liberal arts, and 73 credits are foundation knowledge and major subject requirements. A minimum grade of "C" must be earned in ENGL 101, ENGL 102, MATH 109, and all foundation knowledge and major requirement courses.

## OBJECTIVES

The objectives of the Business Administration - Marketing Concentration Program are to:

1. Provide students with an understanding of the concepts and interactions between competitive forces and marketing strategies.
2. Provide students with an understanding of the concepts, processes and metrics for optimizing the position of a product and the segments it serves.
3. Provide students with the ability to plan the allocation of resources between all elements of the marketing mix including brand equity creation.
4. Provide students with the ability to analyze the implications of institutional policies on firm profitability.
5. Provide students with an understanding of the theories of consumer perception, learning, motivation and attitude formation.

## CAREER OPPORTUNITIES

A degree in Marketing will allow students to pursue career opportunities in all types of marketing positions in marketing research, advertising, retailing, ecommerce and international marketing. The program also prepares students to be admitted into advanced degree programs.

## MARKETING <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H ; POLI 220 H or POLI 342
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 7

Students must select two science courses and one science laboratory course from the following.
ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).

## Curriculum Area IV - MATHEMATICS

Credits 3
MATH 109, if a student needs MATH 101, he/she must take before Math 109;
MATH 110, MATH 111H, MATH 112.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 305/H/Online or ENGL 310/H/Online

[^111]
## Curriculum Area VI - EMERGING ISSUES

## Credits 7

BUED 100 First Year Experience Course
In addition, students must take 6 credits from foreign language or approved international liberal arts courses: Languages: Arabic, Chinese, French, Spanish, American Sign Language, Russian International Liberal Arts:

| ARTS 211/212 | Art History I or II |
| :--- | :--- |
| ENGL 317 | Shakespeare |
| ENGL 321/322 | English Literature 1/II |
| ENGL 324 | Literature and Film |
| ENGL 328/329 | World Literature I/II |
| ENGL 332 | The African Writer |
| ENGL 346 | History of English Language |
| ENGL 347 | Adolescent and Adult Literature |
| GEOG 201/201 | World Geography I/II |
| HIST 101 | World Civilization I |
| HIST 102 | World Civilization II |
| HIST 150 | History of Philosophy |
| HIST 200A | Modern Africa |
| HIST 275 | Swahili |
| HIST 350 | Contemporary World Issues |
| HIST 351 | Latin America |
| HIST 360 | Ancient African History |
| HIST 361 | African History after 1800 |
| MUSI 288 | World Music |
| MUSI 313/314 | Music History and Literature I/II |
| PHIL 201 | Logic |
| PHIL 202 | Ethics |
| POLI 311 | Comparative Political Systems |
| POLI 312 | International Relations |
| SOCI 201 | Social Problems |
| SOCI 303 | Social Inequality |
| TMGT 306 | Ecology and Cultural Tourism |

## Total Required for General Education <br> Credits 41

## SUPPORTING LIBERAL ARTS REQUIREMENTS

## Credits 6

Students must complete ECON 200 and ECON 201 with an average GPA of 2.0

## FOUNDATION KNOWLEDGE

Credits 43
ACCT 201 Introductory Financial Accounting 3
ACCT 202 Introductory Corporate \& Managerial Accounting 3
BUAD 213 Business Software Applications 3
BUAD 222 The Scientific Method in Business 3
BUAD 252 Calculus with Business and Management Applications 3
BUAD 200 Business Ethics 3
BUAD 302 Management and Organizational Behavior 3
BUAD 233 Business Communications 3
BUAD 253 Business Statistics I 3
BUAD 354 Business Statistics II 3
BUAD 242 The Legal Environment for Business 3

BUAD 495 Strategic Management 3
BUED 101 Sophomore Professional Development 0.5
BUED 102 Junior Professional Development 0.5
FINA 340 Financial Management 3
MKTG 308 Principles of Marketing 3
MAJOR REQUIREMENTS
BUAD 304 Small Business Management
Credits 21
BUAD 410/422 Production Management/Supply Chain Management 3
BUAD 411 Operations Research 3
BUAD 420 International Business 3
MKTG 401 Advertising Management 3
MKTG 404 Consumer Behavior and Theory 3
MKTG 410 Marketing Strategy and Policy 3
MAJOR ELECTIVES
Credits 9
Three courses in Marketing electives

## CURRICULUM GUIDE FOR MARKETING

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUED 100 | 1 | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 $1^{1}$ | 0 |
| MATH 109 | 3 | GEN ED CURR AREA I | 3 |
| PSYC 100 | 3 | GEN ED CURR AREA III | 3 |
| GEN ED CURR AREA III | 3 | BUAD 213 | 3 |
| GEN ED CURR AREA III | 1 | SOCI 101 | 3 |
|  | 14 |  | 15 |

## SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 201 | 3 | ACCT 202 | 3 |
| BUAD 252 | 3 | BUED 101 | .5 |
| ECON 201 | 3 | ECON 200 | 3 |
| ENGL 203 | 3 | BUAD 222 | 3 |
| GEN ED CURR AREA I | 3 | BUAD 200 | 3 |
|  |  | GEN ED CURR AREA VI | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUAD 302 | 3 | MKTG Elective | 3 |
| ENGL 305 | 3 | BUAD 304 | 3 |
| BUAD 233 | 3 | BUAD 354 | .5 |
| BUAD 253 | 3 | BUED 102 | 3 |
| MKTG 308 | 3 | FINA 340 | 3 |
|  |  | GEN ED CURR AREA VI | 3 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| MKTG Elective | 3 | MKTG Elective | 3 |
| MKTG 401 | 3 | MKTG 410 | 3 |
| MKTG 404 | 3 | BUAD 411 | 3 |
| BUAD 242 | 3 | BUAD 420 | 3 |
| BUAD 410/422 | 3 | BUAD 495 | 3 |
|  | 15 |  | 15 |

## Total Credit Hours: 120

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## MINOR PROGRAMS

The Department of Business, Management and Accounting offers minors in Accounting and Business
Administration and these are available to students in major programs of study outside the Department of Business, Management and Accounting. Each minor program consists of 18 semester hours of program courses with a grade of "C" or better. Courses may not be used to fulfill graduation requirements in another major.

The Business Administration minor requires:
BUAD 302 FINA 340 MKTG 308 BUAD 242
Two 300-400 business electives
The Accounting minor requires:
ACCT 201 ACCT 301 ACCT 303 ACCT 402
ACCT 202 ACCT 302

## DIRECTORY OF FACULTY

## Abaidoo, Rexford, Assistant Professor

B.S., Business Administration \& Law, University of Ghana; M.S., Kennesaw State University; Ph.D., Jackson State University

## Ali, Mohammad, Associate Professor

B.A., University of Dhaka, Dhaka, Bangladesh; M.A., University of Dhaka; M.B.A., University of Dhaka; M.S., Ph.D., University of Florida

## Brown, Kate, Associate Professor

B.A., M.B.A., Ph.D. University of Connecticut

## Buzzetto- More, Nicole, Professor

B.A., Marist College; M.S., College of New Rochelle; Ed.M., Columbia University; Ed.D., Columbia University

Chen, Botao, Assistant Professor
B.S., Beihang University; M.S., Peking University; M.P.A, Ph.D., Jackson State University

Das, Monisha, Associate Professor
B.A., University of Calcutta, India; M.A., University of Bombay, India; M.B.A., J. Bajaj Institute of Management Studies; Ph.D., Golden State University

Habib, Nagy, Associate Professor
B.A., Higher Commercial Institute, Egypt; M.A., New York University; Ph.D., Indiana University

Lee, Kyung Joo, Associate Professor
B.B.A., Korea University, Seoul, Korea; M.B.A., Indiana University; Ph.D., University of Arizona

Li, Deqing (Diane), Associate Professor
B.S., Shandong University; M.S., Ph.D., Old Dominion University

## Marcelin, Isaac, Assistant Professor

B.S., University of Notre Dame of Haiti; B. L., Institut Universitaire des Screnas Juridiques et du; B.A \& M.S., Southern Illinois University

Mitchell, Bryant, Associate Professor
B.S., University of Maryland Eastern Shore; M.B.A., Columbia University; Ph.D., Clemson University

Panda, Dandeson, Associate Professor
B.S., University of the District of Columbia; M.B.A., Atlanta University; Ph.D., Howard University

Sampson, Allen, Lecturer
B.S., Morgan State University; M.B.A., Wharton Graduate School of Business, University of Pennsylvania

## Sharma, Dinesh, Professor

B.S., Maharshi Dayanand University; M.S., Meerut University; M.S., University of North Carolina; Ph.D., Chaudhary Charan Singh University

Starkey, Arthur, Visiting Lecturer
B.S. and M.S, University of Baltimore

Sum, Vichet, Associate Professor \& Interim Chair
B.S., Royal University of Phnom Penh; M.S., National Cheng Kung University; M.T.D., Idaho State University; Ph.D., Southern Illinois University; Post Doctorate, University of Florida

Thomas-Banks, Leesa, Lecturer
B.A., Oakwood University, J.D., Loyola University (New Orleans)

Wang, Hwei Cheng (Wendy), Associate Professor
MBA., California State University at San Bernadino; DBA, Nova Southeastern University

## Department of Engineering and Aviation Sciences

www.umes.edu/SBT

Dr. Alvernon Walker, Chairperson

## MISSION

The mission of the Department of Engineering and Aviation Sciences is to provide quality professional degree programs, prepare students for employment in their chosen field, establish close partnerships with and facilitate technology transfers to industry and government, prepare students for advanced studies, contribute to economic development of the State, and provide related service to the campus community and the community at large.

## OBJECTIVES

The objectives of the programs offered in the Department of Engineering and Aviation Sciences are as to:

1. Provide students with academic curricula that develop a strong background in Engineering and Aviation Sciences concentration areas.
2. Prepare students for life-long learning.
3. Expose students to social, historical, and ethical issues involving Engineering and Aviation Sciences.
4. Promote interaction between the University and the community through departmental activities by faculty and students.
5. Encourage, through recruitment, outreach, and intervention programs, minorities and women to pursue careers in the Engineering and Aviation Sciences programs.
6. Provide students in the department opportunities for scholarship, work-study arrangements, summer employment, and jobs.

## DEGREES OFFERED

Bachelor of Science - Engineering
With Specializations in:

- Aerospace
- Computer
- Electrical
- Mechanical


## Bachelor of Science - Aviation Sciences

With concentration in:

- Professional Pilot
- Aviation Electronics
- Aviation Management
- Aviation Software


## ENGINEERING <br> PROGRAM EDUCATIONAL OBJECTIVES

The UMES Engineering program produces graduates who are expected to achieve the following objectives within a few years after graduation:

- Objective 1: Work as a technically competent engineer at the professional level in industry, government agencies or pursue graduate studies.
- Objective 2: Effectively work on industry or government engineering project teams.
- Objective 3: Be engaged as an effective member of the engineering profession as it relates to and interacts with the global society.
- Objective 4: Actively take steps to remain current with advancing engineering tools and technologies.


## STUDENT LEARNING OUTCOMES

Engineering program graduates will be able to demonstrate the ability to:
a) apply knowledge of mathematics, science, and engineering;
b) design and conduct experiments, as well as to analyze and interpret data;
c) design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
d) function on multidisciplinary teams;
e) identify, formulate, and solve engineering problems;
f) demonstrate an understanding of professional and ethical responsibility;
g) communicate effectively;
h) understand the impact of engineering solutions in a global, economic, environmental, and societal context;
i) demonstrate a recognition of the need for, and an ability to engage in life-long learning;
j) demonstrate a knowledge of contemporary issues; and
k) use the techniques, skills, and modern engineering tools necessary for engineering practice.

## GENERAL PROGRAM REQUIREMENTS

The admission of students to the Engineering program is based upon SAT scores, high school or college grades, and preparation in mathematics and science in high school or college. The course sequence and prerequisites for the Engineering program require that the student place into MATH 112, Calculus I, in order to complete the program in eight semesters.

Students admitted to the University who do not place appropriately in mathematics will be permitted to enroll in the Engineering or Aviation Sciences programs. These students will require additional preparatory courses at UMES prior to starting the core courses in the Engineering program, and this may extend their program by one or more semesters. Successful completion of the Bridge, Jump Start, DREAM, or similar programs during the summer prior to students' freshman year is highly recommended.

## Collaborative Agreements with Other Institutions of Higher Learning

UMES maintains collaborative agreements with various community colleges in the state of Maryland to provide students the opportunity to complete a bachelor's degree in Engineering or Aviation Sciences programs by combining upper level courses taken through UMES with their lower level courses taken at the community college. In all cases, students desiring to earn a UMES Engineering or Aviation Sciences degree must complete all UMES degree requirements. Students normally enter the collaborative program upon completion of their associate degree, but may elect to enroll concurrently in both programs, taking UMES courses and community college courses simultaneously. In some cases, credit towards the community college degree may be granted for

UMES courses; for details, the student's community college must be consulted. Attainment of an associate degree is not required for award of a UMES Engineering or Aviation Sciences degree if all UMES degree requirements are met. Transfer credit toward a UMES degree for courses taken at a community college is granted in accordance with the MHEC regulations. Collaborative agreement students who wish to enroll in the UMES program must apply for admission to UMES as transfer students using the procedures specified elsewhere in this catalog. Students accepted in the program will be assigned a UMES advisor for planning their degree completion.

## CAREER OPPORTUNITIES

Engineering is a profession in which fundamentals of mathematics and natural sciences are applied to develop and create techniques and products for the benefits of humanity. Aerospace engineers design and develop various types of imaginable flying machines such as military fighter jets or unmanned aerial vehicles. Computer engineers deal with all aspects of the design, construction, and operation of computer systems and their hardware and software. Electrical engineers are involved in much of the technology in computers, communication systems, power systems, satellites, microelectronics, and integrated circuits. Mechanical engineers design and develop all types of machinery such as artificial organs, robotics, manufacturing, automotive, or air conditioning.

## ENGINEERING <br> Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200H, POLI 220H or POLI 342
SOCI 101 or SOCI 101H
ECON 201 or ECON 201H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101,HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES
Credits 8
CHEM 111 or CHEM 111H
CHEM 113 or CHEM 113H
BIOL 111 or BIOL 111H
BIOL 113 and BIOL 113H
PHYS 161, PHYS 163
PHYS 181H, PHYS 183H

## Curriculum Area IV - MATHEMATICS <br> Credits 4 <br> MATH 112 <br> Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ <br> Credits 9

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H; ENGL 001
ENGL 305/H or ENGL 310/H

[^113]Curriculum Area VI - EMERGING ISSUES Credits 4ENGE 100 First Year Experience CourseIn addition, students must take one of the following 3 credit courses from the following list of identified as EmergingIssues
EXSC 111
HUEC 230
TMGT 306
Total Required for General Education Credits 40
SUPPORTING SCIENCE \& MATH REQUIREMENTS ..... Credits 19
Students may substitute PHYS 182H and 184H for PHYS 262 and PHYS 264
MATH 211 Calculus II ..... 4
MATH 212 Calculus III ..... 4
MATH 241 Elements of Differential Equations for Engineers ..... 3
PHYS 262 General Physics II ..... 3
PHYS 264 General Physics II Lab ..... 1
PHYS 263 General Physics III ..... 3
PHYS 265 General Physics III Lab ..... 1
ENGINEERING CORE REQUIREMENTS
ENGE 150 Modern Engineering Design ..... 3
ENGE 170 Programming Concepts for Engineers ..... 3
ENGE 240 Basic Circuit Theory ..... 3
ENGE 241 Analog Circuits Laboratory ..... 1
ENGE 250 Digital Logic Design ..... 3
ENGE 251 Digital Logic Laboratory ..... 1
ENGE 260 Statics ..... 3
ENGE 261 Dynamics ..... 3
ENGE 270 Computer Aided Design ..... 3
ENGE 320 Statistics \& Probability for Engineers ..... 3
ENGE 340 Analog and Digital Electronics ..... 3
ENGE 341 Analog and Digital Electronics Laboratory ..... 1
ENGE 362 Mechanics of Materials ..... 3
ENGE 370 Computational Methods in Engineering ..... 3
ENGE 380 Instrumentations ..... 3
ENGE 382 Control Systems ..... 3
ENGE 383 Instrumentation \& Control Laboratory ..... 1
ENGE 475 Engineering Seminar ..... 1
ENGE 476 Senior Design Project I ..... 2
ENGE 477 Senior Design Project II ..... 2
ENGINEERING SPECIALIZATION REQUIREMENTSStudents will take five courses and one lab from one of the following areas of specialization:
Computer Specialization (ENCE) Credits
ENCE 330 Signals and Systems ..... 3
ENCE 458 VLSI Design ..... 3
ENCE 350 Computer Organization ..... 3
ENCE 460 Digital Signal Processing ..... 3
ENCE 352 Microprocessors and Microcomputers ..... 3
ENCE 462 Digital Control System ..... 3
ENCE 387 Simulation \& Virtual Reality ..... 3
ENCE 464 Embedded System Design Laboratory ..... 2
ENCE 452 Artificial Intelligence ..... 3
ENCE 468 Robotics ..... 3
ENCE 454 Computer System Architecture ..... 3
ENCE 469 Robotic \& Automation Design Laboratory ..... 2
ENCE 456 Microprocessors Design Laboratory ..... 2
ENCE 472 Selected Topics in Engineering ..... 3
Electrical Specialization (ENEE)
Credits
ENEE 330 Signal and Systems ..... 3
ENEE 462 Digital Control System ..... 3
ENEE 348 Electromagnetic Theory ..... 3
ENEE 464 Embedded System Design Laboratory ..... 2
ENEE 385 Power Electronics ..... 3
ENEE 465 Remote Sensing and Image Processing ..... 3
ENEE 387 Simulation \& Virtual Reality ..... 3
ENEE 468 Robotics ..... 3
ENEE 443 Communications Systems ..... 3
ENEE 469 Robotic \& Automation Design Laboratory ..... 2
ENEE 444 Communications Design Laboratory ..... 2
ENEE 472 Selected Topics in Engineering ..... 3
ENEE 460 Digital Signal Processing ..... 3
Mechanical Specialization (ENME)
ENME 342 Fluid Mechanics ..... 3Credits
ENME 442 Micro Electro-Mechanical Systems ..... 3
ENME 345 Thermodynamics ..... 3
ENME 462 Digital Control System ..... 3
ENME 346 Heat Transfer ..... 3
ENME 464 Embedded System Design Laboratory ..... 2
ENME 422 Mechanisms and Machine Design ..... 3
ENME 468 Robotics ..... 3
ENME 425 Rapid Prototyping \& Product Develop. ..... 3
ENME 469 Robotic \& Automation Design Laboratory ..... 2
ENME 430 Finite Element Analysis ..... 3
ENME 472 Selected Topics in Engineering ..... 3
ENME 440 Mechatronics ..... 3
Aerospace Specialization (ENAE) ..... Credits
ENAE 342 Fluid Mechanics ..... 3
ENAE 442 Micro Electro-Mechanical Systems ..... 3
ENAE 345 Thermodynamics ..... 3
ENAE 462 Digital Control System ..... 3
ENAE 389 Space Systems Design ..... 3
ENAE 464 Embedded System Design Laboratory ..... 2
ENAE 412 Space Navigation and Guidance ..... 3
ENAE 465 Remote Sensing and Image Processing ..... 3
ENAE 420 Aerodynamics ..... 3
ENAE 467 Design of Autonomous Aerial Systems ..... 3
ENAE 430 Finite Element Analysis ..... 3
ENAE 472 Selected Topics in Engineering ..... 3
ENAE 440 Mechatronics ..... 3

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## CURRICULUM GUIDE FOR ENGINEERING

## FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 111 | 3 | ENGE 170 | 3 |
| CHEM 113 | 1 | ENGL 102 | 3 |
| ENGE 100 | 1 | ENGL 001 | 0 |
| ENGE 150 | 3 | MATH 211 | 4 |
| ENGL 101 | 3 | PHYS 161 | 3 |
| MATH 112 | 4 | PHYS 163 | 1 |
|  | 15 |  | 14 |
|  |  |  |  |
| First Semester | Credit | SOPHOMORE YEAR | Credit |
| ENGE 250 | 3 | Second Semester | 3 |
| ENGE 251 | 1 | ENGE 240 | 1 |
| ENGE 260 | 3 | ENGE 241 | 3 |
| ENGL 203 | 3 | ENGE 261 | 3 |
| MATH 241 | 3 | ENGE 270 | 4 |
| PHYS 262 | 3 | MATH 212 | 3 |
| PHYS 264 | 1 | PHYS 263 | 1 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGE 340 | 3 | ENGE 320 | 3 |
| ENGE 341 | 1 | ENGE 382 | 3 |
| ENGE 362 | 3 | ENGE 383 | 1 |
| ENGE 370 | 3 | GEN ED CURR AREA | 3 |
| ENGE 380 | 3 | Specialization Elective | 3 |
| ENGL 305 | 3 | Specialization Elective | 3 |
|  | 16 |  | 16 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGE 476 | 2 | ENGE 477 | 2 |
| ENGE 475 | 1 | GEN ED CURR AREA | 3 |
| GEN ED CURR AREA | 3 | GEN ED CURR AREA | 3 |
| GEN ED CURR AREA | 3 | Specialization Elective | 3 |
| Specialization Elective | 3 | Specialization Elective | 3 |
| Specialization Lab | 2 |  | 14 |

Total Credit Hours: 124
${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

## AVIATION SCIENCES

## GENERAL PROGRAM REQUIREMENTS

The Aviation Sciences program does not have any specific admissions requirements for general admission to UMES, although this is subject to change. The course sequence and prerequisites for Aviation Sciences program require that the student place into MATH 109, College Algebra, or higher (except for Aviation Electronics, which requires placement into MATH 112, Calculus I) in order to complete the program in eight semesters.

Students admitted to the University who do not place appropriately in mathematics will be permitted to enroll in the Aviation Sciences programs. These students will require additional preparatory courses at UMES prior to starting the core courses in the Aviation Sciences program, and this may extend their program by one or more semesters. Successful completion of the Bridge, Jump Start, PACE, SEA, or similar programs during the summer prior to freshman year is highly recommended.

## DEPARTMENTAL REQUIREMENTS

The Aviation Sciences program consists of 120 total credit hours. Students complete 34 credit hours of Aviation core courses and choose one of four concentrations. The concentration areas are Professional Pilot, Aviation Electronics, Aviation Management, and Aviation Software, and each consists of 33 credit hours. The curricula include 41 credit hours of general education courses, 6 credit hours of support courses, and 6 hours of Aviation elective courses.

## EDUCATIONAL OBJECTIVES

The UMES Aviation program produces graduates who are expected to achieve the following objectives within a few years after graduation:

- Objective 1: Students will be prepared for graduate studies in the field of Aviation Sciences and will demonstrate the skills necessary to be employed in the field of aviation.
- Objective 2: Students will demonstrate critical thinking and problem-solving skills in the field of aviation.
- Objective 3: Students will demonstrate knowledge of the inner workings of the aviation industry and practical career applications within their specific concentration.


## AVIATION PROGRAM LEARNING OUTCOMES

Aviation programs graduates will be able to demonstrate the ability to:
a) apply mathematics, science, and applied sciences to aviation-related disciplines;
b) analyze and interpret data;
c) work effectively on multi-disciplinary and diverse teams;
d) make professional and ethical decisions;
e) communicate effectively, using both written and oral communication skills;
f) engage in and recognize the need for life-long learning;
g) assess contemporary issues;
h) use the techniques, skills, and modern technology necessary for professional practice;
i) assess the national and international aviation environment;
j) apply pertinent knowledge in identifying and solving problems; and
k) apply knowledge of business sustainability to aviation issues.

## CAREER OPPORTUNITIES

Aviation Sciences is the study of the technical and professional skills and disciplines necessary for the operation and management of aviation enterprises including piloting, business management/administration, and supporting technical areas such as development of aviation specific electronic and software systems. Career opportunities
include professional pilots, air traffic controllers, airport managers, airline managers, general aviation operation managers, and navigation/communication/flight control system designers and programmers.

## Flight Training

The flight training course syllabus (certified by the Federal Aviation Administration under Part 61 and 141 of the Federal Air Regulations) is designed to prepare students for their FAA pilot and flight instructor certificates in the most effective and efficient manner possible. UMES' ground instruction provides the broad-based knowledge and experience that are needed for good decision-making of pilots. Flight training is accepted from FAA Part 61 \& 141 -approved flight schools operating under contract with UMES. Training is monitored by appropriately-rated UMES aviation faculty who also conduct periodic stage checks in flight as part of the students' flight training courses.

## Flight Training Laboratory Fee

Because the per-student cost of flight training is so much greater than the costs of other University of Maryland Eastern Shore (UMES) educational activities, this cost is not included in the UMES tuition. In order to make flight training more easily accessible, the Department of Engineering \& Aviation Sciences at the University of Maryland Eastern Shore (UMES) has implemented a Flight Training Laboratory Fee. Students enrolling in designated flight training courses will be charged the fee in accordance with the requirements of the flight training course in which the student is enrolled.

The Flight Training Laboratory Fee will be separate from any other associated costs of flight training and is determined for each practicum course based on the Approved Training Course minimum completion standards and average cost of instruction and aircraft rental. This is a one-time fee that is transferred directly to a UMESapproved flight training provider. These funds must be used for approved flight training purposes toward completion of the associated coursework in which the student is enrolled. UMES has taken into account the likelihood of poor flying conditions and additional flying needed in preparation for the Federal Aviation Administration (FAA) Practical Examinations. Annual updates to the cost of flight training will be made to adjust for the changes in fuel, instruction, and rental costs. Students should refer to the most current version of the UMES Flight Training Handbook for a description of the courses and their associated fees. As of Fall 2013, the flight related fees are as follows*:

| AVSC 143: | $\$ 2,500$ | AVSC 153: | $\$ 6,000$ | AVSC 163: | $\$ 7,500$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| AVSC 252: | $\$ 5,500$ | AVSC 253: | $\$ 5,500$ | AVSC 254: | $\$ 5,500$ |
| AVSC 452: | $\$ 3,000$ | AVSC 462: | $\$ 2,500$ | AVSC 472: | $\$ 3,600$ |

These Flight Training Laboratory Fees are meant to cover the minimum flight hours specified under the Code of Federal Regulations (CFRs), Part 141, necessary to graduate within the Professional Pilot concentration. This charge enables students to apply for additional financial aid. Students interested in financial aid to cover the cost of flight training should meet with their departmental advisor and the financial aid office to discuss the various options available.
*Subject to change. See current version of Flight Training Handbook.

## Training Aids

The Aviation program training aids include a complete selection of visual aids, computer access, and the latest software support for pilots, such as PC-based flight simulation programs and FAA written knowledge test preparation packages. The department has an FAA-certified Frasca 142 flight training system and a Precision Flight Controls CAT-V MFD advanced aviation training system on campus for instrument and procedures instruction at all levels, from basic flight to advanced multi-engine operations.

## Simulator Use

The FAA allows a portion of student's aeronautical training to be conducted with the University's Flight Training Systems and simulators. This provides a significant cost savings over the use of an aircraft for the same experience. Additionally, solo practice in the simulator is very useful. As with other laboratory facilities at UMES, it is necessary to charge for the use of the flight simulator to cover the costs of operation and maintenance. Students should review the most current version of the Aviation program's handbook for current lab fee rates and associated courses.

## Medical Examination

To qualify for flight training, a student must be enrolled in a degree program at UMES or other member school of the University System of Maryland and pass an appropriate FAA Aviation Medical Examination. An Aviation Medical Examination is a physical exam given by an FAA-approved physician known as an Aviation Medical Examiner (AME). It is important that students embarking on a career as a Professional Pilot know before they proceed whether they have a medical condition which would prevent employment as a pilot. Therefore, students intending to enroll in the Professional Pilot concentration are encouraged to obtain an FAA Second Class medical (the level required to act as a pilot for compensation or hire) and Student Pilot certificate before arriving on campus. AME's are listed on the internet at www.faa.gov/pilots/amelocator. For further assistance, contact the UMES Aviation Sciences program office. AME's are available in the UMES area to provide examinations to those who do not have one when they arrive. Fees for this examination are approximately $\$ 50-\$ 75$, and for students under age 40 with no abnormal conditions, the examination is good for five years of training.

## Aviation Security Requirements

Federal regulations (49 CFR Part 1552) enacted in 2004 require all flight training students to either document US citizenship or complete a Federal security background check. Students may participate in non-flight programs without complying with these regulations, but those in flight programs must comply before their first flight. The background checks apply to all non-US citizens, including nationals of other countries with permanent resident status in the US. These checks include fingerprinting, photographing, and submitting personal data, copies of passports, visas, and other documents to the Transportation Security Administration (TSA). US citizens must present either a current valid US passport or an original or raised-seal official copy of their certificate of birth or naturalization. Non-US citizen students must make application to the US Transportation Security Administration and pay a fee (currently $\$ 130.00$ ) to TSA. This must be accomplished before starting flight training at UMES and again before starting instrument training and multiengine training although the fee will only be charged one time. All actions necessary to accomplish this check may be completed at the UMES campus and/or at the location of the flight training provider when the student arrives for training. Training may begin as soon as the application is completed, but may be suspended if TSA rejects the student or requires further checks. UMES is legally obligated to deny training to any student rejected by TSA. As the TSA Flight Student security program is not under UMES' control, UMES cannot accept any responsibility for it nor can UMES make any promise that any student will pass the checks. More information on the TSA Flight Student security program may be found on the Internet at https://www.flightschoolcandidates.gov/.

## Credit for Prior Flight Training

Students who arrive with FAA pilot and/or flight instructor certificates and ratings will be granted academic credit for completion of the courses for the certificates and ratings held upon satisfactory demonstration of proficiency to the University's standards (AABI Criterion 2.9). This may be accomplished by taking a standardized test in the University Simulator Laboratory using FAA Practical Test Standards, or via departmental oral exam and interview.

## AVIATION SCIENCE PROGRAM <br> Required Courses

## Total number of credits and their distribution

## Category

I. General Education Courses
II. Support Requirements
III. Aviation Core Requirements
IV. Concentration Requirements
V. Electives

## Distribution

41 credit hours
6 credit hours
34 credit hours
33 credit hours
6 credit hours

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from each of two disciplines below:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101/H, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - Social and Behavioral Sciences

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
POLI 200 or POLI 200 H , POLI 220 H or POLI 342
SOCI 101 or SOCI 101H
ECON 201 or ECON 201H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

Curriculum Area III - Biological and Physical Sciences
Credits 7
Students must select two approved GEN ED III science courses, and one laboratory course.
ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PLSC 184, PLSC 185 (lab).

Students in Agriculture, Engineering, Exercise Science, Human Ecology, Physician Assistant and Rehabilitation Services only must select from the following:

- Student must have a strong background in Chemistry and Biology to take

CHEM 111 and CHEM 112 or BIOL 111 and BIOL 112.

- Students CANNOT take CHEM 111 if they are currently taking MATH 101.

ANPT 114, ANPT 114H, BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab), CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab), CHEM 111, CHEM 113 (lab), ENVS 101, NUDT 210, PHYS 121, PHYS 121H, PHYS 122, PHYS 161, PHYS 182H, PHYS 263, PLSC 184, PLSC 185 (lab).

Curriculum Area IV - Mathematics
Credits 6
Students must take 6 credits of math, with at least one course at or above the level of MATH 109.
Aviation Electronics and Aviation Software students are advised to take MATH 112 and one other Math course to fulfill Curriculum Area IV requirements.
Curriculum Area V - English Composition ..... Credits 9
ENGL 101 Basic Composition I ..... 3
ENGL 102 Basic Composition II ..... 3
ENGL 305Technical Writing or
ENGL 310Advanced Composition ..... 3
Curriculum Area VI - Emerging Issues
Credits 4
AVSC 100 First Year Orientation with Aviation ..... 1
EXSC 111 Personalized Health Fitness orAviation Course or course as approved by Department3
SUPPORT REQUIREMENTSAVSC 390 Aviation Application of Statistics and Research Design orBUAD 252 Calculus w/ Business \& Management Applications* orMATH 210 Elementary Statistics

## Credits 6

AVSC 170 Software and Simulation Applications in Aviation or
ENGE 170 Programming Concepts for Engineers or
BUED 212 Computer Concepts/Applications I ..... 3
*Aviation Electronics and Aviation Software Students will take MATH 211 in place of BUAD 252 to fulfill Support Requirements.
AVIATION CORE REQUIREMENTS

## Credits 34

Students must earn a "C" or better in all major coursework including the concentration requirement.
AVSC 112 Aviation Fundamentals ..... 3
AVSC 131 Air Transportation ..... 3
AVSC 152 Meteorology \& Environmental Issues ..... 3
AVSC 201 The National Airspace System ..... 3
AVSC 202 Air Traffic Control ..... 3
AVSC 231 Airline Management I ..... 3
AVSC 241 Aviation Safety ..... 3
AVSC 305Aviation Career Preparation ..... 1
AVSC 331 Aviation Law ..... 3
AVSC 421 Aviation Psychology ..... 3
AVSC 441 Human Factors in Aviation ..... 3
AVSC 490 Senior Capstone in Aviation ..... 3
CONCENTRATION REQUIREMENTS
Professional Pilot Concentration
AVSC 141 Private Pilot Ground Laboratory ..... 1
AVSC 143 Primary Flight Training I ..... 2
AVSC 153 Primary Flight Training II ..... 2
AVSC 163 Primary Flight Training III ..... 2
AVSC 161 Instrument Rating Ground ..... 3
AVSC 251 Commercial Pilot Ground ..... 3
AVSC 252 Commercial Pilot Flight I ..... 2
AVSC 253Commercial Pilot Flight II ..... 2
AVSC 302 Advanced Aircraft Systems ..... 3
AVSC 311 Aerodynamics and Aircraft Per. ..... 3
AVSC 342 Flight Physiology ..... 3
AVSC 451 Certified Flight Inst. Airplane - Grnd. ..... 3
AVSC 452 Certified Flight Inst. Airplane - Flt. or ..... 2
AVSC 472 Multi-Engine Pilot Flight and ..... 1
AVSC 380 Cooperative or Internship ..... 1
Aviation Management Concentration
AVSC 132 Introduction to Aviation Business ..... 3
ACCT 201 Introductory Financial Accounting ..... 3
ACCT 202Introductory Corp. \& Mngmt. Acct. ..... 3
ECON 201 Principles of Macroeconomics ..... 3
ECON 200 Principles of Microeconomics ..... 3
AVSC 232 Airport Management ..... 3
AVSC 261 Aviation Organization and Leadership ..... 3
AVSC 355 Airport Planning ..... 3
AVSC 431 Maintenance Management ..... 3
AVSC 432 Airline Management II ..... 3
AVSC 442 Safety Management ..... 3
Aviation Electronics Concentration
AVSC 302 Advanced Aircraft Systems ..... 3
AVSC 361 Communication Electronics ..... 3
EDTE 211 Electrical \& Electronic Technology I ..... 3
EDTE 212 Electrical \& Electronic Technology II ..... 3
ETEE 303 Circuit Theory III ..... 3
ETEE 335 Logic and Switching ..... 3
ETEE 355 Advanced Electronics ..... 3
ETEE 421 Instruments and Measurement ..... 4
ETEE 425 Communications and Microwave Tech. ..... 3
ETEE 485 Design Technology I orAVSC 298Aerospace Design I3
ETEE 486 Design Technology II or
AVSC 498 Aerospace Design II ..... 3
Aviation Software Concentration
AVSC 302 Advanced Aircraft Systems ..... 3Credits 33

CSDP 220 Introduction to Computer Prog. 4
CSDP 221 Intro to Computer Prog.: Intensive 4
CSDP 222 Advanced Programming 4
CSDP 250 Introduction to Data Structures 3
CSDP 301 Machine and Assembly Language 3
CSDP 305 Software Engineering I 3
CSDP 321 Introduction to Discrete Structures 3
CSDP 350 Linear Programming 3
CSDP 401 Operating Systems 3

## ELECTIVES*

## Credits 6

Students will choose AVSC or other courses approved by the department to complete at least 6 credits. Students pursuing a career in air traffic control are advised to select 6 credits of AVSC Air Traffic Control Operations Coursework. *Elective courses cannot be an AVSC course that is required elsewhere in the curriculum. Courses outside of the AVSC curriculum can be substituted in place of the following AVSC courses approved for the Elective Area: AVSC 132, 141,142,143,153,161, 162,163, 170, 188, 232, 251, 252, 253, 254, 261, 288, 298, 301, 302, 310, 311, 312, 323, 326, 342, 355, 361, 365, 380, 381, 382, 390, 398, 431, 432, 442, 451, 452, 461, 462, 472, 498, 499.

## CURRICULUM GUIDE FOR AVIATION SCIENCES

## FRESHMAN YEAR



Total Credit Hours: 120/121 (varies depending on concentration)

[^115]
## DIRECTORY OF FACULTY

## Brown, Willie, Lecturer

B.S., Elizabeth City State University; M.S., Embry-Riddle Aeronautical University;

Dabipi, Ibibia K., Professor
B.S., Texas A\&I University; M.S., Ph.D., Louisiana State University

Hartman, Christopher, Lecturer and Coordinator, Aviation Sciences
B.S., University of Maryland Eastern Shore, M.S., Embry Riddle Aeronautical University

Ibrahim, Mamoun Y., Laboratory Manager
B.S., University of Gezira; M.S., Tuskegee University

Jin, Yuanwei, Associate Professor
B.S., M.S., East China Normal University; Ph.D., University of California at Davis

Johnson, Etahe, Interim Engineering Coordinator
B.S., North Carolina A\&T State University, M.S., Iowa State University

Matin, Payam H., Associate Professor
B.S., University of Science and Technology; M.S., University of Tehran; Ph.D., Oakland University

Nagchaudhuri, Abhijit, Professor
B.S., Jadavpur University; M.S., Tulane University; Ph.D., Duke University

Sharma, Rajnish, Assistant Professor
B.Tech, M.Tech, Indian Institute of Technology; Ph.D., Texas A\&M University

Walker, Alvernon, Chairperson, Associate Professor
B.S., M.S., North Carolina A\&T State University; Ph.D., North Carolina State University

Zhang, Lei, Assistant Professor
B.S., Yanshan University; M.S., Tianjin University; Ph.D., University of Nevada at Las Vegas

## Department of Hospitality and Tourism Management

www.umes.edu/SBT

Dr. Ernest P. Boger, Chairperson

## MISSION

The mission of the Department of Hospitality and Tourism Management (HTM) within the School of Business and Technology is to prepare entry-level hospitality management professionals with essential skills for long-term hospitality career success and industry leadership.

HTM also fosters research and service of direct application and benefit to the State of Maryland and the global hospitality industry.

The essential skills referenced in the mission statement translate operationally into a six-point graduate success profile objective/outcome that holds that UMES/HTM graduates will possess:

- Hospitality Attitude
- Marketing Mindedness
- Quantitative Competence
- Technological Fluency
- Relevant Work Experience
- International/Multicultural Sensitivity


## STUDENT LEARNING OUTCOMES

This profile is delivered across the HTM curriculum and measured via a Student Learning Outcome Assessment Process (SLOAP) with the expectation that students will be able to:

- identify, describe and apply the fundamental principles and practices of foodservice operations and management;
- identify, describe and apply the fundamental principles and practices of hotel operations and management;
- apply proper hospitality terminology in professional industry communications;
- manage food production and service, including design of staffing schedules and timelines, plan and analyze menus;
- apply hospitality marketing research theory and techniques, including survey design and analysis in both verbal and written formats;
- identify, integrate and apply basic accounting, cost accounting, financial analysis and reporting necessary for effective decision-making in the hospitality industry;
- identify, describe and be able to analyze legal and ethical issues relevant to the hospitality industry;
- identify and distinguish between technology applications and examine and evaluate technology to augment professional practices in the hospitality industry;
- develop, organize and plan hospitality events and demonstrate the ability to evaluate, critique and prepare related summaries including recommendations for improvements;
- demonstrate hospitality professionalism and demeanor, and
- identify and describe the basic principles of tourism theory, operations and management.


## OBJECTIVES

The objectives of the Department of Hospitality and Tourism Management are to:

1. Demonstrate adequate knowledge in general and specific matters of communication, mathematics, computers, social and natural sciences, humanities, and health and physical education.
2. Explain the historical development and current market segmentation of the hospitality industry.
3. Plan, purchase and prepare meals in quantity and reflecting a variety of service styles in hospitality experience.
4. Demonstrate basic management skills of planning, organizing and controlling.
5. Demonstrate basic business administration skills of accounting, financial analysis and marketing.
6. Demonstrate basic knowledge and management skills related to front office, housekeeping and engineering departments of hotel operations.

## DEGREES OFFERED

Bachelor of Science - Hospitality and Tourism Management
Bachelor of Science - PGA Golf Management

## DEPARTMENTAL REQUIREMENTS

The admission of students to the undergraduate programs in the Department of Hospitality and Tourism Management is based upon the general admission requirements of the University.

Students wishing to pursue a major in Hospitality and Tourism Management must meet all University of Maryland Eastern Shore entrance requirements. Freshmen must take a Basic Skills Test during their first semester as a major and demonstrate ability at a determined grade level. In order to remain in good standing in Hospitality and Tourism Management Department degree programs, the student must maintain a minimum GPA of 2.0 with no grade less than " C " in major coursework and general education courses, where required. Transfers into the major must present an overall GPA of not less than 2.0. All majors must show progress in major and professional course work, attend and actively participate in the Student Professional Association (Eta Rho Mu) and demonstrate interest in the hospitality industry.

All Hospitality and Tourism Management (HTM) majors are required to complete 1000 hours of hospitality work experience as a requirement for graduation.

Specific business attire, culinary uniform requirements and related requirements are available in the HTM Student Handbook.

Students majoring in Hospitality and Tourism Management must complete a total of 120 hours of University courses. This includes 41 credit hours of General Education Requirements, 64 hours of major core requirements, 3 credit hours of supportive courses and 12 hours of departmental electives.

## CAREER OPPORTUNITIES

The bachelor's degree in Hospitality and Tourism Management at UMES prepares graduates for a wide variety of entry-level management positions in the hospitality industry. These include hotel front office, housekeeping, and marketing positions, as well as banquet, restaurant and special event management. Broader foodservice areas include contract operations, quick service to upscale freestanding restaurant management, and private catering as lucrative career paths. The prevalence of major overlapping skill sets in the hospitality industry means that graduates will also be prepared for a selection of complimentary management career paths in travel/tourism, entertainment and related supportive industry services. While preparation for management is at the core of the HTM curriculum, sufficient emphasis is placed on entrepreneurship for those individuals who are motivated to own their own business and create long-term wealth.

## HOSPITALITY AND TOURISM MANAGEMENT Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203^{1}$ plus:
One course from each of two disciplines:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 201 or ECON 202
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361
PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 7
Students must select two science courses and one science laboratory course from the following.
ANPT 114, ANPT 114H
BIOL 101, BIOL 103 (lab), BIOL 111, BIOL 113 (lab), BIOL 112, BIOL 114 (lab),
CHEM 101, CHEM 102, CHEM 103 (lab), CHEM 104 (lab)
ENVS 101, NUDT 210
PHYS 101, PHYS 103 (lab)
PLSC 184, PLSC 185 (lab).

## Curriculum Area IV - MATHEMATICS

## Credits 3

MATH 102, if a student needs MATH 101, he/she must take before Math 102;
MATH 109, if a student needs MATH 101, they must take that before Math 109;
MATH 110, MATH 111H, MATH 112.
MATH 101 does not satisfy the General Education Requirement or count towards graduation. Students must attain a grade of "C" or better to pass Math 101.

## Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

## Curriculum Area VI - EMERGING ISSUES

Students must complete 3 courses as defined by the department.

| HMGT 102 | First Year Experience |  |
| :---: | :---: | :---: |
| EXSC 111 | Personalized Health Fitness |  |
| TMGT 306 | Ecology and Cultural Tourism |  |
| Total Required for General Education |  | Credits 41 |
| SUPPORTING COURSE REQUIREMENTS |  | Credits 3 |
| Students must complete BUAD 132 |  |  |
| MAJOR CORE REQUIREMENTS |  | Credits 64 |
| FMGT 101 | Applied Foodservice Sanitation | 2 |
| FMGT 110 | Restaurant and Table Service | 2 |
| FMGT 211 | Food Production I | 3 |
| FMGT 212 | Food Production II | 3 |
| FMGT 301 | Food and Beverage Cost Accounting |  |
| FMGT 350 | Commercial Food Production | 3 |
| FMGT 371H | Hospitality Purchasing | 3 |
| HMGT 100A | Professional Development | . 5 |
| HMGT 100B | Professional Development | . 5 |
| HMGT 101 | Analysis of the Hospitality Industry | 3 |
| HMGT 110 | Hospitality Experience | 0 |
| HMGT 120 | Hospitality Experience | 0 |
| HMGT 130 | Hospitality Experience | 0 |
| HMGT 200A | Professional Development | . 5 |
| HMGT 200B | Professional Development | . 5 |
| HMGT 220H | Technology Management in the Hospitality Industry | 4 |
| HMGT 300A | Hospitality Experience | . 5 |
| HMGT 300B | Hospitality Experience | . 5 |
| HMGT 301H | Front Office Management | 3 |
| HMGT 303 | Hospitality Facilities Operations \& Maintenance | 3 |
| HMGT 305 | Entrepreneurship and Small Business | 3 |
| HMGT 340 | Hospitality Industry Accounting | 3 |
| HMGT 350 | Marketing Hospitality and Leisure Services | 3 |
| HMGT 401 | Law and the Hospitality Industry | 3 |
| HMGT 402 | Human Resource Management | 3 |
| HMGT 404 | Hospitality Facilities Design Project | 3 |
| HMGT 440 | Financial Analysis for the Hospitality Industry | 3 |
| HMGT 490H | Hospitality Research I | 3 |
| HMGT 491 | Hospitality Research II | 3 |
| HMGT 497 | Professional Development | 1 |
| HMGT 498 | Professional Development | 1 |

MAJOR ELECTIVES

## Credits 12

Students must complete at least 12 credit hours from the following courses:
CARM 301 American Cuisine 3
CARM 303 International Cuisine 3
CARM 401 Garde Manger 3
CARM 403 Baking Basic Breads 3
CARM 405 Pastry Shop 3
CARM 407 Classical Kitchen 3
CARM 499 Independent Studies in Culinary Art Mgmt. 3
FMGT 499 Independent Studies in Food and Beverage Mgmt. 3
HMGT 309 Beer, Wine and Spirits 3
HMGT 405 Resort and Convention Management 3
HMGT 470 Hospitality Management Internship (Fall) 1-6
HMGT 475 Hospitality Management Internship (Spring) 1-6
HMGT 480 Hospitality Management Internship (Summer) 1-6
HMGT 488 Hospitality Co-op 3
HMGT 499 Independent Study in Hotel and Restaurant Mgmt. 1-3
TMGT 130H Analysis of Travel and Tourism 3
TMGT 300 Tourism Transportation Systems 3
TMGT 306 Ecology \& Cultural Tourism (Emerging Issue) 3
TMGT 309 Tourism Economics 3
TMGT 420 Marketing of Tourism Destination 3

| TMGT 499 Independent Study | 1-3 |
| :--- | :--- | :--- |

## CURRICULUM GUIDE FOR HOSPITALITY AND TOURISM MANAGMENT

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | ENGL 102 | 3 |
| BUAD 132 | 3 | ENGL 001 | 0 |
| GEN ED AREA III | 3 | MATH 102 | 3 |
| GEN ED AREA III Lab | 1 | GEN ED CURR AREA III | 3 |
| HMGT 101 | 3 | FMGT 101 | 2 |
| HMGT 102 | 1 | FMGT 110 | 2 |
| HMGT 100A | .5 | HMGT 100B | .5 |
|  |  | HMGT 110 | 0 |
|  | 14.5 |  | 13.5 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 203 | 3 | EXSC 111 | 3 |
| HRM Elective $^{2}$ | 3 | GEN ED CURR. AREA II3 |  |
| ECON 201 or | 3 | FMGT 212 | 3 |
| ECON 202 | 3 | GEN ED CURR. AREA I 3 |  |
| FMGT 211 | .5 | HMGT 220 | 4 |
| HMGT 200A | 3 | HMGT 200B | .5 |
| GEN ED CURR AREA I | HMGT 120 | 0 |  |
|  |  |  | 16.5 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| HMGT 340 | 3 | TMGT 306 | 3 |
| ENGL 305 or |  | HMGT 303 | 3 |
| ENGL 310 | 3 | FMGT 301 | 3 |
| HMGT 301 | 3 | HMGT 350 | 3 |
| HMGT 305 | 3 | FMGT 371 | 3 |
| HMGT 350 | 3 | HMGT 300B | .5 |
| HMGT 300A | .5 | HMGT 130 | 0 |
|  | 15.5 |  | 15.5 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| HMGT 402 | 3 | HRM Elective | 3 |
| HMGT 440 | 3 | HRM Elective | 3 |
| HMGT 404 | 3 | HMGT 401 | 3 |
| HRM Elective | 3 | HMGT 491 | 3 |
| HMGT 490 | 3 | HMGT 498 | 1 |
| HMGT 497 | 1 |  | 16 |

Total Credit Hours: 120

[^116]
## MINOR PROGRAMS

The Department of Hospitality and Tourism Management offers minors for HTM majors only for the following area: Culinary Arts Restaurant Management (CARM) and Travel/Tourism Management (TMGT)

HTM majors can only earn the minor in Culinary Arts Restaurant Management (CARM) by completing the following 18 credit hour sequence of courses: CARM 301, CARM 303, CARM 401, CARM 403, CARM 405 and CARM 407, in addition to the $\mathbf{1 2 0}$ hours required for the HTM major.

HTM majors only can earn the minor in Travel/Tourism Management (TMGT) by completing the following 18 credit hour sequence of courses: TMGT 130, TMGT 300, TMGT 309, TMGT 420 and TMGT 499, in addition to the $\mathbf{1 2 0}$ hours required for the HTM major.

HTM also offers minors for non-HTM majors only for the following area: Food and Beverage Management and Hotel Administration. Non-HTM majors can earn the minor in Food and Beverage Management by completing the following 18 credit hour sequence of courses in the following: FMGT 211, FMGT 212, FMGT 301, FMGT 350, and FMGT 371.

Non-HTM majors can earn the minor in Hotel Administration by completing the following 18 credit hour sequence of courses in the following: HMGT 101, HMGT 301, HMGT 340, HMGT 350, HMGT 401 and HMGT 402.

# DIRECTORY OF FACULTY 

## Binns, Karl V., Lecturer

B.S., Morris Brown College; M.B.A. Morgan State University; Ph.D., University of Maryland Eastern Shore

Boger, Ernest P., Chair \& Associate Professor
B.A., University of South Florida; M.B.A., University of North Texas; D.Mgt. Revans University

Callahan, Susan, Chef, Lecturer, Universities of Shady Grove
B.S., Mount Saint Mary College; M.A. Adelaide University

Dillon, William, Director \& Assistant Professor, PGA Golf Management Program
B.S., Winthrop University; M.S., Southern Wesleyan University

Gormley, Richard, Assistant Professor
B.S., University of Washington; M.B.A., Loyola University

O'Rourke, Ruth K., Director, Universities of Shady Grove
B.S., Widener University; M.S., Virginia Tech

Prosser, Christopher, Lecturer/PGM Internship Coordinator
B.S. Campbell University, M.B.A., Benedictine University

Quinn, Katherine A., Assistant Professor
B.S., University of Maryland College Park; M.B.A., University of Maryland College Park, PH.D, University of Maryland Eastern Shore

Whittingham, Ralston G., Chef/Lecturer
A.A., Culinary Institute of America; B.S. University of Maryland European Division; B.S. University of Maryland Eastern Shore; M.S., Wilmington University

## PGA Golf Management

www.umes.edu/pgm

## Mr. William C. Dillon, Director

## MISSION

The PGA Golf Management Program at the University of Maryland Eastern Shore prepares students for a career in the golf industry as members of the Professional Golfers' Association of America. In partnership with the PGA, UMES provides quality education to our students by assisting them in understanding the business and playing aspects of the game of golf.

## OBJECTIVES

A degree in PGA Golf Management with the Professional Golfers' Association of America (PGA) accreditation represents a career field emphasis that enjoys specific synergies with University of Maryland Eastern Shore (UMES) academic and physical assets. Students who satisfactorily complete the major in PGA Golf Management will receive a Bachelor of Science (B.S.) degree and be prepared to:

1. Begin a career with a major golf resort or independent golf course operation.
2. Assume a supervisory role with a major golf course management company.
3. Represent leading golf equipment and golf fashion manufacturers and merchandisers.
4. Provide leadership in golf tournament and related special event planning including banquet or other food \& beverage requirements.
5. Commence a professional golf teaching career.
6. Obtain membership within The Professional Golfers' Association of America.

## DEGREES OFFERED

Bachelor of Science - PGA Golf Management

## DEPARTMENTAL REQUIREMENTS

The admission of students to the undergraduate programs in the Department of Hospitality and Tourism Management is based upon the general admission requirements of the University. Students are admitted into the UMES PGA Golf Management Program on a competitive basis. Prospective students must first apply for entrance into UMES. Once admitted to the University, they then petition for admittance into the PGA Golf Management Program. A verification of a USGA handicap of 12 or less will be required. This must be verified by handicap card or equivalent. All PGA Golf Management majors will take 41 credit hours in General Education. The GNST 100 one-credit requirement will be met with PGMT 122-Orientation to Professional Golf Management. The EXSC 111 three-credit requirement will be satisfied when the student successfully passes the PGA Playing Ability Test (PAT). The major core requirement of 77 credit hours for PGA Golf Management majors includes courses that have a significant impact on the day-to-day professional operations and activities of golf courses, pro shops, club houses, related supportive services and golf product/image marketing. Three hours of supportive courses are required. Nine additional hours of major electives must be completed including HMGT 405-Resort, Club and Convention Management, and TMGT 130-Analysis of Travel \& Tourism. One hundred thirty (130) earned credit hours are required for the degree in PGA Golf Management.

Transfers are accepted on a case-by-case basis. Transfer students will be required to meet all the PGA Golf Management Program graduation requirements of the University and the PGA of America.

Handicap Verification includes:

1. A copy of a current USGA handicap index card indicating a handicap of 12 or less.
2. The Handicap Verification Form filled out by a PGA Professional or High School Golf Coach.
3. Successful completion of the PGA's Playing Ability Test.

## DESCRIPTION OF PROGRAM

The PGA Golf Management Program at the University of Maryland Eastern Shore prepares students for a career in the golf industry. The PGA Golf Management program attracts and educates bright, highly-motivated men and women to service all aspects of this developing industry while working toward membership in the Professional Golfers' Association of America. It is a comprehensive degree program that integrates all the curriculum requirements of a Hospitality and Tourism Management major with the knowledge base of the PGA Golf Management Program including sixteen months of structured internship experience and a Playing Ability Test (PAT).

## PGA GOLF MANAGEMENT PROGRAM REQUIREMENTS

University of Maryland Eastern Shore students in the PGA Golf Management Program must complete the following PGA of America requirements prior to graduation to receive the PGA Golf Management specialty:

1. Sixteen (16) months of full time cooperative/internship work at three different types of qualifying facilities (Level 1 internship must be at a green grass facility).
2. The passing of the PGA's Playing Ability Test (met prior to beginning Level 3).
3. Completion of all four levels of the PGA/PGM educational courses and tests.
4. A PGA Golf Management student has 8 years to obtain PGA membership from the first day after successful completion of the Qualifying Level of the PGA Golf Management Program.

## PGA MEMBERSHIP REQUIREMENTS

1. Twelve (12) membership credits for college degree.
2. Sixteen (16) membership credits for completion of the PGA Golf Management Program.
3. Six (6) membership credits for completion of all membership requirements.
4. Two (2) membership credits for attending 2 national workshops hosted by the PGA Career Services Department.

## PROBATIONARY STANDARDS

Members of the UMES PGA Golf Management Program will be placed on PGA Golf Management Probation at the beginning of an academic semester due to any one of the following:

1. Cumulative grade point average less than 2.0.
2. Failure to hand in appropriate work experience activities on due dates.
3. Failure to attend PDP as required. This includes the two individual lessons and four PGMSA tournaments per semester until the PAT is passed.
4. Not attempting the PAT a minimum of one time per semester.
5. "No-Show" at a PAT.
6. Missing two or more PGMSA meetings per semester.
7. Outstanding Fees.
8. Disruptive or disrespectful behavior.
9. Failure to complete all incomplete tests within the six month time period.

## DISMISSAL FROM THE PGA GOLF MANAGEMENT PROGRAM

The following reasons are grounds for dismissal from the PGA Golf Management Program:

1. Less than a 2.0 cumulative GPA for two consecutive semesters.
2. Probation within the PGA Golf Management Program for two consecutive semesters.
3. Not participating in a PAT a minimum of two times per year until it has been passed.
4. Failure to pass the PGA PAT by the beginning of Level 3 .
5. Committing a grievous act while on internship which results in termination.
6. Students who fail a checkpoint a total of three times.
7. Any behavior which is considered unethical by the PGA of America or to be a violation of the Code of Ethics as found in the PGA Constitution.

## PGA GOLF MANAGEMENT FEES

## A. PGA Golf Management Student Association Fees

Paid every semester to the PGMSA Treasurer \$50.00
B. Semester PGA Golf Management Fees

Golf Course Access Fees
$\$ 400.00$
(includes Great Hope Golf Course and Range, Nutters Crossing
Golf Course, UMES range, UMES PGA Golf Management paraphernalia)
PGA Playing Ability Test (PAT) until passed
\$120.00
Course Fees (Payable to facility on day of play) TBD
PGMSA Tournament Fee
\$100.00
Player Development Fee until PAT is passed
$\$ 50.00$

## C. PGA Golf Management Program

| August Freshman Year |  |
| :--- | :--- |
| Qualifying Level Portal Access | $\$ 200.00$ |
| Qualifying Level Test | $\$ 60.00$ |
| Student Affiliate Fee | $\$ 50.00$ |
|  |  |
| January of Freshman Year | $\$ 560.00$ |
| Level 1 Portal Access | $\$ 660.00$ |
| Level 1 Seminar | $\$ 180.00$ |


| August Sophomore Year |  |
| :--- | :--- |
| Level 1 Tests (Cust rel., Business Plan) | $\$ 120.00$ |
| Student Affiliate Fee | $\$ 50.00$ |

January of Sophomore Year
Level 2 Portal Access \$350.00
Level 2 Tests (Intermediate Teach) \$60.00
Level 2 Seminars
\$660.00
August Junior Year
Level 2 Tests (Turf, Golf Oper, Merch \& Inv) \$180.00
Student Affiliate Fee
\$50.00
January Junior Year
Level 3 Portal Access
$\$ 350.00$
Level 3 Tests (Player Dev, F \& B) \$120.00

| August Senior Year |  |
| :--- | :--- |
| Level 3 Tests (HR \& Sup/Del) | $\$ 60.00$ |
| Student Affiliate Fee | $\$ 50.00$ |
| January Senior Year |  |
| Level 3 Seminars | $\$ 660.00$ |
| Level 3 Test (Advanced Teaching) | $\$ 60.00$ |

NOTE: These prices are estimates based on the latest information from PGA and UMES and are subject to change annually.

## PGA GOLF MANAGEMENT Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements. Students should consult their assigned advisor when selecting any course.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select ENGL $203^{1}$ plus one course in each of two disciplines:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSC 101, MUSC 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines:
Discipline A: SOCIAL SCIENCES
ECON 200, ECON 200 H, ECON 201, or ECON 201H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361, PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 8

Students must select PLSC 184 and PLSC 185 (lab) plus one course with lab from the following:
BIOL 101, BIOL 103 (lab)
CHEM 101, CHEM 103 (lab)

## Curriculum Area IV - MATHEMATICS

Credits 3
MATH 102, MATH 109
Curriculum Area V - ENGLISH COMPOSITION
Credits 9
ENGL 101 or ENGL 101H ${ }^{1}$
ENGL 102 or ENGL $102 \mathrm{H}^{1}$
ENGL 305/H/Online

## Curriculum Area VI - EMERGING ISSUES

## Credits 6

GNST 100 First Year Experience: this course has been incorporated into Core Course
PGMT 122: Orientation to PGA Golf Management
In addition, students must complete 6 credit hours with the following two courses:
EXSC 111: Personalized Health Fitness: This requirement is filled by successfully completing the PGA Player Ability Test.
TMGT 306: Eco \& Cultural Tourism
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.
FOUNDATION KNOWLEDGE
PGMT 122 Orientation to PGM
PGMT 170 PGM Internship I
PGMT 210 Tournament Operations
PGMT 222 PGM I
PGMT 230 Introduction to Teaching Principles
PGMT 270 PGM Internship II
PGMT 322 PGM II
PGMT 330 Intermediate Teaching Principles
PGMT 340 Player Development Programs
PGMT 353 Turfgrass Management 3
PGMT 355 Merchandising and Inventory 3
PGMT 370 Internship III 1
PGMT 422 PGM III 3
PGMT 430 Advanced Teaching Methods 3
PGMT 470 PGM Co- 3
HMGT 220 Technology Management 4
HMGT 301 Front Office Management 3
HMGT 303 Facilities, Operations, and Maintenance 3
HMGT 305 Entrepreneurship 3
HMGT 340 Hospitality Accounting 3
HMGT 350 Hospitality Marketing 3
HMGT 401 Hospitality Law 3
HMGT 440 Financial Analysis for the Hospitality Industry 3
FMGT 101 Food Service Sanitation 2
FMGT 110 Table Service 2
FMGT 211 Food Production I 3
FMGT 212 Food Production II 3
FMGT 301 Food \& Beverage Cost Accounting 3

## SUPPORTIVE COURSES

## Credits 3

Students must select one 3 credit course from the following:
AGNR 333A Weed Science 3
AGNR 423 Plant Nutrition and Soil Fertility 3
AGNR 463 Plant Genetics and Breeding 3
BUAD 300 Business Ethics/Online 3
CSDP 220 Intro to Computer Programming 4
EXSC 352 Exercise and Sport Psychology 3
EXSC 360 Exercise and Sport Nutrition 3
HORT 333 Landscape Design 3
NUDT 210 Elements of Nutrition 3
RECR 413 Therapeutic Recreation 3
SOIL 203 Intro to Soil Science 3
SOIL 443 Soil Chemistry 3
MAJOR ELECTIVE
Credits 9
Students must select HMGT 405 and TMGT 130 plus one course from the following:
HMGT 304 Facilities Design Project 3
HMGT 309 Beer, Wine, and Spirits 3
HMGT 497 Professional Development 3
HMGT 498 Professional Development 3
HMGT 499 Independent Study 1-3
FMGT 350 Commercial Food Production 3
PGMT 499 Independent Study 1-3
TGMT 499 Independent Study 1-3

CURRICULUM GUIDE FOR PROFESSIONAL GOLF MANAGEMENT
FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | ENGL 102 | 3 |
| PGMT 122 | 3 | ENGL 001 | 0 |
| FMGT 101 | 2 | PGMT 210 Hybrid | 3 |
| GEN ED CURR AREA I | 3 | FMGT 110 | 2 |
| PLSC 184 | 3 | PGMT 230 | 3 |
| PLSC 185 | 1 | GEN ED CURR AREA III/Lab ${ }^{2}$ | 4 |
|  |  | MATH 102 | 3 |
|  |  |  | 18 |
|  | Credit | SUMMER |  |
| PGMT 170 | 1 |  |  |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 203 | 3 | Supportive Course | 3 |
| HMGT 220 | 4 | FMGT 212 | 3 |
| PGMT 222 | 3 | PGMT 330 | 3 |
| FMGT 211 | 3 | GEN ED CURR AREA II 3 |  |
| ECON 200 or 201 AREA II | 3 | GEN ED CURR AREA I 3 |  |
|  | 15 |  | 15 |

SUMMER

|  | Credit |
| :--- | :--- |
| PGMT 270 | 1 |
| 1 |  |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| PGMT 353 | 3 | HMGT 350 | 3 |
| HMGT 301 | 3 | HMGT 303 | 3 |
| PGMT 355 | 3 | FMGT 301 | 3 |
| PGMT 322 | 3 | PGMT 340 | 3 |
| HMGT 340 | 3 | ENGL 305 | 3 |
| HMGT 305 | 3 |  | 15 |

## SUMMER

|  | Credit |
| :--- | :--- |
| PGMT 370 | 1 |
| 1 |  |

SENIOR YEAR I

|  | SeNIOR YEAR I |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| HMGT 405 | 3 | HMGT 401 | 3 |
| PGMT 422 | 3 | PGMT 430 | 3 |
| HMGT 440 | 3 | TGMT 306 | 3 |
| Major Elective | 3 | Playing Ability Test | 3 |
| TMGT 130 | 3 |  | 12 |
|  | 15 | SUMMER |  |
| Credit |  |  |  |

## SENIOR YEAR II

First Semester
PGMT 470: Continued

Total Credit Hours: 130
${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
${ }^{2}$ Student must select one science course and one science laboratory course.
${ }^{3}$ Student must select a course from either discipline to satisfy as an Elective.

## DIRECTORY OF FACULTY

Dillon, William, Assistant Professor \& Director
B.S., Winthrop University, M.S., Southern Wesleyan University

Prosser, Christopher, Lecturer/Internship Coordinator
B.S., Campbell University, M.B.A., Benedictine University

## Department of Mathematics and Computer Science

www.umes.edu/MCS

Dr. Robert Johnson, Chairperson

## MISSION

The Department of Mathematics and Computer Science offers Bachelor of Science degree programs in Mathematics, Mathematics Education, and Computer Science and a Master of Science degree in Applied Computer Science ${ }^{1}$. The Department also provides, for all undergraduate and graduate programs, service courses in mathematics and computer sciences.

Computing Resources: The Department has two computer laboratories equipped with over 40 64-bit i7 PCs. These computer facilities and several other campus wide computer facilities are available for all students. Students in both undergraduate and graduate courses benefit from the wide variety of computing resources made available at the University of Maryland Eastern Shore as a member of the University System of Maryland. Both Unix-based and Windows-based systems provide a rich computing environment both for majors and for students in service courses.

Library facilities are extensive and are supplemented each year. Opportunities exist for student participation in faculty research projects. While computer laboratory facilities are open and available all day and evening, most graduate courses are scheduled in the early evening so that those working during the day can participate.

## OBJECTIVES

The Department seeks to:

1. Attract and retain students in Departmental programs by providing current and challenging curricula, effective advisement, and innovative instructional strategies;
2. Attract and retain well qualified faculty dedicated to preparing students, both academically and socially, to be competitive in the global workforce environment;
3. Develop and implement up-to-date curricula that provides a balance between theory and practice;
4. Develop and maintain up-to-date computing facilities and other learning/instructional environments;
5. Provide co-curricular opportunities for students via participation in faculty/student research projects, student programming and design competitions, professional or student organizations, and pre-professional internships;
6. Encourage undergraduate and graduate students to participate in inter-disciplinary research activities and industry-funded design projects; and
7. Develop and maintain mutual cooperation and partnerships with area industries.

## DEGREES OFFERED

Bachelor of Science - Mathematics
Bachelor of Science - Mathematics Education
Bachelor of Science - Computer Science with Business Focus
Bachelor of Science - Computer Science
Master of Science - Applied Computer Science (for details, see Graduate Catalog)

## GENERAL PROGRAM REQUIREMENTS

Prospective freshmen students must have earned a high school diploma from an accredited school or have completed the requirements for and have received the GED. Additionally, students must have successfully completed the following: four years of English; three years of social science/ history; two years of a laboratorybased science; three years of mathematics, including Algebra I, II and Geometry; and two years of a foreign language.

## DEPARTMENTAL REQUIREMENTS

Mathematics - This program is designed for persons who wish to pursue careers in mathematical analysis or modeling in government, industrial, financial, consulting, or academic settings. The content of this program covers a broad spectrum of pure and applied mathematics. Courses are offered in a variety of topics including Calculus, Real and Complex Analysis, Number Theory, Topology, Linear Algebra, Modern Algebra, Statistics, Numerical Analysis, and Probability. It is highly recommended that students take 300 and 400 upper level computer science, natural science, and engineering and technology courses relevant to their field of interest. The program requires 120 credit hours with a grade of "C" or better in required major and elective courses.

Mathematics Education - This program is designed for persons who wish to pursue careers in secondary mathematics education. The content of this program is similar to that of Mathematics . It is supplemented by professional education coursework. The program requires 130 credit hours with a grade of "C" or better in the required major courses, electives, and professional education courses. Students should consult the Department of Education about the minimum GPA requirement for admission into education programs.

Computer Science - The Computer Science program is ideal for persons who wish to pursue their careers in government agencies, private corporations or graduate study in computer science-related interdisciplinary degree programs. The content of this degree program is designed to train students in the theory and application of computer science in a variety of disciplines. Courses are offered in a variety of topics including programming languages, data structures, computer organization and architecture, software engineering, operating systems, and other computer science areas. It is highly recommended that students take 300 and 400 upper level computer science, natural sciences, and engineering and technology courses relevant to the field of interest. Completion of the B.S. degree in Computer Science requires 120 credits, with a grade of " C " or better in the required major computer science courses electives and in the mathematics courses.

Computer Science with Business Focus - This program is designed for persons who wish to pursue careers in information systems, operations research, and database management. The content of this program is designed to train students in the theory and application of computer science and its application in business disciplines. Courses include Software Engineering, Operations Research, Computer Organization, Data Structures and Algorithms, Theory of Computation, Programming Languages, Databases and Operating Systems. Courses in accounting and other business areas augment the Computer Science curriculum. It is highly recommended that students take 300 and 400 level computer science, natural sciences, and engineering and technology courses relevant to the field of interest. The program requires 120 credit hours, with a grade of " C " or better in the required major courses, electives, and in the mathematics courses.

## MATHEMATICS

## CAREER OPPORTUNITIES

A B.S. degree in Mathematics will offer opportunities in research organizations, public and private industry, government and academia.

## DEPARTMENTAL REQUIREMENTS

This program covers a broad spectrum of pure and applied mathematics. Courses are offered in a variety of topics including Calculus, Real and Complex Analysis, Number Theory, Topology, Linear Algebra, Modern Algebra, Statistics, and Probability. It is designed for persons who wish to pursue careers in statistics, actuarial science, mathematical modeling, and graduate study in mathematics or statistics. It is advisable that students take 300 and 400 level computer science, natural sciences, engineering and technology courses relevant to the field of interest. The program requires 120 credit hours with a grade of " C " or better in required major and other mathematics courses.

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select:
Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
Two courses from the following:
Discipline C: LANGUAGE
FREN 101 and FREN 102 or SPAN 101 and SPAN 102

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 200 or ECON 200H
ECON 201 or ECON 201H
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H
POLI 200 or POLI 200H, or POLI 342
SOCI 101 or SOCI 101H

## Discipline B: BEHAVIORAL SCIENCES

CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES
Credits 8
Students must select two science courses and one science laboratory course from the following.
BIOL 111, BIOL 113 (lab) and
BIOL 112, BIOL 114 (lab) or
CHEM 111, CHEM 113 (lab) and CHEM 112, CHEM 114

[^117]Curriculum Area IV - MATHEMATICS
MATH 112
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$ Credits 9
Credits 4ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
Curriculum Area VI - EMERGING ISSUES
Credits 4
CSDP 100 First Year Experience or other Departmental orientation courseEXSC 111 Personalized Health Fitness
Total Required for General Education
Credits 40
PROGRAM CORE REQUIREMENTS
ENGL 305/H/Online or ENGL 310/H/Online
MATH 211 Calculus and Analytic Geometry II
MATH 212 Calculus and Analytic Geometry III
Credits 434MATH 232 Introduction to Linear Algebra4MATH 300 Foundations of Mathematics3
3
MATH 309 Introduction to Probability ..... 3
MATH 310 Mathematical Statistics I ..... 3
MATH 321 Differential Equations ..... 4
MATH 342 Advanced Calculus ..... 3
MATH 411 Modern Algebra ..... 3
MATH 412 Linear Algebra ..... 3
MATH 442 Complex Analysis ..... 3
MATH 443 Real Analysis ..... 3
MATH 490 Senior Seminar ..... 1
CSDP 341 Numerical Analysis ..... 3
MAJOR ELECTIVES

## Credits 9

Students should consult with their assigned advisor and select at least three additional courses according to their desired interest:

| PURE MATHEMATICS CONCENTRATION |  |  |
| :--- | :--- | :--- |
| MATH 301 | College Geometry |  |
| MATH 302 | Number Theory | 3 |
| MATH 440 | Topology | 3 |
| MATH 444 | Real Analysis II | 3 |
| MATH 498 | Topics in Math | 3 |
| CSDP 499 | Undergraduate Research | 3 |
| MATH 413 | Modern Algebra II | 3 |

APPLIED MATHEMATICS CONCENTRATION
MATH 302 Number Theory ..... 3
MATH 350 Linear Programming ..... 3
MATH 410 Mathematical Statistics II ..... 3
CSDP 442 Numerical Analysis II ..... 3
MATH 455 Mathematical Modeling ..... 3
MATH 498 Topics in Math ..... 3
CSDP 499 Undergraduate Research ..... 3

Other 300 and 400 level courses in Mathematics and Computer Science may be substituted for some of these electives.

| SUPPORTIVE COURSE REQUIREMENTS |  |  | Credits 16 |
| :--- | :--- | :--- | :--- |
| PHYS | 181 H | Introductory Physics I (Honors) | 3 |
| PHYS | 183 H | Introductory Physics I (Honors) Laboratory | 1 |
| PHYS | 182 H | Introductory Physics II (Honors) | 3 |
| PHYS | 184 H | Introductory Physics II (Honors) | 1 |
| CSDP | 221 | Introduction to Computer Programming Intensive | 4 |
| CSDP | 222 | Advanced Programming | 4 |

FREE ELECTIVE COURSES
Credits 12
It is advisable to take 300 and 400 level mathematics, computer science, engineering, and technology courses relevant to fields of interest.

|  | CURRICULUM GUIDE FOR MATHEMATICS <br> FRESHMAN YEAR |  |  |  |
| :--- | :--- | :--- | :--- | :---: |
| First Semester | Credit | Second Semester | Credit |  |
| MATH 112 | 4 | MATH 211 | 4 |  |
| ENGL 101 | 3 | ENGL 102 | 3 |  |
| EXSC $111^{1}$ | 3 | ENGL 001 | 0 |  |
| GNST 100 | 1 | GEN ED CURR AREA III ${ }^{3}$ | 3 |  |
| GEN ED CURR AREA III $^{3}$ | 3 | GEN ED CURR AREA III ${ }^{4}$ | 1 |  |
| GEN ED CURR AREA III |  | CSDP 221 | 4 |  |
|  | 1 |  | 15 |  |

## SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| MATH 212 | 4 | MATH 321 | 4 |
| ENGL 203 | 3 | GEN ED CURR AREA II | 3 |
| CSDP 222 | 4 | FREN 102 or |  |
| FREN 101 or |  | SPAN 102 | 3 |
| SPAN 101 | 3 | GEN ED CURR AREA II ${ }^{6}$ | 3 |
| MATH 300 | 3 | MATH 232 | 3 |
|  | 17 |  | 16 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| MATH 342 | 3 | MATH Elective | 3 |
| PHYS 181H | 3 | PHYS 182H | 3 |
| PHYS 183H | 1 | PHYS 184H | 1 |
| MATH 309 | 3 | MATH 411 | 3 |
| ENGL 305 | 3 | MATH 310 | 3 |
|  |  | Free Elective | 3 |
|  | 13 | SENIOR YEAR | 16 |
| First Semester | Credit | Second Semester | Credit |
| MATH 443 | 3 | MATH 442 | 3 |
| MATH 412 | 3 | MATH 490 | 1 |
| CSDP 341 | 3 | MATH Elective | 3 |
| MATH Elective | 3 | Free Elective | 3 |
| Free Elective | 3 | Free Elective | 3 |
|  |  |  | 13 |

Total Credits Hours: 120

[^118]
## MATHEMATICS EDUCATION

The content of this program is similar to that of Mathematics. It is supplemented by professional education coursework. This program is designed for persons who wish to pursue careers in secondary mathematics education.

## CAREER OPPORTUNITIES

A B.S. degree in Mathematics Education provides entry level employment in Middle School/High School teaching, and curriculum development and supervision roles in public school systems.

## DEPARTMENTAL REQUIREMENTS

The program requires 130 credit hours with a grade of "C" or better in the required major courses and required professional education courses. Students should consult the Department of Education about the minimum GPA requirement for education majors.

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select:
Discipline E: SPEECH ENGL $203^{1}$ plus:
Two courses from the following:
Discipline C: LANGUAGE
FREN 101 and FREN 102 or SPAN 101and SPAN 102

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 201 or ECON 201H
ECON 200 or ECON 200H
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H
POLI 200 or POLI 200H, or POLI 342
SOCI 101 or SOCI 101H

## Discipline B: BEHAVIORAL SCIENCES

PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 8
Students must select two science courses and one science laboratory course from the following.
PHYS 181H and PHYS 183H (lab)
PHYS 182H and PHYS 184H (lab)
Curriculum Area IV - MATHEMATICS

## Credits 4

MATH 112
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H

ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES ..... Credits 4EDCI 100 First Year Experience or other Departmental orientation courseEXSC 111 Personalized Health Fitness

| Total Required for General Education | Credits $\mathbf{4 0}$ |  |
| :--- | :--- | :--- |
| PROGRAM CORE REQUIREMENTS | Credits $\mathbf{3 9}$ |  |
| MATH 211 | Calculus and Analytic Geometry II | 4 |
| MATH 212 | Calculus and Analytic Geometry III | 4 |
| MATH 232 | Introduction to Linear Algebra | 3 |
| MATH 300 | Foundations of Mathematics | 3 |
| MATH 301 | College Geometry | 3 |
| MATH 302 | Number Theory | 3 |
| MATH 304 | History of Math and Computer Science | 3 |
| MATH 309 | Introduction to Probability | 3 |
| MATH 310 | Mathematical Statistics I | 3 |
| MATH 321 | Differential Equations | 4 |
| MATH 342 | Advanced Calculus | 3 |
| MATH 411 | Modern Algebra | 3 |PROFESSIONAL EDUCATION REQUIREMENTSCredits 42

EDCI 200 Introduction to Contemporary Education ..... 3
EDCI 201 PRAXIS Preparation (at least one credit) ..... $1^{2}$
EDCI 311 Comprehensive Assessment in Education ..... 3
EDCI 400 Senior Seminar in Education ..... 3
EDCI 406 Classroom Management ..... 3
EDCI 409 Teaching Reading in the Content Areas: Part I ..... 3
EDCI 410 Teaching Reading in the Content Areas: Part II ..... 3
EDCI 425C Curriculum and Instruction in Mathematics ..... 3
EDCI 480 Teaching Internship: Secondary Program (7-12): Middle School 6
EDCI 490 Teaching Internship: Secondary Program (7-12): Middle School 6
EDSP 428 Communication and Collaboration in Special Education ..... 3
PSYC 305 Developmental Psychology ..... 3
PSYC 307 Educational Psychology ..... 3
SUPPORTIVE COURSE REQUIREMENTS
Credits 8
CSDP 221 Introduction to Computing Programming Intensive ..... 4
CSDP 222 Advanced Programming ..... 4

[^119]CURRICULUM GUIDE FOR MATHEMATICS EDUCATION FRESHMAN

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| MATH 112 | 4 | MATH 211 | 4 |
| ENGL 101 | 3 | ENGL 102 | 3 |
| FREN 101 or |  | ENGL 001 | 0 |
| SPAN 101 | 3 | FREN 102 or |  |
| GEN ED CURR AREA II ${ }^{1}$ | 3 | SPAN 102 | 3 |
| EDCI 100 | 1 | CSDP 221 | 4 |
| EXSC 111 | PSYC 100 | 3 |  |
|  | 3 |  | 17 |
|  | 17 | SOPHOMORE YEAR |  |
| First Semester |  | Second Semester | Credit |
| MATH 212 | 4 | MATH 232 | 3 |
| ENGL 203 | 3 | PYSC 307 | 3 |
| PHYS181H | 3 | MATH 300 | 4 |
| PHYS183H | 1 | PHYS182H | 3 |
| EDCI 200 | 3 | PHYS184H | 1 |
| EDCI 201 | 1 | GEN ED CURR AREA II ${ }^{1}$ | 3 |
| CSDP 222 | 3 |  | 3 |
|  | 17 |  | 17 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| MATH 342 | 3 | EDCI 406 | 3 |
| MATH 321 | 4 | EDCI 409 | 3 |
| EDCI 311 | 3 | MATH 302 | 3 |
| MATH 309 | 3 | MATH 411 | 3 |
| ENGL 305 or | 3 | MATH 310 | 3 |
| ENGL 310 | 16 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| MATH 301 | 3 | EDCI 400 | 3 |
| MATH 304 | 3 | EDCI 480 | 6 |
| EDCI 410 | 3 | EDCI 490 | 6 |
| EDCI 425C | 3 |  |  |
| EDSP 428 | 3 |  | 15 |

Total Credits Hours: 129

[^120]
## COMPUTER SCIENCE

The content of this degree program is designed to train students in the theory and application of computer science and the application in a variety of disciplines. Courses are offered in a variety of topics including programming languages, data structures, computer organization and architecture, software engineering, operating systems, and other computer science topics. The Computer Science program is ideal for persons who wish to pursue their careers in government agencies or private corporations or graduate study in computer science-related multidisciplines. It is advisable that students take 300 and 400 level computer science, natural sciences, engineering and technology courses relevant to the field of interest.

## CAREER OPPORTUNITIES

Career opportunities in computer science include: Software Engineering, Systems Analysts, Computer Programming, Project Management, Government, Public, and Private Organizations, Academia, and Research Organizations.

## DEPARTMENTAL REQUIREMENTS

Completion of the B.S. degree in Computer Science requires 120 credits, with a grade of "C" or better in required major and advanced computer science courses and courses in mathematics.

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select:
Discipline E: SPEECH ENGL $203^{1}$ plus:
Two courses from the following:
Discipline C: LANGUAGE
FREN 101 and FREN 102 or SPAN 101 and SPAN 102

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 201 or ECON 201H
ECON 200 or ECON 200H
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H
POLI 200 or POLI 200H, or POLI 342
SOCI 101 or SOCI 101H

## Discipline B: BEHAVIORAL SCIENCES

CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

[^121]Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 8
Students must select two science courses and two science laboratory courses from the following.
BIOL 111, BIOL 113 (lab) and
BIOL 112, BIOL 114 (lab) or
CHEM 111, CHEM 113 (lab) and CHEM 112, CHEM 114

## Curriculum Area IV - MATHEMATICS

MATH 112
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$

## Credits 4

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

## Curriculum Area VI - EMERGING ISSUES

## Credits 4

CSDP 100 First Year Experience or other Departmental orientation course EXSC 111 Personalized Health Fitness

## Total Required for General Education

Credits 40

## PROGRAM CORE REQUIREMENTS

A) Computer ScienceCSDP 221 Introduction to Computer Programming4CSDP 222 Advanced Programming ..... 4
CSDP 250 Data Structures ..... 3
CSDP 301 Computer Organization \& Assembly Language Programming ..... 3
CSDP 305 Software Engineering I ..... 3
CSDP 332 Internet Programming ..... 3
CSDP 351 Computer Architecture ..... 3
CSDP 390 Social, Ethical and Legal Issues in Computer Science ..... 3
CSDP 398 Computer Language Topics A: Java ..... 3
CSDP 399 Computer Language Topics B: UNIX ..... 3
CSDP 401 Operating Systems ..... 3
CSDP 403 Computer Language Theory ..... 3
CSDP 404 Database Management Systems ..... 3
CSDP 450 Algorithms and Data Structures ..... 3
CSDP 490 Senior Design Project ..... 3
*Advanced Computer Science Electives (choose one) ..... Credits 3
CSDP 199 MatLab Programming ..... 3
CSDP 431 Data Warehousing and Data Mining ..... 3
CSDP 345 Mobile Robotics ..... 3
CSDP 341 Numerical Analysis I ..... 3
CSDP 402 Computer Networks ..... 3
CSDP 405 Software Engineering II ..... 3
CSDP 406 Introduction to Artificial Intelligence ..... 3
CSDP 442 Numerical Analysis II ..... 3
CSDP 498 Selected Topics in Computer Science A ..... 3

MATH (In addition to courses satisfying Curr Area IV)

## Credits 16

MATH 211 Calculus II 4
MATH 232 Introduction to Linear Algebra 3
MATH 309 Introduction to Probability 3
MATH 323 Introduction to Discrete Structures 3
MATH 360 Statistics for Scientists 3
SCIENCE (In addition to courses satisfying Curr Area III)
Credits 4
Additional science courses offered in Biology or Chemistry above the 111 level, or Physics at the 181 level or above.

Broadening Courses (In addition to courses satisfying Curr Area I Credits 6
Two additional courses in Arts, Humanities, Social Science or Behavioral Science
FREE ELECTIVE COURSES
Credits 4
It is recommended taking 300 and 400 level computer science, natural sciences, engineering, and technology courses relevant to fields of interest.

## CURRICULUM GUIDE FOR COMPUTER SCIENCE

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 or | 1 | BIOL 114 or | 1 |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| ENGL 101 | 3 | ENGL 102 | 3 |
| CSDP 100 | 1 | ENGL 001 | 0 |
| EXSC $111^{1}$ | 3 | CSDP 221 | 4 |
| GEN ED CURR AREA III | 3 | MATH 112 | 4 |
| FREE Elective | 1 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 203 | 3 | CSDP 250 | 3 |
| MATH 211 | 4 | BIOL or CHEM or PHYS ${ }^{3}$ | 4 |
| CSDP222 | 4 | MATH 323 | 3 |
| FREN 101 or |  | MATH 309 | 3 |
| SPAN 101 | 3 | FREN 102 or |  |
|  |  | SPAN 102 | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CSDP 301 | 3 | CSDP 305 | 3 |
| CSDP 398 | 3 | CSDP 399 | 3 |
| CSDP 403 | 3 | CSDP 390 | 3 |
| MATH 232 | 3 | MATH 360 | 3 |
| ENGL 305 | 3 | CSDP 332 | 3 |
|  | 15 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CSDP 404 | 3 | CSDP 401 | 3 |
| CSDP 450 | 3 | CSDP Elective | 3 |
| CSDP 351 | 3 | CSDP 490 | 3 |
| GEN ED CURR AREA II | 3 | GEN ED CURR AREA ${ }^{4}$ | 3 |
| GEN ED CURR AREA $^{4}$ | $\underline{3}$ | FREE Elective | $\underline{3}$ |
|  | 15 |  | 15 |

Total Credits Hour: 120
${ }^{1}$ EXSC 111 cannot be repeated for credit.
${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
${ }^{3}$ Student must take one course in addition to GEN ED CURR AREA III.
${ }^{4}$ Student must take two courses in addition to GEN ED CURR AREA II.

## COMPUTER SCIENCE WITH BUSINESS FOCUS

The content of this program is designed to train students in the theory and application of computer science and its application in business disciplines. Courses include Software Engineering, Operations Research, Computer Organization, Data Structures and Algorithms, Theory of Computation, Programming Languages, Databases and Operating Systems. Courses in accounting and other business areas augment the Computer Science curriculum. This program is designed for persons who wish to pursue careers in information systems, operations research, and database management. It is advisable that students take 300 and 400 upper level computer science, natural sciences, engineering and technology courses relevant to the field of interest.

## DEPARTMENTAL REQUIREMENTS

The program requires 120 credit hours, with a grade of "C" or better in the common required courses, the required major and advanced courses in the electives and in the mathematics courses.

## Required Courses

GENERAL EDUCATION REQUIREMENTS
All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration.

## Curriculum Area I - ARTS AND HUMANITIES

Credit 9
Students must select:
Discipline E: SPEECH ENGL $203^{1}$ plus:
Two courses from the following:
Discipline C: LANGUAGE
FREN 101 and FREN 102 or SPAN 101 and SPAN 102

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credit 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 201 or ECON 201H
ECON 200 or ECON 200H
GEOG 201 or GEOG 202
HIST 101/101H, HIST 102/102H
POLI 200 or POLI 200H, or POLI 342
SOCI 101 or SOCI 101H

## Discipline B: BEHAVIORAL SCIENCES

CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 8

Students must select two science courses two science laboratory courses from the following.
BIOL 111, BIOL 113 (lab) and
BIOL 112, BIOL 114 (lab) or
CHEM 111, CHEM 113 (lab) and
CHEM 112, CHEM 114

## Curriculum Area IV - MATHEMATICS

MATH 112
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 4

ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES Credits 4
CSDP 100 First Year Experience or other Departmental orientation course EXSC 111 Personalized Health Fitness

Total Required for General Education

## Credits 40

PROGRAM CORE REQUIREMENTS
Computer Science

## Credits 47

CSDP 221 Introduction to Computer Programming 4
CSDP 222 Advanced Programming 4
CSDP 240 Principles of Data Processing 3
CSDP 241 File Structures 3
CSDP 250 Data Structures 3
CSDP 301 Computer Organization \& Assembly Language Programming 3
CSDP 305 Software Engineering I 3
CSDP 431 Data Warehousing and Data Mining 3
CSDP 332 Internet Programming 3
Advanced ( 15 credits)
CSDP 390 Social, Ethical \& Legal Issues in Computer Science 3
CSDP 402 Computer Networks 3
CSDP 404 Database Management Systems 3
CSDP 405 Software Engineering II 3
CSDP 490 Senior Design Project 3
*Advanced Computer Science Electives (choose one) ( $\mathbf{3}$ credits)
CSDP $199 \quad$ MatLab Programming
CSDP 345 Introduction to Mobile Robotics Programming 3
CSDP 406 Introduction to Artificial Intelligence 3
CSDP 407 Advanced Databases 3
CSDP 498 Selected Topics in Computer Science: A 3
CSDP 398 Computer Language Topics A: Java 3
MATH 350 Linear Programming 3
MATH (In addition to courses satisfying Curr Area IV)
Credits 9
MATH 210 Elementary Statistics 3
MATH 232 Introduction to Linear Algebra 3
MATH 323 Introduction to Discrete Structures 3

[^122]ECONOMICS AND BUSINESS

## Core (15 credits)

ECON 201 Principles of Macroeconomics
ECON 200 Principles of Microeconomics 3
ACCT 201 Introductory Financial Accounting 3
ACCT 202 Introductory Corporate and Managerial Accounting 3
BuSiness Elective I (CHOOSE 1-3 CREDITS)
MKTG 308, FINA 340, or BUAD 302
3
*Advanced Business Electives (CHOOSE 1-3 CREDITS)
MKTG 310, MKTG 312, MKTG 314, MKTG 315, MKTG 401, MKTG 404, FINA 341, FINA 440, FINA 441, BUAD 303, BUAD 412, BUAD 420

3

Broadening Courses (In addition to courses satisfying Curr Area I Credits 6
Two additional courses in Arts, Humanities, Social Science or Behavioral Science

## CURRICULUM GUIDE FOR COMPUTER SCIENCE WITH BUSINESS FOCUS

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | BIOL 112 and | 3 |
| BIOL 113 or | 1 | BIOL 114 or | 1 |
| CHEM 111 |  | CHEM 112 and |  |
| CHEM 113 | 3 | CHEM 114 |  |
| ENGL 101 | 1 | ENGL 102 | 3 |
| CSDP 100 | 3 | ENGL 001 | 0 |
| EXSC 111 | CSDP 221 | 4 |  |
| GEN ED CURR AREA $I I^{2}$ | 3 | MATH 112 | 4 |
|  | 14 |  | 15 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ACCT 201 | 3 | GEN ED CURR AREA II ${ }^{2}$ | 3 |
| ECON 201 | 3 | ACCT 202 | 3 |
| ENGL 203 | 3 | ECON 200 | 3 |
| CSDP 222 | 4 | FREN 102 or |  |
| FREN 101 or |  | SPAN 102 | 3 |
| SPAN 101 | 3 | CSDP 250 | 3 |
|  | 16 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | First Semester | Credit |
| :--- | :--- | :--- | :--- |
| MATH 210 | 3 | CSDP 241 | 3 |
| CSDP 240 | 3 | CSDP 305 | 3 |
| MATH 232 | 3 | CSDP 332 | 3 |
| Business Elective4 ${ }^{2}$ | 3 | CSDP 390 | 3 |
| ENGL 305 | 3 | MATH 323 | 3 |
|  | 15 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CSDP 301 | 3 | Advanced Business Elective $^{5}$ | 3 |
| CSDP 404 | 3 | CSDP 490 | 3 |
| CSDP 405 | 3 | Advanced Information System ${ }^{6}$ | 3 |
| CSDP 402 | 3 | CSDP 331 | 3 |
| Broadening Course $^{7}$ | 3 | Broadening Course $^{7}$ | 3 |
|  | 15 |  | 15 |

Total Credit Hours: 120
${ }^{1}$ EXSC 111 cannot be repeated for credit.
${ }^{2}$ Certain Business Electives may require specific choices for these courses.
${ }^{3}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
${ }^{4}$ Student must select a Business Elective.
${ }^{5}$ Student must select an Advanced Business Elective.
${ }^{6}$ Student must select a CS Elective.
${ }^{7}$ Student must take two courses in addition to GEN ED CURR AREA II

## MINOR PROGRAMS

The Department offers a minor in both Computer Science and in Mathematics as well as a graduate program leading toward an M.S Degree in Applied Computer Science ${ }^{1}$ (unique in the state of Maryland).

A grade of "C" or better is required in the courses taken to satisfy the minor. In accordance with the particular guidelines given below, specific minor programs for individual students will be set up and approved by the Chair of the Department, or a designee, in consultation with the student involved. Students in a program (like computer science directed toward science or business) that requires Calculus I or the first computer course cannot do any of our minors since all these specifically require MATH 112 or CSDP 221.

For double majors, students are allowed to substitute other upper-level courses, approved by the chair, for such duplicate required courses.

## MATHEMATICS

A student can minor in Mathematics by taking 20 credits in Mathematics including MATH 112 (Calculus I), MATH 211 (Calculus II) and at least three 3-credit 300 and 400 level courses in Mathematics. A 3-credit 300 or 400 level computer science course may be used in place of one of the 300 or 400 level mathematics courses.

## COMPUTER SCIENCE

A student may minor in Computer Science by taking the following courses: CSDP 221 (Introduction to Computer Programming: Intensive), CSDP 222 (Advanced Programming), CSDP 250 (Data Structures), CSDP 332 (Internet Programming), and two 3-credit 400 level computer science courses. Twenty (20) credits are needed for the minor in Computer Science.

## COMPUTER SCIENCE WITH BUSINESS FOCUS

A student may minor in Computer Science with business focus by taking the following courses: CSDP 221 (Introduction to Computer Programming: Intensive), CSDP 222 (Advanced Programming), CSDP 250 (Data Structures), CSDP 332 (Internet Programming), CSDP 404 (Database management), CSDP 407 (Advanced Data base management). Twenty (20) credits are needed for the minor in Computer Science with Business Focus.

## Department of Technology

www.umes.edu/SBT

Dr. Derrek B. Dunn, Chairperson

## MISSION

The central mission of the Department of Technology at the University of Maryland Eastern Shore is to serve the Eastern Shore region, the State of Maryland, and the nation by improving technical education and the professional technical practice of construction and engineering technology. The mission is achieved through high quality instruction, research, and community service. Through the teaching and learning process the department aims to provide knowledge, skills, and values to students preparing for professional technical careers and persons currently employed in industry. New technical and professional knowledge is developed and disseminated through research and community service. Academic programs include Construction Management Technology, Engineering Technology, and Technology and Engineering Education. Each program emphasizes basic knowledge and up-to-date technical skills that will enable graduates to solve problems in a logical manner and to draw conclusions from principles and facts. Through the humanistic studies in each program, students are taught to recognize their responsibilities as citizens to prepare themselves for active participation in society.

## OBJECTIVES

The educational experiences offered by the Department of Technology will provide students with opportunities to:

1. Demonstrate an operational knowledge of the techniques associated with the design, construction and maintenance of residential and commercial structures;
2. Exercise independent judgment and sound ethical values in expediting work without jeopardizing its effectiveness, safety or cost;
3. Organize and manage personnel, materials and equipment for carrying out construction, maintenance and operation of complex engineering systems;
4. Demonstrate effective communication of ideas by means of spoken and written language as well as graphic techniques;
5. Solve technical problems that translate ideas into functioning machines, structures and systems;
6. Plan and implement instructional programs to meet the needs of students in a technological age;
7. Plan and instruct technology education programs that promote technical literacy through the application of mathematics and science and other subjects in classroom and laboratory activities;
8. Improve the professional technical practice of Construction Management, Engineering Technology, and Technology Education through continuing education and community service; and
9. Demonstrate humanistic values and responsibilities that promote active participation as productive citizens.

## DEGREES OFFERED

Bachelor of Science - Construction Management Technology
Bachelor of Science - Engineering Technology
Bachelor of Science - Technology and Engineering Education
Masters of Education ${ }^{1}$ - Career and Technology Education

## GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate programs in the Department of Technology is based upon the general admission requirements of the University.

## DESCRIPTION OF PROGRAMS

The Construction Management Technology (CMTE) curriculum is a four year program of study leading to a Bachelor of Science Degree. This interdisciplinary curriculum accredited by the American Council for Construction Education (ACCE) provides a background in the several physical and applied sciences and construction technology. Technical content is balanced by courses in business management, communications, humanities, and social sciences. This broad diversification provides the technical base needed for immediate employment as well as the managerial concepts for career development. Students must complete 126 semester hours of designated coursework including supervised internship in the construction industry. A minimum grade of "C" must be achieved in prerequisite courses, major core courses, supportive courses, technical elective courses, and selected general education courses.

The curriculum in Engineering Technology (ETEE/ETME) follows TAC/ABET recommendations and offers upper division courses leading to a Bachelor of Science Degree in Electrical/Electronic Engineering Technology. The program is designed to provide a flexible course of study for students holding an Associate Degree in Engineering Technology from the Maryland Community College system and for students transferring out of the regular engineering program. The first two years may be completed through any of the engineering technology programs offered by an accredited community college. The Electrical/Electronics option is designed to prepare graduates for a career in the Electrical Engineering field. The curriculum provides in-depth exposure to the areas of communications, digital systems (including microprocessors), power machinery, and electronic systems design. The goal of the Engineering Technology program is to prepare students for a challenging career in Electrical/Electronic Engineering Technology. After receiving the Bachelor of Science degree, graduates are employed as Engineering Technologists. The emphasis in engineering technology courses is the practical design and utilization of devices and systems, with a strong laboratory program supporting the lecture courses.

Technology and Engineering Education (EDTE) is a four-year program of study leading to a Bachelor of Science degree, which will certify students to teach technology education in the secondary school. Students acquire technical knowledge and skills through creative and problem solving learning experiences related to the designed world. A sequence of professional education and liberal studies courses are also required to develop leadership and citizenship skills needed for successful teaching. A total of 126 credits are required for graduation. A minimum grade of " C " must be achieved in prerequisite courses, major core courses, supportive courses, technical elective courses, and selected general education courses.

[^123]
## CONSTRUCTION MANAGEMENT TECHNOLOGY

The Construction Management Technology (CMTE) curriculum is a four-year program of study leading to a Bachelor of Science Degree. This interdisciplinary curriculum accredited by the American Council for Construction Education (ACCE) provides a background in the several physical and applied sciences and construction technology. Technical content is balanced by courses in business management, communications, humanities, and social sciences. This broad diversification provides the technical base needed for immediate employment as well as the managerial concepts for career development.

The goal of the Construction Management Technology program is the preparation of well educated professionals for challenging careers in the construction industry. Emphasis is placed on preparing professionals who are capable of managing the total construction process. Graduates qualify for employment with general contracting and subcontracting firms and in government.

## DEPARTMENTAL REQUIREMENTS

Students must complete 126 semester hours of designated coursework including supervised internship in the construction industry. A minimum grade of "C" must be achieved in prerequisite courses, major core courses, supportive courses, technical elective courses, and selected general education courses. Course requirements other than those listed should be selected in consultation with the advisor or Department Chairperson.

## CAREER OPPORTUNITIES

A degree in Construction Management Technology prepares individuals for challenging careers in the construction industry with the ability to manage and supervise the total construction process.

## CONSTRUCTION MANAGEMENT TECHNOLOGY GENERAL Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
or
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
One course from:
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 200 or ECON 200H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101
HUEC 203, HUEC 220, HUEC 361
PSYC 100
SOCI 201
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 8
Students must select two science courses and two science laboratory courses from the following:
PHYS 121, PHYS 123 (lab)
PHYS 122, PHYS 124 (lab).

## Curriculum Area IV - MATHEMATICS <br> Credits 8

MATH 109, if a student needs MATH 101, he/she must take before MATH 109, MATH 110,
MATH 111 H, MATH 112.
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES
Credits 1
EDTE 100 First Year Experience Course

## Total Required for General Education

## Credits 41

[^124]ELECTIVE BUSINESS COURSES
BUAD 132, BUAD 300, BUAD 304, BUAD 412, FINA 340, FINA 441, FINA 442
REQUIRED COURSES IN MAJOR
CMTE 201 Architectural Drawing
Credits 67
CMTE 205 Computer Applications in Construction
CMTE 214 Construction Surveying 3
CMTE 230 Construction Materials 3
CMTE 286 Construction Planning \& Scheduling 3
CMTE 295 Construction Management Internship I 2
CMTE 313 Statics 3
CMTE 314 Strength of Materials 4
CMTE 315 Environmental Technology I 3
CMTE 316 Environmental Technology II 3
CMTE 317 Soils in Construction 3
CMTE 325 Construction Methods and Equipment 3
CMTE 342 Construction Estimating I 3
CMTE 350 Green Building Fundamentals 3
CMTE 395 Construction Management Internship II 2
CMTE 413 Structural Design I 3
CMTE 414 Structural Design II 3
CMTE 425 Construction Management I 3
CMTE 426 Construction Management II 3
CMTE 445 Construction Estimating II 3
CMTE 454 Site Development 3
CMTE 458 Senior Seminar 2
EDTE 131 Computer-Assisted Drawing and Design I (CAD) 3

## CURRICULUM GUIDE FOR CONSTRUCTION MANAGEMENT TECHNOLOGY

FRESHMAN YEAR


Total Credits Hours: 126

[^125]
## ELECTRICAL/ELECTRONICS ENGINEERING TECHNOLOGY

The curriculum in Engineering Technology (ETEE/ETME) follows TAC/ABET recommendations and offers upper division courses leading to a Bachelor of Science Degree in Electrical/Electronic Engineering Technology. The program is designed to provide a flexible course of study for students holding an Associate Degree in Engineering Technology from the Maryland Community College system and for students transferring out of the regular engineering program. The first two years may be completed through any of the engineering technology programs offered by an accredited community college. The Electrical/Electronics option is designed to prepare graduates for a career in the Electrical Engineering field. The curriculum provides in-depth exposure to the areas of communications, digital systems (including microprocessors), power machinery, and electronic systems design.

The goal of the Engineering Technology program is to prepare students for a challenging career in Electrical/Electronic Engineering Technology. After receiving the Bachelor of Science degree, graduates are employed as Engineering Technologists. The emphasis in engineering technology courses is the practical design and utilization of devices and systems, with a strong laboratory program supporting the lecture courses.

## DEPARTMENTAL REQUIREMENTS

It is anticipated that most students from community colleges will transfer about 60 credit hours. Total semester credits required for graduation is 126. A minimum grade of "C" must be achieved in prerequisite courses, major core courses, supportive courses, technical elective courses, and selected general education courses. Course requirements other than those listed should be selected in consultation with the advisor or Department Chairperson. Electrical/Electronics Engineering Technology requires a minimum total of 24 credit hours of Technical Elective courses.

## CAREER OPPORTUNITIES

A degree in Engineering Technology provides an engineering education with emphasis on manufacturing systems operations, technical applications and managerial services in government and in industry.

[^126]
## ELECTRICAL/ELECTRONICS ENGINEERING TECHNOLOGY GENERAL Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

Credits 9
Students must select ENGL $203^{1}$ plus one course in each of two disciplines.
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203 ${ }^{1}$
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES
Credits 6
Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 200 or ECON 200H
ECON 201 or ECON 201H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361, PSYC 100, SOCI 201
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 8
Students must select two science courses two science laboratory courses from the following.
PHYS 121, PHYS 123 (lab)
PHYS 122, PHYS 124 (lab).
Curriculum Area IV - MATHEMATICS
Credits 7
MATH 110, MATH 112.
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES
Credits 1
EDTE 100 First Year Experience Course
Total Required for General Education
Credits 40

[^127]
## Group I

Students must select 18 credits from the following courses:
CMTE 313, CSDP 222, EDTE 131, EDTE 132, ETEE 222, ETME 318, ETEE 425, ETME 474.

## Group II

Students must select 6 credits from the following courses:
BUAD 302, BUAD 410, BUAD 411, BUAD 412, ECON 303

## Group III

Students must select 6 credits from any course offered by the university.

## REQUIRED COURSES IN MAJOR

ETEE 114 Electronics I 3
ETEE 201 Circuit Technology I 3
ETEE 202 Circuit Technology II 3
ETEE 215 Electronics II 3
ETEE 216 Electronics III 3
ETEE 218 Electronics Laboratory 4
ETEE 303 Circuit Technology III 3
ETEE 314 Electric Power and Machinery 3
ETEE 335 Logic and Switching Circuits 3
ETEE 346 Control Circuits 3
ETEE 355 Advanced Electronic and Computer Networks 3
ETEE 421 Instrumentation and Measurements 4
ETEE 485 Design Technology I 3
ETEE 486 Design Technology II 3

## CURRICULUM GUIDE FOR ELECTRICAL/ELECTRONICS ENGINEERING TECHNOLOGY

| First Semester | FRESHMAN YEAR |  | Credit |
| :---: | :---: | :---: | :---: |
|  | Credit | Second Semester |  |
| Computer-Assisted Drawing |  | Electronics I | 3 |
| and Design I (CAD-I) | 3 | Gen. College Physics II | 3 |
| Gen. College Physics I | 3 | Gen. College Physics II Lab | 1 |
| Gen. College Physics I Lab | 1 | Calculus I | 4 |
| Trigonometry \& Analytical Geometry | 3 | English Composition II | 3 |
| Basic Composition I | 3 | English Proficiency Exam 0 |  |
| First Year Experience Seminar | 1 |  |  |
| First Semester | 14 |  | 14 |
|  | SOPHOMORE YEAR |  |  |
|  | Credit | Second Semester | Credit |
| Circuit Technology I | 3 | Circuit Technology II | 3 |
| Electronics II | 3 | Electronics III | 3 |
| Principles of Chemistry I | 3 | Electronics Laboratory | 4 |
| Principles of Chemistry I Lab | 1 | Introduction to Computers 4 |  |
| Calculus II | 4 | Literature, Foreign Language | 3 |
| Fund. Contemporary Speech | 3 |  |  |
|  | 17 |  | 17 |

The following paradigm is a recommended course sequence for those graduates of associate-degree technology programs or equivalent experiences to complete requirements for the Bachelor of Science degree in Engineering Technology at UMES.

|  | Jredit |  | Second Semester |
| :--- | :--- | :--- | :--- |
| First Semester | 3 | ETEE 346 | Credit |
| ETEE 303 | 4 | ETEE 314 | 3 |
| ETEE 421 | 3 | ETEE 355 | 3 |
| ENGL 305 | 3 | CSDP 221 | 3 |
| ETEE 335 | FREE Elective | 4 |  |
| One Course in Literature, | 3 |  | 3 |
| Foreign Lang. or Fine Arts | 16 | SENIOR YEAR | 16 |
|  |  | Second Semester |  |
|  |  | ETEE 486 | Credit |
| First Semester | 3 | FREE Elective | 3 |
| ETEE 485 | 3 | Technical Elective | 3 |
| Technical Elective | 3 | Technical Elective | 3 |
| One course in: Literature | 3 | Technical Elective | 3 |
| or Foreign Language | 3 | FREE Elective | 3 |
| Technical Elective | 14 |  | 3 |
| Technical Elective |  |  | 18 |

Total Credit Hours: 126

## MECHANICAL ENGINEERING TECHNOLOGY

The curriculum in Engineering Technology (ETEE/ETME) follows TAC/ABET recommendations and offers upper division courses leading to a Bachelor of Science Degree in Mechanical Engineering Technology. The program is designed to provide a flexible course of study for students holding an Associate Degree in Engineering Technology from the Maryland Community College system and for students transferring out of the regular engineering program. The first two years may be completed through any of the engineering technology programs offered by an accredited community college. The Mechanical option is designed to prepare graduates for a career in the Mechanical Engineering field. The curriculum provides in-depth exposure to the areas of manufacturing, thermal power, and mechanical systems design.

The goal of the Engineering Technology program is to prepare students for a challenging career in Mechanical Engineering Technology. After receiving the Bachelor of Science degree, graduates are employed as Engineering Technologists. The emphasis in engineering technology courses is the practical design and utilization of devices and systems, with a strong laboratory program supporting the lecture courses.

## DEPARTMENTAL REQUIREMENTS

It is anticipated that most students from community colleges will transfer about 60 credit hours. Total semester credits required for graduation is 126. A minimum grade of "C" must be achieved in prerequisite courses, major core courses, supportive courses, technical elective courses, and selected general education courses. Course requirements other than those listed should be selected in consultation with the advisor or Department Chairperson. Electrical/Electronics Engineering Technology requires a minimum total of 15 credit hours of Technical Elective courses.

## CAREER OPPORTUNITIES

A degree in Engineering Technology provides an engineering education with emphasis on manufacturing systems operations, technical applications, and managerial services in government and industry.

## MECHANICAL ENGINEERING TECHNOLOGY GENERAL Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Students must select ENGL $203^{1}$ plus one course in each of two disciplines.
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207
Discipline E: SPEECH
ENGL 203 ${ }^{1}$
Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

## Credits 6

Students must select one course in each of two disciplines.
Discipline A: SOCIAL SCIENCES
ECON 200 or ECON 200H
ECON 201 or ECON 201H
Discipline B: BEHAVIORAL SCIENCES
CRJS 101, HUEC 203, HUEC 220, HUEC 361, PSYC 100, SOCI 201

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES Credits 8

Students must select two science courses and two science laboratory courses from the following.
PHYS 121, PHYS 123 (lab)
PHYS 122, PHYS 124 (lab).

## Curriculum Area IV - MATHEMATICS

Credits 7
MATH 110, MATH 112.
Curriculum Area V - ENGLISH COMPOSITION ${ }^{1}$
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online
Curriculum Area VI - EMERGING ISSUES
Credits 1
EDTE 100 First Year Experience Course
Total Required for General Education
Credits 40

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## SUPPORTIVE COURSES

BUAD 411, BUAD 410, CHEM 111, CHEM 113, CSDP 221, MATH 211

## TECHNICAL ELECTIVE COURSES

Credits 18

Students must 15 credits from the following courses:
CMTE 214, CMTE 316, CMTE 413, CSDP 222, CSDP 341, EDTE 111, EDTE 341, EDTE 342, ENGE 370, ETEE 303, ETEE 314, ETEE 474, ETME 304, ETME 360, ETME 395, ETME 476, MATH 212, MATH 241, MATH 321.

## FREE ELECTIVE COURSE

Students must select 3 credits from any course offered by the university.

## REQUIRED COURSES IN MAJOR

CMTE 313 Statics
CMTE 314 Strength of Materials
EDTE 131 Computer-Assisted Drawing and Design I (CAD)

ETEE 201 Circuit Technology I 3
ETEE 202 Circuit Technology II 3
ETME 301 Thermodynamics and Heat Power 3
ETME 303 Machine Design I 3
ETME 318 Applied Dynamics 3
$\begin{array}{lll}\text { ETME 318 } & \text { Applied Dynamics } & 3 \\ \text { ETME } 325 & \text { Engineering Materials } & 3\end{array}$
ETME 342 Fluid Mechanics 3
$\begin{array}{lll}\text { ETME 342 } & \text { Fluid Mechanics } & 3 \\ \text { ETME } 356 & \text { Manufacturing Processes } & 3\end{array}$
ETME 381 Instrumentation and Measurements 4
ETME 423 Heating, Ventilating, and Air Conditioning 3
ETME 445 Computer Integrated Manufacturing 3
ETME 475 Mechanical Systems Design I 3

## Credits 3

## Credits 50

3
4
3
3
3
3
3
3

- Mechanical Systems Design


## CURRICULUM GUIDE FOR MECHANICAL ENGINEERING TECHNOLOGY

The following paradigm is a prototype of the associate degree program or equivalent experience that should be completed before enrolling for the junior and senior year.

| First Semester | Credit | FRESHMAN YEAR <br> Second Semester | Credit |
| :---: | :---: | :---: | :---: |
| First Year Experience Seminar | 1 | Behavioral Sciences | 3 |
| English Composition I ${ }^{1}$ | 3 | Computer-Assisted Drawing |  |
| Computer-Assisted Drawing |  | and Design II (CAD-II) | 3 |
| and Design I (CAD-I) | 3 | English Composition $\mathrm{II}^{2}$ | 3 |
| Trig. and Analytic Geometry ${ }^{3}$ | 3 | Calculus ${ }^{3}$ | 4 |
| General College Physics I | 3 | General College Physics II | 3 |
| General College Physics I Lab | 1 | General College Physics II Lab | 1 |
|  |  | English Proficiency Exam | 0 |
|  | 14 |  | 17 |
| First Semester | Credit | SOPHOMORE YEAR Second Semester | Credit |
| Statics | 3 | Strength of Materials | 4 |
| Fund. of Contemporary Speech ${ }^{4}$ | 3 | Principles of Microeconomics ${ }^{5}$ | 3 |
| Circuit Technology I | 3 | Circuit Technology II | 3 |
| Principles of Chemistry I | 3 | Literature, Foreign Language |  |
| Principles of Chemistry I Lab | 1 | or Fine Arts | 3 |
| Literature, Foreign Lang. or Fine Arts | 3 | Calculus II | 4 |
|  | 16 |  | 17 |

The following is a recommended course sequence for those graduates of associate-degree technology programs or equivalent experiences to complete requirements for the Bachelor of Science degree in Engineering Technology at UMES.

| First Semester | Credit | JUNIOR YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL $305^{6}$ | 3 | ETME 318 | 3 |
| ETME 301 | 3 | ETME 342 | 3 |
| ETME 303 | 3 | ETME 356 | 3 |
| ETME 381 | 4 | CSDP 221 | 4 |
| ETEE 325 | 3 | FREE Elective | 3 |
|  | 16 |  | 16 |
|  |  | SENIOR YEAR |  |
| First Semester | 3 | Second Semester | Credit |
| BUAD 411 | 3 | BUAD 410 | 3 |
| ETME 423 | 3 | ETME 475 | 3 |
| ETME 445 | 3 | Technical Elective | 3 |
| Technical Elective | 3 | Technical Elective | 3 |
| Technical Elective | 15 | Technical Elective | 3 |
|  |  | 15 |  |

## Total Credit Hours: 126

[^129]
## TECHNOLOGY AND ENGINEERING EDUCATION

## Teacher Certification

Technology and Engineering Education (EDTE) is a four-year program of study leading to a Bachelor of Science degree, which will certify students to teach technology education in the secondary school. Students acquire technical knowledge and skills through creative and problem solving learning experiences related to the designed world. The Technology Education Teacher Certification sequence (based on established state requirements) may be pursued by education majors who also desire certification in Technology Education.

The goal of the Technology and Engineering Education program is to prepare professionals who will qualify for certification to teach technology education at the middle school and high school levels. Emphasis is placed on improving the teaching- learning process and promoting and developing technological literacy, which is the ability to use, manage, understand, and assess technology. Study is focused on technical applications to support classroom and laboratory activities.

## DEPARTMENTAL REQUIREMENTS

A sequence of professional education and liberal studies courses are required to develop leadership and citizenship skills needed for successful teaching. A total of 126 credits are required for graduation. A minimum grade of "C" must be achieved in prerequisite courses, major core courses, supportive courses, technical elective courses, and selected general education courses. *Course Requirements other than those listed should be selected in consultation with the advisor or Department Chairperson.

## CAREER OPPORTUNITIES

A degree in Technology and Engineering Education prepares professionals who will qualify for certification to teach technology education at the middle school and high school levels.
${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

## Curriculum Area VI - EMERGING ISSUES

EDTE 100 First Year Experience Course
Total Required for General Education
PROFESSIONAL EDUCATION COURSES
Credits 42

EDCI 200A, EDCI 201 ${ }^{1}$, EDCI 311, EDCI 400, EDCI 406, EDCI 409, EDCI 410, EDCI 425D, EDCI 460/470D, EDSP 428, PSYC 303/305, PSYC 307

## REQUIRED COUSES IN MAJOR

EDTE 111 Technology and Society
EDTE 131 Computer-Assisted Drawing and Design I (CAD) 3
EDTE 211 Electrical and Electronics Technologies I 3
EDTE 232 Information and Communication Technologies 3
EDTE 314 Biotechnology and Agricultural Technologies 3
EDTE 341 Transportation Technologies 3
EDTE 342 Energy and Power Technologies 3
EDTE 351 Construction Technologies 3
EDTE 361 Manufacturing Technologies 3
EDTE 410 Foundations of Technology 3
EDTE 467 Instructional Analysis and Curriculum Development 3
EDTE 481 Facilities Organization and Management 3
EDTE 482 Core Technologies I 3
EDTE 483 Core Technologies II 3
${ }^{1}$ Does not count toward meeting graduation requirements.

## CURRICULUM GUIDE FOR TECHNOLOGY AND ENGINEERING EDUCATION

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :---: | :---: | :---: | :---: |
| EDTE 111 | 3 | ARTS 101 ${ }^{3}$ | 3 |
| EDTE 131 | 3 | MATH $110^{2}$ | 3 |
| ENGL 101 ${ }^{1}$ | 3 | ENGL 102 ${ }^{1}$ | 3 |
| MATH 109 ${ }^{2}$ | 3 | ENGL 001 ${ }^{6}$ | 0 |
| EDTE 100 | 1 | EDCI 200 | 3 |
|  |  | BIOL 101 ${ }^{4}$ | 3 |
|  |  | EDCI 201 ${ }^{5}$ | 1 |
|  | 13 |  | 16 |
| SOPHOMORE YEAR |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| SOCI 201 | 3 | EDTE 211 | 3 |
| ECON $201{ }^{7}$ | 3 | EDTE 232 | 3 |
| PHYS $121{ }^{4}$ | 3 | EDTE 314 | 3 |
| PHYS 123 | 1 | PHYS $122^{4}$ | 3 |
| ENGL $203{ }^{8}$ | 3 | PHYS 124 | 1 |
|  |  | EDTE 341 | 3 |
|  | 13 |  | 16 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| PSYC 305 | 3 | EDCI 409 | 3 |
| EDTE 351 | 3 | EDTE 361 | 3 |
| PSYC 307 | 3 | EDTE 467 | 3 |
| EDCI 311 | 3 | EDTE 342 | 3 |
| ENGL $305^{1}$ | 3 | EDCI 406 | 3 |
| ENGL $204^{8}$ | 3 | EDTE 482 | 3 |
|  | 18 |  | 18 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| EDCI 410 | 3 | EDCI 400 | 3 |
| EDTE 481 | 3 | EDCI 460 | 6 |
| EDSP 428 | 3 | EDCI 470 | 6 |
| EDTE 483 | 3 |  |  |
| EDCI 425D | 3 |  | 15 |
| EDTE 410 | 3 |  |  |
|  | 18 |  |  |

Total Credit Hours: 126

[^130]
## MINOR PROGRAMS

In order to minor in Construction Management Technology, it is recommended that the Department Chair be contacted as early as possible. A minor advisor will be assigned by the chairperson. All prerequisites for departmental courses must be met before enrolling in the courses to satisfy the minor sequence.

Two suggested minors in Construction Management Technology are outlined below, one for those interested in technical applications and one for those interested in management applications. Upon justification by the student, limited substitution of courses can be made upon approval by the Department Chair.

## TECHNICAL

Students interested in a minor in Construction Management Technology and in technical applications should complete the following courses, totaling 25 credits:
CMTE 201 CMTE 313 EDTE 131
CMTE 300-400 Level Course
CMTE 214 CMTE 314 EDTE 132

CMTE 230

## MANAGEMENT

Students interested in a minor in Construction Management Technology and in management applications should complete the following courses, totaling 24 credits:

| CMTE 201 | CMTE 325 | CMTE 425 | EDTE 131 |
| :--- | :--- | :--- | :--- |
| CMTE 230 | CMTE 342 | CMTE 445 | EDTE 132 |

## MECHANICAL ENGINEERING TECHNOLOGY

Students interested in a minor in Mechanical Engineering Technology should complete the following courses, totaling 25 credits:

| CMTE 313 | EDTE 131 | ETME 301 | ETME 423 |
| :--- | :--- | :--- | :--- |
| CMTE 314 | EDTE 132 | ETME 303 | ETME 356 |

## TECHNOLOGY EDUCATION (Teacher Certification)

Students interested in a minor in Technology Education may pursue one of two tracks depending on their career objective. A sequence of courses has been designed for both Technology Education Teacher Certification and Technical Applications in industry. The Technology Education Teacher Certification sequence (based on established state requirements) may be pursued by education majors who also desire certification in Technology Education. Students must meet all departmental prerequisites and receive a grade of C or better in required courses.

| Manufacturing and Construction Technology |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| CMTE 230 | EDTE 351 | ETME 356 | EDTE ${ }^{1}$ | EDTE 361 |
| Design and Communication Technology |  |  |  |  |
| CMTE 201 | EDTE 131 | EDTE 132 | EDTE 232 |  |
| Energy and Transportation Technology |  |  |  |  |
| EDTE 211 | EDTE 312 | EDTE 341 | EDTE 342 |  |
| Six additional semester hours to include |  |  |  |  |
| EDTE 481 | EDTE 499 |  |  |  |

[^131]Additional professional education courses, as listed below for Career and Technology Education, and student teaching may also be required by the State for certification. A total of 27 credits is required.

|  | Technical Applications For Industry |  |  |
| :--- | :--- | :--- | :--- |
| CMTE 230 | EDTE 131 | EDTE 351 | Elective |
| ETME 356 | EDTE 132 | EDTE 361 |  |
|  |  | EDTE 211 |  |
|  |  | EDTE 212 |  |

CAREER AND TECHNOLOGY EDUCATION CERTIFICATION
The University of Maryland Eastern Shore is designated as one of the institutions which offer certification and endorsement courses in Career and Technology Education. The pathway courses which are offered are those required for certification in Maryland as a Professional Technical Education teacher. The department also offers courses leading to the Maryland Work-Based Learning endorsement and courses for CTE teachers to complete their Advanced Professional certification (APC).

To become certified as a professional technical education (PTE) teacher in the State of Maryland, a person must successfully complete 12 credit hours of instruction. The following courses will satisfy the Standard (SPC) Certification Requirements.

EDTE 368
EDTE 481
EDTE 470
EDSP 432
To earn the Work-Based Learning endorsement for the State of Maryland, CTE teachers must complete 9 credit hours of instruction. The following courses will satisfy those requirements:

EDTE 445 EDTE 467 EDTE 480
${ }^{1 *}$ Course numbers in approval process

## DIRECTORY OF FACULTY

## Arumala, Joseph, Professor

B.S., University of Lagos; M.S., Ph.D.; Clemson University, P.E.

Dunn, Derrek B., Professor and Chairperson
B.S., North Carolina A\&T State University; M.S and Ph.D. Virginia Polytechnic Institute and State University

Fotouhi, Kenny M., Professor
B.S., Tehran Polytechnic; M.S., Oklahoma State University; Ph.D., University of Missouri-Rolla

Loveland, Thomas, Associate Professor and M.Ed. CTED Coordinator
B.A., M.A., and Ph.D., University of South Florida.

Molavi, Jeffrey M., Associate Professor
B.S. National University of Tehran; M.S. and Ph.D., University of Colorado

Salgado, Carlos A., Associate Professor
B.S., National Autonomous University of Nicaragua; M.S., Ohio State University; Ph.D., University of Maryland

Shapoorain, Bijan, Visiting Lecturer and Interim Director
B.S, and M.S, University of Oklahoma

Yilmaz, Emin, Professor
B.S. and M.S., Middle East Technical University, Turkey; Ph.D., University of Michigan, P.E.

## The School of Pharmacy and Health Professions

The School of Pharmacy and Health Professions (SPHP) is committed to preparing graduates who are able to collaborate with other health professionals in an effort to achieve health equity and eliminate health disparities. Our commitment is consistent with the university's mission of meeting the health care needs of the Eastern Shore, the state, the nation, and the world.

The SPHP consists of five academic departments: kinesiology, pharmacy, physical therapy, physician assistant and rehabilitation services. The School offers a variety of undergraduate and graduate degrees. Our undergraduate programs include bachelor degrees in kinesiology and rehabilitation services. The graduate programs include master's degrees in physician assistant studies, rehabilitation counseling, and pharmaceutical sciences. The doctoral degrees include physical therapy, pharmacy, and pharmaceutical sciences.

## Department of Kinesiology

www.umes.edu/Kinesiology

Dr. Margarita Treuth, Chairperson

## MISSION

The educational mission of the Department of Kinesiology is to enable students to develop the knowledge of kinesiology, value physical activity and understand how exercise scientists work to improve the health and wellness of individuals and the community.

## OBJECTIVES

The objectives of the programs offered in Kinesiology are as follows:

1. To provide students with academic curricula to develop a strong background in Kinesiology areas.
2. To provide courses and learning experiences to students to develop the knowledge, skills, and abilities for core program competencies, including health program administration, outcome assessments, health appraisals, and clinical exercise testing.
3. To prepare students to integrate knowledge of the cardiovascular, pulmonary, metabolic, and musculoskeletal systems with current practices and research.
4. To provide opportunities for students to acquire and to effectively utilize technology as professionals in the health and exercise science professions.
5. To prepare students for employment and leadership positions in health fitness, exercise science, allied health and the sport industry.
6. To prepare students for graduate study and continued professional development.
7. To promote interaction between the university and the community through departmental activities.

## DEGREES OFFERED

Bachelor of Science - Exercise Science with Clinical Concentration
Bachelor of Science - Exercise Science with Health Fitness Concentration

## DEPARTMENTAL REQUIREMENTS

The admission of students to the undergraduate program in the Department of Kinesiology is based upon the general requirements of the University. Exercise Science majors must complete a minimum of 120 credit hours of University courses. Each concentration possesses its own criteria for the Exercise Science degree.

Clinical Concentration - Majors must complete a minimum of 120 credit hours of University courses. Included in the 120 hours are a minimum of 42 credit hours of General Education Requirements; 31 credit hours of support courses and 47 credit hours of major courses.

Health Fitness Concentration - Majors must complete a minimum of 120 credit hours of University courses. Included in the 120 hours are a minimum of 42 credit hours of General Education Requirements; 27 credit hours of support courses and 51 credit hours of major courses.

## CAREER OPPORTUNITIES CLINICAL CONCENTRATION

The Clinical Concentration prepares graduates seeking careers or graduate study in medically related professions such as physical therapy, occupational therapy, chiropractic, cardiac rehabilitation, sports medicine and physician assistant.

## DEPARTMENTAL REQUIREMENTS

Students must complete a minimum of 120 credit hours of University courses. Included in the 120 hours are a
minimum of 42 credit hours of General Education Requirements; 31 credit hours of support courses and 47 credit hours of major courses.

## CLINICAL CONCENTRATION Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

## Curriculum Area I - ARTS AND HUMANITIES

## Credits 9

Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from two different disciplines:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
One course in each of the two disciplines:
Discipline A: SOCIAL SCIENCES
SOCI 101 or SOC 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100

## Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES

Credits 8
BIOL 111, BIOL 113 (lab)
BIOL 112, BIOL 114 (lab)

## Curriculum Area IV - MATHEMATICS

MATH 110
If a student needs MATH $101^{2}$, he/she must take before Math 109;
If a student needs MATH $109^{2}$, he/she must take before Math 110 .
Curriculum Area V - ENGLISH COMPOSITION
Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

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## Curriculum Area VI - EMERGING ISSUES

## Credits 42

## SUPPORTING REQUIREMENTS

BIOL 231 Human Anatomy and Physiology I
BIOL 232 Human Anatomy and Physiology II 3
BIOL 233 Human Anatomy and Physiology Laboratory I 1
BIOL 234 Human Anatomy and Physiology Laboratory II 1
BIOL 301 Microbiology 3
BIOL 303 Microbiology Laboratory 1
CHEM 111 Principles of Chemistry I 3
CHEM 112 Principles of Chemistry II 3
CHEM 113 Principles of Chemistry Laboratory I 1
CHEM 114 Principles of Chemistry Laboratory II 1
PHYS 121 General College Physics I 3
PHYS 122 General College Physics II 3
PHYS 123 General College Physics Laboratory I 1
PHYS 124 General College Physics Laboratory II 1
PSYC 205 Human Growth and Development 3
MAJOR REQUIREMENTS

## Credits 47

EXSC 200 Introduction to Exercise Science 3
EXSC 202 Personal and Community Health 3
EXSC 252 Sport Psychology 3
$\begin{array}{lll}\text { EXSC 301 } & \text { Measurements in Exercise Science or } \\ \text { MATH 210 } & \text { Elementary Statistics }\end{array}$
EXSC 302 Sport Medicine and First Aid 3
EXSC 311 Applied Kinesiology 4
EXSC 332 Exercise Physiology 3
EXSC 333 Exercise Physiology Laboratory 1
EXSC 355 Exercise Testing and Prescription 3
EXSC $360 \quad$ Exercise and Sport Nutrition 3
EXSC 445 Health Aspects of Aging 3
EXSC 455 Health Fitness Management 3
EXSC 464 Adult Health Fitness Programming 3
EXSC 475 Advanced Strength and Conditioning 3
EXSC 490 Internship in Exercise Science 6

## CURRICULUM GUIDE FOR EXERCISE SCIENCE (CLINICAL CONCENTRATION)

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 | 1 | BIOL 114 | 1 |
| ENGL 101 | 3 | ENGL 102 | 3 |
| EXSC 100 | 1 | ENGL 001 | 0 |
| MATH 110 | 3 | EXSC 1112 | 3 |
| GEN ED CURR AREA I | 3 | EXSC 200 | 3 |
| GEN ED CURR AREA II | 3 | GEN ED CURR AREA II | 3 |
|  | 17 |  | 16 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 231 | 3 | BIOL 232 | 3 |
| BIOL 233 | 1 | BIOL 234 | 1 |
| ENGL 203 | 3 | EXSC 301 or MATH 210 | 3 |
|  |  | EXSC 365 | 3 |
| EXSC 202 | 3 | EXSC 302 | 3 |
| EXSC 382 | 3 | EXSC 455 | 3 |
| GEN ED CURR AREA I | 3 |  | 16 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 111 | 3 | CHEM 112 | 3 |
| CHEM 113 | 1 | CHEM 114 | 1 |
| PHYS 121 | 3 | PHYS 122 | 3 |
| PHYS 123 | 1 | PHYS 124 | 1 |
| EXSC 332 | 3 |  |  |
| EXSC 333 | 1 | EXSC 311 | 4 |
| ENGL 305 | 3 | EXSC 445 | 3 |
|  | 15 |  | 15 |


|  | SENIOR YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| BIOL 301 | 3 | EXSC 360 Online | 3 |
| BIOL 303 | 1 | EXSC 464 Online | 3 |
| EXSC 355 | 3 | EXSC $490^{3}$ | 6 |
| EXSC 475 | 3 |  | 12 |
| PSYC 205 | 3 |  | 12 |

## Total Credit Hours: 120

[^133]
## CAREER OPPORTUNITIES HEALTH FITNESS CONCENTRATION

The Health Fitness Concentration prepares graduates seeking careers in the fitness related fields such as exercise specialist and/or personal trainer within the management of community health fitness programs, hospitals/wellness programs, sports medicine and the sports industry.

## DEPARTMENTAL REQUIREMENTS

Students must complete a minimum of 128 credit hours of University courses. Included in the 120 hours are a minimum of 42 credit hours of General Education Requirements; 29 credit hours of support courses and 50 credit hours of major courses.

## HEALTH FITNESS CONCENTRATION

## Required Courses

## GENERAL EDUCATION REQUIREMENTS

All students are expected to complete a common body of academic course work. The General Education Requirements are designed to promote the development of a comprehensive educational base which will effectively support a student's choice of a major concentration. MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

Curriculum Area I - ARTS AND HUMANITIES
Credits 9
Discipline E: SPEECH ENGL $203{ }^{1}$ plus:
One course from two different disciplines:
Discipline A: ARTS
ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
Discipline B: HISTORY
HIST 101/101H, HIST 102/102H, HIST 201, HIST 202, PHIL 201
Discipline C: LANGUAGE
FREN 101 or FREN 102, SPAN 101 or SPAN 102, ASLS 203 or ASLS 204
Discipline D: LITERATURE
ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II - SOCIAL AND BEHAVIORAL SCIENCES

Credits 6
One course in each of the two disciplines:
Discipline A: SOCIAL SCIENCES
SOCI 101 or SOCI 101H
Discipline B: BEHAVIORAL SCIENCES
PSYC 100
Curriculum Area III - BIOLOGICAL AND PHYSICAL SCIENCES
Credits 8
BIOL 111, BIOL 113 (lab)
BIOL 112, BIOL 114 (lab)
Curriculum Area IV - MATHEMATICS
Credits 3
MATH 109 (If a student needs MATH $101^{2}$, he/she must take before Math 109.)

## Curriculum Area V - ENGLISH COMPOSITION

Credits 9
ENGL 101 or ENGL 101H
ENGL 102 or ENGL 102H
ENGL 001
ENGL 305/H/Online or ENGL 310/H/Online

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## Curriculum Area VI - EMERGING ISSUES

EXSC 100 First Year Experience Seminar
EXSC 111 Personal Health and Fitness
EXSC 265 Contemporary Issues in Kinesiology

## Total Required for General Education

## Credits 42

## SUPPORTING REQUIREMENTS

ACCT 201 Introductory Financial Accounting/Hybrid 3
BIOL 231 Human Anatomy and Physiology I 3
BIOL 232 Human Anatomy and Physiology II 3
BIOL 233 Human Anatomy and Physiology Laboratory I 1
BIOL 234 Human Anatomy and Physiology Laboratory II 1
BUAD 132 Introduction to Business 3
BUAD 213 Business Software Applications/Hybrid/Online 3
BUAD 304 Small Business Management and Entrepreneurship/Hybrid 3
BUED 212 Computer-Concepts/Applications I/Hybrid/Online 3
CHEM 111 Principles of Chemistry I 3
CHEM 113 Principles of Chemistry Laboratory I 1

## MAJOR REQUIREMENTS

EXSC 200 Introduction to Exercise Science 3
EXSC 202 Personal and Community Health 3
EXSC 301 Measurements in Exercise Science or 3
MATH 210 Elementary Statistics
EXSC 302 Sport Medicine and First Aid 3
EXSC 311 Applied Kinesiology 4
EXSC 332 Exercise Physiology 3
EXSC 333 Exercise Physiology Laboratory 1
EXSC 352 Sport Psychology 3
EXSC 355 Exercise Testing and Prescription 3
EXSC 360 Exercise and Sport Nutrition 3
EXSC 382 Socio-Cultural Analysis of Sports 3
EXSC 445 Health Aspects of Aging 3
EXSC $455 \quad$ Health Fitness Management 3
EXSC 464 Adult Health Fitness Programming 3
EXSC 475 Advanced Strength and Conditioning 3
EXSC $490 \quad$ Internship in Exercise Science 6

## CURRICULUM GUIDE FOR EXERCISE SCIENCE (HEALTH FITNESS CONCENTRATION)

| First Semester | Credit | FRESHMAN YEAR <br> Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 111 | 3 | BIOL 112 | 3 |
| BIOL 113 | 1 | BIOL 114 | 1 |
|  |  | ENGL 102 | 3 |
| ENGL 101 | 3 | ENGL 001 | 0 |
| EXSC 100 | 1 | MATH 109 | 3 |
| BUAD 132 | 3 | EXSC 111 |  |
| GEN ED CURR AREA I | 3 | GEN ED CURR AREA II | 3 |
| GEN ED CURR AREA II | 3 |  | 3 |
|  | 17 |  | 16 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 231 | 3 | BIOL 232 | 3 |
| BIOL 233 | 1 | BIOL 234 | 1 |
| ENGL 203 | 3 | BUED 212 | 3 |
| EXSC 200 | 3 | MATH 210 | 3 |
| EXSC 202 | 3 | EXSC 222 | 1 |
| GEN ED CURR AREA I ${ }^{3}$ | 3 | EXSC 365 | 3 |
|  | 16 |  | 14 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| CHEM 111 | 3 | ACCT 201 | 3 |
| CHEM 113 | 1 | BUAD 213 | 3 |
| BUED 212 | 3 | EXSC 332 |  |
| EXSC 302 | 3 | EXSC 333 | 1 |
| EXSC 382 | 3 | EXSC 352 | 3 |
| EXSC 455 | 3 | EXSC 445 | 3 |
|  | 16 |  | 16 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BUAD 304 | 3 | EXSC 360 Online | 3 |
| ENGL 305 | 3 | EXSC 464 Online | 3 |
| EXSC 311 | 4 | EXSC 490 | 6 |
| EXSC 355 | 3 |  |  |
| EXSC 475 | 3 |  | 12 |

## Total Credit Hours: 120

[^135]
# DIRECTORY OF FACULTY 

Hall, Kirkland, Instructor
B.S., University of Maryland Eastern Shore; M.A., Ohio State University; Ph.D., University of Maryland Eastern Shore

Heimdal, James, Associate Professor
B.S., Tulane University; M.Ed., University of New Orleans; Ph.D., University of Southern Mississippi

Nelson, Beatrice, Lecturer
B.S., St. Augustine College; M.A., Florida A\&M University

Treuth, Margarita, Professor, Chairperson
B.S., University of Arizona; M.S., Pennsylvania State University; Ph.D., University of Maryland College Park

## DEPARTMENT OF REHABILITATION

www.umes.edu/rehab/

## Dr. William Talley, Chairperson

## MISSION

The mission of the undergraduate programs in the Department of Rehabilitation is to prepare graduates for entrylevel professional employment in a variety of human services and rehabilitation-related settings, especially those serving individuals with physical, emotional, and developmental disabilities. The programs are also designed to prepare its graduates to enter graduate level programs in rehabilitation, psychology, physical therapy, related allied health fields, and human service professions.

## OBJECTIVES

The objectives of the Department of Rehabilitation undergraduate programs are to:
6. offer instruction which reflects the philosophy and mission of the National Council on Rehabilitation Education or American Psychological Association;
7. meet the academic requirements established by the University;
8. meet the professional requirements and standards set by rehabilitation, psychology and related professional organizations;
9. provide courses and learning experiences which prepare students for employment in rehabilitation and psychology, as well as the allied health and related human service professions;
10. guide students in the development of leadership skills through participation in rehabilitation or psychology-related programs and student organizations;
11. provide course offerings and professional programs to the University and the general community;
12. provide an intellectual environment designed to facilitate academic growth and creative development and;
13. prepare students for graduate school and continued professional development.

## DEGREES OFFERED

Bachelor of Science - Rehabilitation Services
Bachelor of Science - Rehabilitation Psychology
Master of Science ${ }^{1}$ - Rehabilitation Counseling

## CERTIFICATION

Courses offered leading to State Chemical Dependency Provisional Certification

## GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate programs in the Department of Rehabilitation is based upon the general admission requirements of the University.

[^136]
## DEPARTMENTAL REQUIREMENTS

Rehabilitation Services Major--The Rehabilitation Services major must complete at least 120 credit hours of University courses. Included in the 120 credit hours are a minimum of 42 credit hours of Rehabilitation courses. A minimum grade of "C" must be achieved in these courses. For those students following the Allied Health option, a minimum of 129 credit hours is recommended. These additional credits are courses that are normally prerequisites for graduate study in the Allied Health fields.

Rehabilitation Psychology Major-The Rehabilitation Psychology major must complete at least 120 credits hours of University courses. Included in the 120 credit hours are a minimum of 54 credit hours of Rehabilitation and Rehabilitation Psychology courses. A minimum grade of "C" must be achieved in these courses.

## CAREER OPPORTUNITIES

While "rehabilitation" is a term used in many fields, for our field it primarily means the vocational rehabilitation of individuals who have disabilities and need assistance as they pursue their vocational goals. While our historical and legislative roots are firmly embedded in vocational rehabilitation, the field has greatly expanded. Graduates may go on to provide a variety of services to people with disabilities in many areas. The four year course of study prepares students to become entry level rehabilitation professionals and to successfully assume the role of care professionals in hospitals, mental health centers, developmental disability centers, residential chemical dependency treatment centers, etc.

Students interested in pursuing careers in the human services orientation of rehabilitation, e.g. as a case manager or counselor, should follow the Rehabilitation Services course sequence. Students interested in pursuing careers in psychology, e.g., as a rehabilitation psychologist or clinical psychologist, should follow the Rehabilitation Psychology course sequence. Students interested in pursuing careers in allied health fields, e.g. as an occupational therapist or physical therapist, should follow the Allied Health concentration. It should be noted that many professional positions, especially in the psychology or allied health areas, also require a graduate degree in their respective areas of specialization.

# REHABILITATION SERVICES REQUIREMENTS 

Required and Recommended Course Sequence
GENERAL EDUCATION REQUIREMENTS
TOTAL REQUIRED FOR GENERAL EDUCATION - 41 Credits Minimum
Students should consult with their departmental advisor when making course selections.
Curriculum Area I - (Arts and Humanities) 9 credits
Students must select ENGL 203 plus one course in each of two disciplines:
ARTS and MUSIC: ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
HISTORY: HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201, PHIL 202
LANGUAGE: ASLS 203, FREN 101, FREN 102, SPAN 101, SPAN 102
LITERATURE: ENGL 204, ENGL 205, ENGL 206, ENGL 207
Curriculum Area II: (Social and Behavioral Sciences) 6 credits
SOCIAL SCIENCES: SOCI 101
BEHAVIORAL SCIENCES: PSYC 100
Curriculum Area III (Biological and Physical Sciences)
7 credits
Students must select two science courses which must include at least one laboratory.
BIOL 111, BIOL 113 (lab), CHEM 101 or CHEM 111
Curriculum Area IV (Mathematics) $\mathbf{3}$ credits
MATH 102 or MATH 109
Curriculum Area V (English Composition) 9 credits
ENGL 101
ENGL 102
ENGL 305 or ENGL 310
ENGL 001
Curriculum Area VI (Emerging Issues) 7 credits
REHA 100 or GNST 100
EXSC 111
SOCI 201
PROGRAM CORE REQUIREMENTS
36 credits
A grade of "C" or better is required in each of the Program Core Requirements
REHA 201 Introduction to Rehabilitation 3
REHA 301
REHA 302
REHA 303
RPSY 304
REHA 305
REHA 306
REHA 401
REHA 402
REHA 403
REHA 406

| Health \& Medical Information | 3 |
| :--- | :---: |
| Theories of Counseling | 3 |
| Case Recording \& Case Management | 3 |
| Assessment in Rehabilitation | 3 |
| Vocational, Development, Counseling \& Employment | 3 |
| Counseling Skills \& Techniques |  |
| Field Work in Rehabilitation Services I | 6 |
| Introduction to Developmental Disabilities | 3 |
| Psychiatric Rehabilitation | 3 |
| Seminar in Rehabilitation | 3 |

## REHABILITATION OPTIONS

The Rehabilitation Options require a minimum of six (6) hours from the following:
ASLS 307 American Sign Language III 3
ASLS 308 American Sign Language IV 3
ASLS 421 Practicum in American Sign Language 3
ASLS 402 Orientation to Deafness 3
REHA 311 Independent Living 3
REHA 404 Rehabilitation Services for the Addict 3
REHA 405 Human Relations in Rehabilitation 3
REHA 407 Pharmacology of Chemical Dependency Rehabilitation 3
REHA 408 Technology in Rehabilitation 3
REHA 411 Field Work in Rehabilitation Services II 1-6
REHA 412 Special Topics in Rehabilitation 3
REHA 421 Practicum in Rehabilitation 1-6
REHA 499 Independent Study in Rehabilitation 1-6
SUPPORT COURSES REQUIREMENTS 22 (1) credits
Support I
BIOL 231* Human Anatomy and Physiology I 3
BIOL 233* Human Anatomy and Physiology I Lab 1
BUED 212 Computer Concepts I 3
EDSP 200B Introduction to Special Education 3
MATH 210 Elementary Statistics 3
PSYC 271 Abnormal Psychology 3
*If you are not pursuing Allied Health Option you may take an additional REHA Option and 1 credit elective in place of BIOL 231 and BIOL 233

Support II
HUEC 203
Human Development: A Lifetime Perspective
or

PSYC 205 Developmental Psychology

3

Social Deviance and Social Control
or
Juvenile Delinquency
or
Introduction to Criminal Justice or
3

## CURRICULUM GUIDE FOR REHABILITATION SERVICES



Total Credits Hours Required:120

## AMERICAN SIGN LANGUAGE OPTION

## DEPARTMENTAL REQUIREMENTS

The following courses prepare individuals who are interested in developing communication skills for interacting with the Deaf community. The courses are open to other academic units at the University of Maryland Eastern Shore and to the community for individuals who are interested in acquiring sign language skills. ASLS courses (ASLS 307 and higher) are authorized for the two required Rehabilitation Options.

## REQUIRED MAJOR COURSES

ASLS 203
ASLS 204
ASLS 307
ASLS 308
ASLS 402
ASLS 421

## CURRICULUM GUIDE FOR AMERICAN SIGN LANGUAGE

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | BIOL 111 | 3 |
| MATH 102 | 3 | BIOL 113 | 1 |
| SOCI 101 | 3 | ENGL 102 | 3 |
| REHA 100 | 1 | ENGL 001 | 0 |
| EXSC 111 | 3 | PSYC 100 | 3 |
| CHEM 101 | 3 | SOCI 201 | 3 |
|  |  | ASLS 203 | 3 |
|  | 16 |  | 16 |
| First Semester | Credit | SOPHOMORE YEAR |  |
| BIOL 231 | 3 | Second Semester | Credit |
| BIOL 233 | 1 | REHA 201 | 3 |
| ENGL 203 | 3 | EDSP 200B | 3 |
| BUED 212 | 3 | MATH 210 | 3 |
| SOCI 202 | 3 | HUMANITIES | 3 |
| ASLS 204 | 3 | ASLS 307 | 3 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 | 3 | REHA 302 | 3 |
| REHA 306 | 3 | REHA 305 | 3 |
| REHA 301 | 3 | PSYC 271 | 3 |
| REHA 303 | 3 | PSYC 205 | 3 |
| ASLS 308 | 3 | ASLS 402 | $\underline{3}$ |
| HUMANITIES | 3 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| RPSY 304 | 3 | REHA 401 | 6 |
| REHA 402 | 3 | REHA 406 | 3 |
| REHA 403 | 3 | REHA Option | 3 |
| REHA Option | 3 |  |  |
| ASLS 421 | 3 |  | 12 |

Total Credits Hours Required 120

## STATE CHEMICAL DEPENDENCY PROVISIONAL CERTIFICATION REQUIREMENTS

## REQUIRED MAJOR COURSES

The following courses fulfill the educational requirements for the Chemical Dependency Provisional Certification through the Board of Professional Counselors. These are in addition to required Rehabilitation Services Program core courses.

REHA 404
REHA 407
RPSY 471

## CURRICULUM GUIDE FOR STATE CHEMICAL DEPENDENCY <br> PROVISIONAL CERTIFICATION

|  | FRESHMAN YEAR |  |  |
| :--- | :--- | :--- | :--- |
| First Semester | Credit | Second Semester | Credit |
| ENGL 101 | 3 | BIOL 111 | 3 |
| MATH 102 | 3 | BIOL 113 | 1 |
| SOCI 101 | 3 | ENGL 102 | 3 |
| REHA 100 | 1 | ENGL 001 | 0 |
| EXSC 111 | 3 | PSYC 100 | 3 |
| CHEM 101 | 3 | SOCI 201 | 3 |
|  |  | Elective | 3 |
|  | $\mathbf{1 6}$ |  | 16 |

SOPHOMORE YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| BIOL 231 | 3 | REHA 201 | 3 |
| BIOL 233 | 1 | EDSP 200B | 3 |
| ENGL 203 | 3 | MATH 210 | 3 |
| BUED 212 | 3 | HUMANITIES | 3 |
| SOCI 202 | 3 | Elective | $\underline{3}$ |
| HUMANITIES | 3 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 305 | 3 | REHA 302 | 3 |
| REHA 306 | 3 | REHA 305 | 3 |
| REHA 301 | 3 | PSYC 271 | 3 |
| REHA 303 | 3 | PSYC 205 | 3 |
| Elective | 3 | Elective | 3 |
|  | 15 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| RPSY 304 | 3 | REHA 401 | 6 |
| REHA 402 | 3 | REHA 406 | 3 |
| REHA 403 | 3 | RPSY 471 | 3 |
| REHA 404 | 3 |  |  |
| REHA 407 | 3 |  | 12 |

Total Credits Hours Required: 120

## ALLIED HEALTH OPTION

## DEPARTMENTAL REQUIREMENTS

The Rehabilitation Services major must complete at least 120 credit hours of University courses. Included in the 120 credit hours are a minimum of 42 credit hours of Rehabilitation at the 200 level or above. A minimum grade of "C" must be achieved in these courses. For those students choosing a career in Allied Health, a minimum of 129 credit hours is recommended. These additional credits are courses that are normally prerequisites for graduate study in the Allied Health fields.

## CURRICULUM GUIDE FOR ALLIED HEALTH OPTION

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :---: | :---: | :---: | :---: |
| ENGL 101 | 3 | BIOL 111 | 3 |
| MATH 109 | 3 | BIOL 113 | 1 |
| SOCI 101 | 3 | ENGL 102 | 3 |
| REHA 100 | 1 | ENGL 001 | 0 |
| EXSC 111 | 3 | PSYC 100 | 3 |
| CHEM 111 | 3 | SOCI 201 | 3 |
| CHEM 113 | 1 | CHEM 112 | 3 |
|  |  | CHEM 114 | 1 |
|  | 17 |  | 17 |
| SOPHOMORE YEAR |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| BIOL 231 | 3 | BIOL 232 | 3 |
| BIOL 233 | 1 | BIOL 234 | 1 |
| ENGL 203 | 3 | REHA 201 | 3 |
| BUED 212 | 3 | EDSP 200B | 3 |
| SOCI 202 | 3 | MATH 210 | 3 |
| HUMANITIES | 3 | HUMANITIES | 3 |
| 16 JUNIOR YEAR 16 |  |  |  |
|  |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| ENGL 305 | 3 | REHA 302 | 3 |
| REHA 306 | 3 | REHA 305 | 3 |
| REHA 301 | 3 | PSYC 271 | 3 |
| REHA 303 | 3 | PSYC 205 | 3 |
| PHYS 121 | 3 | PHYS 122 | 3 |
| PHYS 123 | 1 | PHYS 124 | 1 |
|  | 16 |  | 16 |
| SENIOR YEAR |  |  |  |
| First Semester | Credit | Second Semester | Credit |
| RPSY 304 | 3 | REHA 401 | 6 |
| REHA 402 | 3 | REHA 406 | 3 |
| REHA 403 | 3 | REHA Option | 3 |
| REHA Option | 3 | BIOL 301 | 3 |
| MATH 110 | 3 | BIOL 303 | 1 |
|  | 15 |  | 16 |

Total Credit Hours: 129

# REHABILITATION PSYCHOLOGY REQUIREMENTS 

Required and Recommended Course Sequence
GENERAL EDUCATION REQUIREMENTS
TOTAL REQUIRED FOR GENERAL EDUCATION - 41 Credits Minimum
Students should consult with their departmental advisor when making course selections.
Curriculum Area I - (Arts and Humanities) 9 credits
Students must select ENGL 203 plus one course in each of two disciplines:
ARTS and MUSIC: ARTS 101, ARTS 310, MUSI 100, MUSI 101, MUSI 109
HISTORY: HIST 101, HIST 102, HIST 201, HIST 202, PHIL 201, PHIL 202
LANGUAGE: ASLS 203, FREN 101, FREN 102, SPAN 101, SPAN 102
LITERATURE: ENGL 204, ENGL 205, ENGL 206, ENGL 207

## Curriculum Area II: (Social and Behavioral Sciences) <br> 6 credits

SOCIAL SCIENCES: SOCI 101
BEHAVIORAL SCIENCES: PSYC 100
Curriculum Area III (Biological and Physical Sciences)
7 credits
Students must select two science courses which must include at least one laboratory.
BIOL 111, BIOL 113 (lab), CHEM 101 or CHEM 111
Curriculum Area IV (Mathematics) $\mathbf{3}$ credits
MATH 102 or MATH 109
Curriculum Area V (English Composition) 9 credits
ENGL 101
ENGL 102
ENGL 305 or ENGL 310
ENGL 001
Curriculum Area VI (Emerging Issues) 7 credits

REHA 100 or GNST 100
EXSC 111
SOCI 201
PROGRAM CORE REQUIREMENTS
48 credits
A grade of "C" or better is required in each of the Program Core Requirements
REHA 201 Introduction to Rehabilitation 3
REHA 301 Health \& Medical Information 3
REHA 302 Theories of Counseling 3
REHA 303 Case Recording \& Case Management 3
RPSY 304 Assessment in Rehabilitation 3
REHA 305 Vocational, Development, Counseling \& Employment 3
REHA 306 Counseling Skills \& Techniques 3
RPSY 331 Research Methods I 3
RPSY 341 Research Methods II 3
REHA 401 Field Work in Rehabilitation Services I 6
REHA 402 Introduction to Developmental Disabilities 3
REHA 403 Psychiatric Rehabilitation ..... 3
REHA 406 Seminar in Rehabilitation ..... 3
RPSY 418 Physiological Psychology ..... 3
RPSY 471 Group and Family ..... 3

## PROGRAM OPTIONS

## 6 credits

The Rehabilitation Psychology Options require a minimum of six (6) hours from the following:
ASLS 307 American Sign Language III 3
ASLS 308 American Sign Language IV 3
ASLS 402 Orientation to Deafness 3
ASLS 421 Practicum in American Sign Language 3
REHA 311 Independent Living 3
REHA 404 Rehabilitation Services for the Addict 3
REHA 405 Human Relations in Rehabilitation 3
REHA 407 Pharmacology of Chemical Dependency Rehabilitation 3
REHA 408 Technology in Rehabilitation 3
REHA 411 Field Work in Rehabilitation Services II 1-6
REHA 412 Special Topics in Rehabilitation 3
REHA 421 Practicum in Rehabilitation 1-6
REHA 499 Independent Study in Rehabilitation 1-6

## SUPPORT COURSE REQUIREMENTS

21 credits
BIOL 231 Human Anatomy and Physiology I 3
BIOL 233 Human Anatomy and Physiology I Lab 1
EDSP 200B Introduction to Special Education 3
MATH 210 Elementary Statistics 3
PSYC 201 Health and Medical Information 3
PSYC 205 Vocational Counseling Development 3
PSYC 271 Abnormal Psychology 3
PSYC 401 Introduction to Personality 3

## CURRICULUM GUIDE FOR REHABILITATION PSYCHOLOGY

FRESHMAN YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| ENGL 101 | 3 | BIOL 111 | 3 |
| MATH 102 | 3 | BIOL 113 | 1 |
| 1SOCI 101 | 3 | ENGL 102 | 3 |
| REHA 100 | 1 | ENGL 001 | 0 |
| EXSC 111 | 3 | PSYC 100 | 3 |
| CHEM 101 | 3 | HUMANITIES | 3 |
|  |  | SOCI 201 | 3 |
|  | $\mathbf{1 6}$ |  | 16 |
|  |  | SOPHOMORE YEAR |  |
| First Semester | 3 | Second Semester | Credit |
| BIOL 231 | 1 | RPSY 341 | 3 |
| BIOL 233 | 3 | EDSP 200B | 3 |
| ENGL 203 | 3 | REHA 303 | 3 |
| MATH 210 | 3 | PSYC 205 | 3 |
| RPSY 231 | 3 | PSYC 201 | 3 |
| REHA 201 | 16 |  | 15 |

JUNIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| HUMANITIES | 3 | REHA 302 | 3 |
| REHA 306 | 3 | REHA 305 | 3 |
| REHA 301 | 3 | RPSY 304 | 3 |
| ENGL 305 | 3 | RPSY 418 | 3 |
| PSYC 271 | 3 | REHA Option | 3 |
|  | 15 |  | 15 |

SENIOR YEAR

| First Semester | Credit | Second Semester | Credit |
| :--- | :--- | :--- | :--- |
| REHA 402 | 3 | REHA 401 | 6 |
| REHA 403 | 3 | REHA 406 | 3 |
| PSYC 401 | 3 | RPSY 471 | 3 |
| REHA Option | 3 |  |  |
| Elective | 3 |  | 12 |

Total Credits Hours Required: 120

# DIRECTORY OF FACULTY 

## Blackmon, Jonathan, Lecturer/Sign Language Interpreter

B.A., Lenoir-Rhyne College, M.S., University of Maryland Eastern Shore

## Faubion, Clayton, Associate Professor

B.A., University of Texas; M.Ed., Southwest Texas State; Ph.D., University of Arkansas; Certified Rehabilitation Counselor (C.R.C.)

Harris, LaKeisha, Assistant Professor
B.S., Bowie State University; M.R.C., Bowling Green State University; Ph.D., University of Iowa; Certified Rehabilitation Counselor (C.R.C.)

## Lankford, Gail, Clinical Coordinator

B.A.S.W, Salisbury State University; M.Ed., University of Maryland Eastern Shore; Certified Rehabilitation Counselor (C.R.C.); Certified Alcohol Counselor (C.A.C.); Certified Chemical Dependence Counselor (C.C.D.C.); Licensed Clinical Drug Alcohol Counselor (LCDAC)

Rahimi, Maryam, Associate Professor
B.S. Jundishapour University, Iran; M.S., Ph.D., Florida State University; Licensed Clinical Professional Counselor (L.C.P.C.); Certified Rehabilitation Counselor (C.R.C.)

Talley, William, Associate Professor, Chair
B.A., South Carolina State University; M.A., South Carolina State University; Ph.D., Southern Illinois University at Carbondale; Certified Rehabilitation Counselor (C.R.C.)

Zheng, Lisa, Assistant Professor
B.A, Hwa Nan Women's College, China; M.A., Fuzhou University, China; Ph.D., University of WisconsinMadison

## ACCOUNTING

## ACCT 201 Introductory Financial Accounting/Hybrid <br> Credit 3

This course is the beginning study of financial accounting principles and concepts. Emphasis is on the conceptual understanding of accounting and its role in society. Practical applications of accounting concepts are demonstrated both manually and electronically. The focus is on accounting for sole proprietorships. Not open as free or program elective. Prerequisites: Grade of "C" in ENGL 101, ENGL 102, and MATH 109.

## ACCT 202 Introductory Corporate \& Managerial Accounting/Hybrid Credit 3

Financial accounting principles and concepts as they relate to partnerships and corporations are covered. Theory and practice applicable to income determination and asset valuation are considered. In addition, managerial and cost accounting topics are explored. Prerequisite: ACCT 201.

ACCT 288 College Accounting

## Credit 3

This course will present a survey of accounting with the focus on practical issues for users of accounting information. This course will not satisfy any requirements for majors in the Department of Business, Management and Accounting.

## ACCT 301 Cost \& Budgetary Control Credit 3

This course is a study of the basic principles of managerial accounting and the environment in which cost accounting information is developed and used for decision-making. Basic cost accounting concepts under job order and process costing systems and budgeting techniques are emphasized. Prerequisite: ACCT 202.

## ACCT 302/Honors Intermediate Accounting I Credit 3

The course involves an in-depth study of modern financial accounting, concepts, principles, practices, and the conceptual framework on which accounting is developed. The accounting cycle, adjusting entries, corporate transactions and the preparation of financial statements are emphasized. Prerequisites: ACCT 202.

## ACCT 303/Honors Intermediate Accounting II <br> Credit 3

The course is a continued in-depth study of modern financial accounting as it relates to income determination, asset valuation, and stockholders' equity. International and ethical implications are considered. Prerequisite: ACCT 302.

## ACCT 304 Managerial Accounting <br> Credit 3

The course consists of a study of the usefulness of financial data and financial analysis in the management functions of planning, control, and decision-making. The course surveys the elements of cost, as well as the main aspects of the accounting structure. Prerequisite: ACCT 301.

## ACCT 308/Hybrid Accounting Information Systems Credit 3

The course provides a basis for understanding, using and controlling accounting information systems (AIS) as found in business organizations. The principle content areas include documentation of accounting information systems; security, privacy and ethics; internal control systems, AIS and business processes. Prerequisite: ACCT 201 with a grade of ' $C$ ' or better.

## ACCT 309 Financial Statement Analysis Credit 3

This course investigates the use of financial statements from the view of main users of these statements. Prospective users include investors, financial analysts, and creditors who have to assess the information content of accounting numbers and the predictive value of accounting data. Balance sheet and Income Statement Information, Cash Flow

Statements, profitability analysis, and ratio analysis and interpretation are covered. Prerequisite: ACCT 302, with a grade of "C" or higher.

ACCT 400/Honors Intermediate Accounting III Credit 3
The course is a continued in-depth study of modern financial accounting. This course covers investments, earnings per share, revenue recognition, pensions, leases, accounting for changes and cash flows. Prerequisite: ACCT 302 with "C" grade or better.

## ACCT 401/Honors Advanced Financial Accounting Credit 3

The course is a study of specialized issues in partnerships, business combinations, consolidation of parent and subsidiary financial statements, segment reporting, foreign currency transactions and hedging, and foreign financial statements. Prerequisite: ACCT 303 with a grade of ' C ' or better.

## ACCT 402/Honors Federal Income Tax Accounting Individual Credit 3

The course is an in-depth study of tax provisions and planning for individuals. The basic procedures involved in the determination of income tax liability of individuals are performed. Prerequisite: ACCT 302.

## ACCT 405/Honors Government and Non-Profit Accounting Credit 3

Accounting principles and practices for governmental and not-for-profit organizations are covered with specific emphasis on state and local government units. The course also focuses on accounting and reporting issues in private not-for-profit organizations, such as hospitals and schools. Prerequisite: ACCT 302.

## ACCT 407/Honors/Hybrid Auditing Credit 3

This is a capstone course for accounting majors. Financial auditing principles, concepts and practices including professional ethics, statistical sampling techniques, and audit liability are covered. Work paper preparation and audit reports are an important part of the course. The use of audit software is required. A thorough understanding of financial accounting is required. This capstone course in Accounting is taken during the final semester of study. Prerequisites: Senior Standing, ACCT 303, ACCT 400.

## ACCT 409 Forensic Accounting Credit 3

Forensic accounting deals with the relation and application of the accounting systems used to record and summarize business and financial transaction to a legal problem. This course encompasses both investigative accounting and litigation support, with emphasis on the following topics: protection and recovery of assets; investigating and analyzing financial evidence; developing computerized applications to assist in the analysis and presentation of financial evidence; communicating findings in the form of reports and collections of documents; and assisting in legal proceedings, including testifying in court as an expert witness and preparing visual aids to support trial evidence. Prerequisites: ACCT 303 and ACCT 400.

## ACCT $410 \quad$ CPA Problems

## Credit 3

A study, review, and analysis of the content, form, and scope of the CPA Examination. The purpose of the course is to prepare students to sit for the Certified Public Accountants Examinations. Prerequisite: Advanced standing with minimum of 18 credit hours in accounting, or permission of instructor.

## ACCT 498 Independent Study in Accounting

## Credit 3

The hours for this course are by arrangement with designated or individual faculty. Under the guidance of the faculty member, students conduct an intensive investigation of a topic within the field of accounting. A written proposal is required for approval. Projects typically include library research, interviews with operating and/or staff managers, and other requirements appropriate to the topic. One of the products of this project is a report. Prerequisites: ACCT 400 and permission of instructor.

## AEROSPACE

## ENAE $342 \quad$ Fluid Mechanics

## Credit 3

This course covers fluid properties; fluid statistics; conservation of mass, momentum, and energy in control volumes; steady and unsteady Bernoulli's equation; differential analysis of fluid flow; dimensional analysis and similitude; introduction to laminar and turbulent flow; Introduction to boundary layers; lift and drag. Prerequisite: MATH 241, ENGE 261.

## ENAE 345 Thermodynamics

## Credit 3

This course covers work and heat transfer; the study of classical thermodynamics approach to closed systems and control volumes; properties and processes of gases and vapors; zeroth, first, and second laws of thermodynamics for closed systems and control volumes; entropy; thermodynamic power and refrigeration/heat pump cycles. Prerequisite: ENGE 261

## ENAE 389 Space Systems Design

Credit 3
This course covers the design of a complete space system, systems analysis, trajectory analysis, entry dynamics, propulsion and power systems, structural design, launch vehicle integration, avionics, thermal and environmental control, human factors, support systems, and weight and cost estimates; and latest practices in space systems and design of a space mission. Prerequisite: ENGE 261, ENGE 362

ENAE 412 Space Navigation and Guidance
Credit 3
This course covers fundamentals of astrodynamics; two-body orbital initial-value and boundary-value problems; celestial mechanics, Kepler's problem, Lambert's problem, orbit determination, multi-body methods, mission planning, and recursive algorithms for space navigation; applications to space vehicle navigation and guidance for lunar and planetary missions for both powered flight and midcourse maneuvers. Prerequisite: ENGE 261

## ENAE 420 Aerodynamics

## Credit 3

This course covers the introduction to aerodynamics fundamental concepts such as lift, drag, moment, pressure distribution, boundary layers; potential theory of bodies; airfoil theory and applications; finite wing theory and applications; introduction to Navier-Stokes equations; laminar boundary layers; turbulent boundary layers; instability and turbulence/separation; introduction to airfoil design. Prerequisite: ENAE 342.

## ENAE 430 Finite Element Analysis

## Credit 3

This course covers the introduction to finite element method and application; relations between stresses, strains, displacements, temperature and material properties; discretization and meshing; force vector, displacement vector, stiffness matrix, assembly process, solution techniques; truss elements, beam elements; triangular and quadrilateral elements; iso-parametric formulation; plane stress and plane strain applications; penalty and Lagrangian methods; software applications. Prerequisite: ENGE 270, ENGE 362

## ENAE 440 Mechatronics

## Credit 3

This course covers physical and mathematical modeling of mechanical, electrical, electromechanical, thermal, fluid, and multidisciplinary physical systems; sensors and electronics for measurements of system; embedded/external feedback control using conventional and intelligent control algorithms; computer aided engineering tools for mechatronic system design and analysis; practical applications using mechatronic devices. Prerequisite: ENGE 370, ENGE 382

## ENAE 442 Micro-Electro-Mechanical Systems

## Credit 3

Basic integrated circuit manufacturing processes; electronics devices fundamentals; microelectromechanical systems fabrications including surface micromachining, bulk micromachining, and lithography; introduction to micro-actuators and microsensors such as micromotors, grippers, accelerometers and pressure sensors; physics of MEMS, scaling law, heat transfer, mechanics, electrostatics; introduction to micro-fluid systems; mechanical and
electrical issues in micromachining; packaging techniques; CAD tools to design microelectromechanical structures. Prerequisite: ENGE 380

## ENAE 462 Digital Control Systems

## Credit 3

Introduction to techniques for the analysis and design of digital control systems; linearization; difference equations; z-transforms; design of linear controllers; digital implementation of control systems. Prerequisite: ENGE 382.

## ENAE 464 Embedded System Design Laboratory

## Credit 2

Fundamentals of embedded system hardware and firmware design; embedded processor selection; hardware/firmware partitioning; architecture and instruction set of a microcontroller; firmware architecture, design, and debugging; circuit design, layout, and debugging; development tools; a set of design experiments utilizing a popular microcontroller for practical applications. Prerequisite: ENGE 383.

## ENAE 465 Remote Sensing and Image Processing

## Credit 3

Passive remote sensing from aerial platforms; basic principles of photogrammetry; geospatial information technology, georeferencing, mosaicking, and rectification; RGB and CIR imagery, multi-spectral imagery; fundamentals of digital image processing; introduction to active remote sensing; applications of remote sensing in engineering and sciences.
Prerequisite: ENGE 370
ENAE 467 Design of Autonomous Aerial Systems
Credit 3
Introduction to unmanned aerial vehicles, manned and unmanned aircraft design; conceptual unmanned aerial vehicles design based on concepts drawn from airplane aerodynamics, aircraft structure, stability and control, propulsion and compressible flows, navigation, guidance, communication, and design of control sensors; design for efficiency, design for performance, design for stability; introduction to ground, wind tunnel and flight testing. Prerequisite: ENAE 420

ENAE 472 Selected Topics in Engineering
Credit 3
This course covers selected topics on special or current topics and issues relating to engineering structured for students in engineering and other areas. Prerequisite: Permission of instructor

## AGRIBUSINESS

## AGBU 223/Honors Introduction to Agribusiness Credit 3

The course offers definition and scope of agribusiness firms and explains the characteristics of agribusiness firms. It also examines trends of their expansion/decline and explores career opportunities available in agribusiness. Prerequisite: AGEC 213.

## AGBU 300 Internship I

## Credit 3

This course offers the opportunity to students to observe and participate in management operation at universityapproved agribusiness firms. A written appraisal of theoretical and/or applied management, economics, or business concepts observed during the internship is required. Prerequisite: Junior standing in Agribusiness.

## AGBU 313/Honors Quantitative Methods in Agribusiness

## Credit 3

Agribusiness problems will be addressed through the use of indices, graphics, budgeting, discounting, simulation, basic statistical measure, and micro-computers. Prerequisites: AGEC 213 and MATH 210.

AGBU 323/Honors Agribusiness Management Credit 3
The course offers an examination and study of the organization, management, and operation of agribusiness firms with reference to the application of management principles for effective decision making. Prerequisite: AGBU 223.

A term paper with focus on economic, business or management analysis of current issues in agribusiness is required. Prerequisite: Junior standing in Agribusiness or Business.

## AGBU 400 Internship II

## Credit 3

The course offers the opportunity for students to observe and participate in management operation at Universityapproved agribusiness firms. A written appraisal of theoretical and/or applied management, economics or business concepts observed during the internship is required. Prerequisite: Senior standing in Agribusiness.

AGBU 471 Seminar II Credit 1
A term paper with focus on economic, business or management analysis of current issues in agribusiness is required. Prerequisite: Senior standing in Agribusiness.

## AGRICULTURAL ECONOMICS

## AGEC 213/Honors Introduction to Agricultural Economics Credit 3

The course gives students an understanding of how economic theory is explained in the context of agricultural activities (i.e., production, marketing, and management). A specific attempt is made to combine descriptive materials with data on current issues so that students may see the relevance of agricultural economics studies in today's world. Also discussed is the place of agricultural production and the food system in the context of the U.S. economy and well-being. Prerequisite: ECON 200.

AGEC 333 Agricultural Price Analysis/Honors
Credit 3
The course combines economic theory, statistics, and data to describe, understand, and forecast agricultural price relationships and variation in agriculture. Specifically, it covers quantitative techniques developed to determine the factors causing price variation and to measure trend, cyclical, seasonal, and random price variation. Prerequisite: AGEC 213.

## AGEC 413 International Agricultural Development Credit 3

This course is a multidisciplinary course which combines various aspects of agricultural sciences relating to globalization. These aspects include economic development theory, agribusiness management and marketing, soil and plant sciences, and animal science; research, extension, and education; and land and labor theories with a global perspective. Prerequisite: ECON 200 or ECON 201.

## AGEC 419 Agricultural Cooperatives

## Credit 3

The course reviews basic philosophy, the fundamental principles, objectives, structure, and management of cooperative organizations. It also explains and evaluates the place of cooperatives in the modern economic history and legislations that affect them. Prerequisite: AGEC 213.

AGEC 423/Honors Marketing Agricultural Products

## Credit 3

The course examines the characteristics of the demand for and supply of farm products; alternative marketing channels, services, and costs involved in marketing are explained. The characteristics of cooperatives, what they have tried to do, and what they have done, as well as their special problems in organization, finance and control of their business are also examined. Prerequisite: AGEC 213.

## AGEC 433/Honors International Agricultural Markets, Trade and Development Credit 3

The course focuses on international trade of agricultural products, including theory trade and monetary flows, national trade policies and world market structures for agricultural products. Impacts of trade on the domestic agricultural sector and the role of trade in agribusiness are also covered. Prerequisite: AGEC 213.

## Credit 3

Farm management explores farming as a business, including factors affecting profits, size of the business, choice of enterprises, forms of tenure and leases, planning and management of specific farms, and principles and techniques of keeping and interpreting farm records and accounts. Prerequisite: AGEC 213.

## AGEC 453/Honors Agricultural Finance

## Credit 3

The course explains agricultural finance in agricultural firms and financial institutions, emphasizing financial reports and analysis, liquidity and risk, use of credit, and other financial alternatives to acquire control of farm resources. The sources of credit and acquisition of capital and decision-making are also explained. Prerequisites: AGEC 213 and ACCT 201.

## AGEC 463/Honors Agricultural Policy Credit 3

The course explains current policy issues, policy instruments, and choices in U.S. agriculture. Also, it describes the economic characteristics and problems of agriculture, evolution and significance of agricultural policies, the international dimension, and domestic policies that affect agriculture. Prerequisites: AGEC 213 and senior standing.

## AGRICULTURE EDUCATION

AGED 313 Supervised Experience Programs Credit 3
This course is an overview of the job of the agri-science teacher and an examination of agricultural education programs for youth, with special emphasis on supervised experience practicums. Two hours lecture and two hours laboratory per week.

## AGRICULTURAL MECHANIZATION

## AGME 283 Engineering Principles Applied to Agriculture <br> Credit 3

The application of engineering principles to problems in soil and water conservation, agricultural power units, machinery, agricultural electricity, structures, and animal environments will be studied. Material handling and processing of agricultural products will also be covered. Two hours lecture and two hours laboratory per week.

## AGME 313 Agricultural Surveying Technology

## Credit 4

In this course engineering principles and theory of surveying, care and use of surveying equipment, measurement of horizontal distances and angles, differential and profile leveling, topographic surveying, mapping, field notes and area measurement computation methods are examined. Two hours lecture and four hours laboratory per week.

## AGME 334 Small Power Equipment Technology <br> Credit 4

This course examines engineering design and principles of operation, adjustment, maintenance and repair of light horsepower, single cylinder internal combustion engines, with special emphasis on the use of operator's service and repair manuals to determine specifications. Two hours lecture and four hours laboratory per week.

## AGME 344 Agricultural Construction Materials and Procedures

Credit 3
In this course, the selection and use of agricultural building materials, including concrete and masonry, lumber, plywood, finishes, and fasteners and proper safety and use of hand and power tools in agricultural construction will be covered. Two hours lecture and two hours laboratory per week.

AGME 354 Metal Construction and Maintenance

## Credit 4

This course covers the selection and application of ferrous and non-ferrous metals through autogenous welding, cold working and hot working processes in agricultural construction and maintenance. Two hours lecture and four hours laboratory per week.

## Credit 4

Principles of operation and service and maintenance of spark and compression ignition engines and auxiliary systems including hydraulics, power trains, electrical, and comfort control are covered in this course. Two hours lecture and four hours laboratory per week.

AGME 384 Agricultural Electrification

## Credit 4

The course covers principles of electrical distribution and wiring according to governing codes of single and 3phase service, and the selection of electrical controls and motors for agricultural application. Two hours lecture and four hours laboratory per week.

## AGME 444 Agricultural Machinery and Power Management Credit 4

In this course, selection, sizing and operational principles required in the use of agricultural field and farmstead machine systems, cost analysis, and computer techniques are applied to planning and management of agricultural machinery systems. Two hours lecture and four hours laboratory per week.

## AGME 454 Principles of Animal Environment and Structures Credit 4

Effects of environment on animal production principles of environment control; feed handling systems; waste management alternatives; and planning functional, economical, and environmentally controlled livestock facilities will be explored. Two hours lecture and four hours laboratory per week.

## AGME 490 Pre-Occupational Internship

Credit 4
Students will spend a period of up to 12 weeks with an approved agricultural business firm in their technical specialty, working as directed in management related tasks. Prerequisites: 54 credit hours and permission of instructor.

## AGME 499 Special Topics Credit 1-4

This course requires a written report and an oral presentation of agricultural mechanization related topics. Prerequisite: Permission of instructor.
${ }^{1}$ Honors (H) courses: Students will be given more assignments, take home problems, term papers, and exams and quizzes than regular students.

## AGRICULTURE AND NATURAL RESOURCES

## AGNR 111 First Year Experience Seminar <br> Credit 1

This course helps to prepare students for career opportunities, as well as assisting with professional development. It focuses on adjustments needed to succeed in college, study skills and test taking, crisis or stress management, and on understanding the significance of the land-grant system. This course is designed to acquaint students with current trends, pertinent issues, and modern practices associated with the various disciplines in agriculture and natural resources from a global perspective. Required of all first year students in the Department of Agriculture, this course substitutes for the University-wide 100 level course: First Year Experience Seminar.

## AGNR 353 Natural Resources Conservation

Credit 3
Students enrolled in this course are provided the principles of soil, water, sediment, and nutrient conservation and management. Application of the principles of land use, run-off and erosion control, and soil management practices including elements of the universal soil loss equation, are also discussed. Prerequisite: PLSC 184 and PLSC 185 or permission of instructor.

## AGNR 483 Principles of Geographic Information Systems Credit 3

This course is designed to provide students with an overview of the applicability and use of geographic information systems (GIS); students will become competent with ArcView ${ }^{\oplus}$, a GIS software package from Environmental Systems Research Institute (ESRI), Inc. Students will also learn the basics of data management, data accuracy,
spatial analysis, and data presentation. Prerequisite: Sophomore standing. Two hours lecture and two hours laboratory per week.

## AGNR 490/Online Current Issues in Sustainable Agriculture Credit 3

This course covers the principles, processes, and practices of sustainable agriculture in a changing, global climate environment. It provides a background for accomplishing sustainability and will include experiential learning activities such as decision cases at the regional, national, and international dimensions. Prerequisites: PLSC 184 and 185 , or permission of instructor.

## AGRICULTURE

AGRI 301 Agriculture Seminar: Professional Development Credit 1
This course is an individualized preparation for entry into a professional career in agriculture. The course is to be taken during the spring semester of the junior year. Skills such as resume writing, interviewing for employment, and developing a professional image will be emphasized. The organization of information and the presentation of technical data through oral and written communication skills will be stressed. Prerequisite: ENGL 203 or permission of instructor.

## AGRI 400 Senior Capstone Experience

## Credit 3

This course will use a systems-based approach to assess students' ability to integrate practical and theoretical scientific knowledge to address current environmental, agribusiness management, plant, soil, animal and educational issues and concepts. It will also provide an opportunity to evaluate senior level students' critical thinking, problem solving, and communication skills proficiency. Prerequisite: Student must have completed 90 or more credit hours.

## AGRI 483 Recombinant DNA Technology Credit 3

This is a laboratory course to introduce the basic principles of gene cloning. It gives essential background on working with E. coli, utilizes different cloning systems, and employs methods for PCR applications, methods and procedures for DNA sequencing. Prerequisites: Senior standing and permission of instructor.

AGRI 490 Technical Writing in Agricultural Sciences

## Credit 3

This course is designed to cover analysis and practice of various forms of scientific writing, such as reports, journal articles, abstracts, mini-proposals, and personal statements. It includes research methods, design of papers, development of graphics, use of graphics and statistical information, technical style, ethics, and editing strategies. This course is intended to assist agriculture majors in preparing for graduate school and their professional writing needs. Prerequisite: ENGL 305 or permission of instructor.

AGRI 499 Special Topics in Agriculture Credit 3
Students conduct research with faculty on prearranged topics. Prerequisite: Permission of instructor.

## AGRONOMY

AGRN 333 Weed Science

## Credit 3

Weed identification, and action of herbicides, physical, biological, chemical and cultural weed control are covered. Safe use, handling and management of pesticides, including preparation for Maryland Certification, will also be emphasized. Two hours lecture and two hours laboratory per week.

## AGRN 413/Honors Global Agronomic Crops

Credit 3
This course is an in-depth study of major field (cereal, oil and fiber) crops that are grown in temperate, tropical, and sub-tropical environments. Three hours lecture per week.

## Credit 3

This course provides an advanced study of the interrelationships between soil type, mineralogy, pH , soil nutrients, and other nutritional aspects related to plant growth, development and production. The availability and supply of micro and macro nutrients in soil, as affected by the environment, and the use of organic and inorganic fertilizers on plant growth and nutrition will be a major focus. Prerequisites: PLSC 184, PLSC 185 and SOIL 203 or permission of instructor. This course is cross-listed with AGRN 653.

## AGRN 463 Plant Genetics and Breeding <br> Credit 3

This course deals with principles of plant genetics, cytological and genetic variation in crop plants, production and control of such variation in developing varieties and hybrids, crop improvement using biotechnology, methods of breeding self- and cross pollinated crops, and production and maintenance of high quality seeds. Prerequisite: PLSC 184 or permission of instructor. Three hours lecture per week.

## AGRN 499 Independent Study in Plant and Soil Science Credit 1-4

This course is designed for students with an interest in pursuing independent research topics in the plant and soil sciences. Prerequisite: Permission of instructor.

## AMERICAN SIGN LANGUAGE STUDIES

## ASLS 203 American Sign Language I

Credit 3
This course prepares students to develop expressive and receptive skills in American Sign Language (ASL). The course will include the conceptual sign vocabulary and grammar from ASL.

## ASLS 204 American Sign Language II

## Credit 3

This course expands the knowledge of expressive and receptive skills in American Sign Language (ASL) beyond knowledge acquired in ASLS 203. The course will focus on structure, grammar, syntax, and vocabulary. Prerequisite: ASLS 203, or proficiency evaluation.

## ASLS 307 American Sign Language III

## Credit 3

This course provides a more extensive knowledge of expressive and receptive skills in American Sign Language (ASL). Emphasis is placed on cognitive preparation incorporating visual and motor activities. Exposure to other forms of communication used by individuals who are deaf will be introduced. Prerequisites: ASLS 203 and ASLS 204 or proficiency evaluation.

## ASLS 308 American Sign Language IV

## Credit 3

This course provides an advanced preparation of knowledge in expressive and receptive skills in American Sign Language (ASL). Students become more sensitive to the experiences of the deaf consumer and have instructional activities which lead to the development of visual, spatial, and motor learning memory. Prerequisite: ASLS 203, ASLS 204, ASLS 307 and ASLS 308 or proficiency evaluation.

## ASLS 402 Orientation to Deafness

## Credit 3

This course provides an overview of deafness focusing on four major topics: the nature and experience of deafness, the education and training of children and adults who are deaf, the deaf adult community, and deafness culture.

## Credit 3

This course requires a minimum of 135 hours of direct interaction with the deaf community, a group of deaf individuals, or a human services agency providing services to the deaf. Prerequisites: ASLS 203, ASLS 204, ASLS 307 and ASLS 308 or demonstrated advance knowledge of ASL and permission of the Rehabilitation Services Program's Clinical Coordinator.

## APPLIED MICROBIOLOGY

AMIC 324 Agricultural Microbiology

## Credit 4

Instruction includes lectures and laboratories which apply general principles of microbial ecology, food microbiology, pathogenic microbiology and industrial microbiology as they directly relate to practical applications in the Agricultural Sciences. Prerequisites: BIOL 111, CHEM 111 or permission of instructor. Three hours lecture and three hours laboratory per week.

## ANIMAL AND POULTRY TECHNOLOGY

## ANPT 114/Honors

Introduction to Animal Science

## Credit 4

This course is an introduction to the interspecies survey of principles through scientific animal production including breeding and genetics, reproduction, nutrition, animal management, and the importance of animal products to consumers. Three hours lecture and three hour laboratory per week.

## ANPT 202 Practicum in Animal and Poultry Science Credit 2

In this course, students may gain practical management experience by working at the UMES animal facilities through a non-paid contractual agreement. Students may spend time in the aquaculture, swine, poultry and/or ruminant facilities. Prerequisites: Second semester freshman standing and permission of instructor. Course may be repeated, but credit toward graduation will be limited to two credit hours. Two hours laboratory per week.

ANPT 213 Introduction to Aquaculture
Credit 3
The course covers an overview of the commercial aquaculture industry including shell and fin fish culture. Basic concepts include water quality management, reproduction, hatchery management, nutrition, disease control, processing, and marketing. Two hours lecture and three hours laboratory per week.

ANPT 214/Honors ${ }^{1}$ Animal and Avian Physiology

## Credit 4

This course involves laboratory and lecture studies of the basic anatomy of mammals and domestic fowl and how this anatomy relates to the physiological functions of tissues, organs and systems. Prerequisite: ANPT 114 or permission of instructor. Three hours lecture and three hours laboratory per week.

## ANPT 223 Introduction to Poultry Technology and Management Credit 3

The course provides an overview of the poultry industry and how it relates to the human food chain. The basic concepts of poultry breeding, housing, management and production, processing, and marketing will be introduced. Two hours lecture and three hours laboratory per week.

## ANPT 304/Honors Reproductive Physiology Credit 4

In this course, students study the fundamental concepts of reproduction, including, comparative physiology, reproductive technologies, and management of domestic animal reproductive performance. Prerequisites: ANPT 114 or permission of instructor. Three hours lecture and two hours laboratory per week.

ANPT 313/Honors Introduction to Animal and Avian Nutrition Credit 3
The fundamental concepts of digestion and metabolism of nutrients by animal and avian species are covered. Nutritional deficiencies and their requirements for various physiological functions are also included. Prerequisites: ANPT 114, CHEM 111, CHEM 113 or permission of instructor. Three hours lecture per week.

ANPT 399 Internship in the Animal and Poultry Industry Credit 3
Offered as part of the student's educational training, this course provides practical work experience and familiarizes the student with the operation and management of a commercial animal or poultry business firm. Faculty will aid
students in identifying firms; however, placement is not guaranteed. Prerequisite: Permission of instructor. Three hours laboratory per week.

ANPT 403 Advanced Aquaculture

## Credit 3

This course covers the fundamentals of commercial fish and other marine animal production, including basic principles of pond and tank production, management, nutrition and disease control. Two hours lecture and three hours laboratory per week. Course also offered as NRES 403.

## ANPT 413 Advanced Poultry Production and Management Credit 3

The principles and current practices in hatching egg production, incubation and hatchery management and commercial broiler production are covered in this course. Topics include broiler breeder management, hatching egg incubation, broiler housing systems, ventilation, heating, lighting, feeding, and health care. Practical experience in poultry production practices will be gained by putting classroom instruction into practice through operating the 10,000 bird broiler house on the UMES farm. Prerequisites: ANPT 223 and ANPT 313, or permission of instructor. Two hours lecture and two hours laboratory per week.

## ANPT 423 Wildlife Management

## Credit 3

In this course, students develop an understanding of the principles and practices associated with wildlife management. Emphasis is placed on research design, sampling techniques, and field research. Students practice field techniques, analyze results, and develop management recommendations as part of semester projects. Two hours lecture and three hours laboratory per week. Course also offered as BIOL 463.

ANPT 424/Honors Animal and Avian Health and Diseases Credit 4
Students study parasitic, viral, bacterial and protozoan diseases of mammalian and avian species. Methods of disease prevention, control and eradication are also discussed. Prerequisites: ANPT 214/H or permission of instructor. Three hours lecture and three hours laboratory per week.

ANPT 433 Livestock Production Credit 3
Ruminant animal production including breeding and selection, reproduction, nutrition, management production systems, herd health, ruminant wildlife and related technologies will be discussed. Two hours lecture and two hours laboratory per week.

## ANPT 443 Horse Production Credit 3

Principles and applied practices of horse production, with emphasis on management, nutrition, health care, genetics and physiology are emphasized in this course. Prerequisites: ANPT 114 or permission of instructor (offered in oddnumbered years). Two hours lecture and three hours laboratory per week.

ANPT 463 Dairy Production
Credit 3
Applied dairy science with emphasis on genetics, nutrition and feeding, lactation, physiology and management, and marketing systems for dairy products are topics covered in this course. Prerequisites: ANPT 114 or permission of instructor (offered even-numbered years). Two hours lecture and three hours laboratory per week.

## ANPT 473 Swine Production

Credit 3
Modern, applied aspects of swine production are covered, including breeding and selection, reproduction and artificial insemination, nutrition and feeding, environmental aspects of housing and management, production systems, herd health, and pork products and their value in the human diet. Prerequisites: ANPT 114 or permission of instructor. Two hours lecture and three hours laboratory per week.

ANPT $499 \quad$ Special Topics in Animal and Poultry Science

## Credit 1-5

This course includes individualized research and study of a problem in the student's area of interest done in cooperation with an ANPT faculty member. Prerequisite: Permission of instructor.


#### Abstract

ARABIC ARAB 101 Fundamentals of Arabic I Credit 3 This course provides for the acquisition of basic skills in the language through drills in pronunciation, grammar, and translation. Laboratory work is required.


## ARAB 102 Fundamentals of Arabic II

## Credit 3

Fundamentals of Arabic II is a continuation of ARAB 101. This course provides for the acquisition of basic skills in the language through drills in pronunciation, grammar, and translation. Laboratory work is required. Prerequisite: ARAB 101.

ARTS 100 First Year Experience

## Credit 1

This course provides an opportunity for students to make a seamless transition from high school to college. Essential skills for transition will be explored and discussed. This course will assist students in developing cognitive skills and will assist them in adjusting personally and socially to the college environment. This course will enable firstyear students to develop creative and critical thinking skills, and information literacy skills needed to facilitate a successful transition from high school to university. Additionally, this course shall facilitate self-awareness and interpersonal skills. In addition to providing information needed for student success at the University, this course serves as a conduit for students entering into the field of Applied Design. Students will be provided with prerequisite needed to make a successful transition into the Fine Arts Major. The course will develop interpersonal and conflict resolution skills providing academic, personal, social, and emotional adjustment. Prerequisites: Applied Design Majors Only.

## ARTS 101/Online Exploration of the Visual Arts Credit 3

This is a philosophical course in the nature of Art designed to acquaint the student with the complex phenomena that makes up the art of our time, ranging from prehistory to the present. Emphasis is placed primarily upon the visual arts of painting, drawing, sculpture, pottery, and the graphic arts. The course features specifically, the nature of visual form, the art object, the material and process by which it was formed, and the creative process. Field trips are a requirement. OPEN TO ALL STUDENTS.

## ARTS 102 Drawing I Credit 3

The purpose of this course is to allow students to record their observable environment, to express an emotional relationship to a subject, and to organize compositions into satisfying arrangements. The course is designed to enable students to develop a "Seeing Eye" by regularly sketching from direct observation. Gesture, contour, and the elements of line, value, texture, and space are explored. ARTS 102 is a beginning course in drawing. Laboratory four hours.

ARTS 103 Drawing II

## Credit 3

This is a continuation of ARTS 102; regular drawing from nature will be explored with emphasis placed on an understanding of the representation of the figure and on subjective thematic drawing. Laboratory four hours. Prerequisite: ARTS 102.

## ARTS 104 Introduction to Visual Culture Credit 3

Today as part of the $21^{\text {st }}$ century visual images pervade our culture more than any other period in history. Increasingly people build their ideas and attitudes about culture not from first-hand experience but from images either as still photographs, video, film and electronic media. This course would look at the range of technology employed to create the new images and the cultural significance of life in a world of images. In this course students
will become familiar with the key methods of visual criticism and larger social debate about the politics of information through images. Through lecture, selected reading discussion, viewings and screening the various types of visual cultural style will be examined. OPEN TO ALL STUDENTS. Lecture three hours.

## ARTS 105 Fundamentals of Drawing <br> Credit 3

This is an introductory course in drawing designed to strengthen fundamental drawing skills and prepare students for entry into Arts 102. This course may not be applied toward the Art Core Requirements. OPEN TO ART MAJORS ONLY.

## ARTS 106 Design I

## Credit 3

This is a foundation course in two-dimensional design, which places emphasis on the development of skills for the conscious application of the elements and principles of design in composition. This course allows students immediate involvement in the essential problems in the translation of ideas into 2-dimensional visual expressions. Students will explore a variety of materials and techniques in many media. Laboratory four hours.

## ARTS 107 Design II <br> Credit 3

This is a foundation course in 3-dimensional design, which emphasizes the understanding and use of the art elements and Principles to solve problems involving 3-dimensional space. A full understanding of the 3-dimensional qualities of objects in space will be investigated with a variety of techniques in many media. Laboratory four hours. Prerequisite: ARTS 106 Design I.

## ARTS 121 Ceramics I <br> Credit 3

Ceramics I is designed to acquaint beginning students with the fundamental pottery processes which include forming, design, decoration, glazing, firing, and clay processing. OPEN TO ALL STUDENTS. Laboratory four hours.

## ARTS 122 Sculpture I <br> Credit 3

This is a course designed to acquaint students with the fundamental manipulation and analysis of three-dimensional media through sculptural techniques. Studies are done in wood, metal, plaster, clay, and plastics. Emphasis is placed on creativity. Laboratory four hours. Prerequisite: ARTS 107.

## ARTS 204 Drawing III Credit 3

This is an advanced course in drawing that is a continuation of ARTS 103 Drawing II. Emphasis is on creative pursuits and finding one's own expressive style. Laboratory four hours. Prerequisites: ARTS 102 and consent of the instructor.

## ARTS 205 Printmaking I Credit 3

This course is designed to acquaint students with the fundamentals of the Printing process. Techniques in relief, serigraphy, and intaglio Printing are introduced. OPEN TO ALL STUDENTS. Laboratory four hours.

## ARTS 206 Photography I

Credit 3
This course is designed to acquaint students with the fundamentals of photography, the history of photography, the principles of light, simple optics, the basic camera, lens characteristics, photographic emulsions, exposure, shutters and diaphragms, cameras and their operation, elementary composition, taking pictures, development, contact printing, enlarging, darkroom and studio layout, selection and care of equipment. OPEN TO ALL STUDENTS. Laboratory four hours.

## ARTS 207 Design of Photography <br> Credit 3

A course designed to acquaint students with the fundamentals of design special to the photographic process. This course places emphasis on the essential problems in translation of 2 dimensional design into the design of a photographic composition. Students will investigate problems utilizing the basic art elements through photographic
imaging. Introduction to digital photographic process will be included. Prerequisite: ARTS 206. Laboratory four hours.

## ARTS 210 Sculpture II <br> Credit 3

An advanced course designed to assist the student in the manipulation and analysis of three dimensional media. The course is designed to promote greater professional performance in the sculptural media. Studies are done in plaster, plastics, wood, clay and composite materials. Prerequisite: ARTS 122. Laboratory four hours.

## ARTS 211 Art History I <br> Credit 3

This is a philosophical course in the nature of art designed to acquaint students with painting, sculpture, and architecture of the ancient worlds from prehistoric times through the end of the Middle Ages. Lecture three hours. Prerequisite: ARTS 101.

## ARTS 212 Art History II

## Credit 3

This is a philosophical course in the nature of art designed to acquaint students with painting, sculpture, and architecture from the Renaissance through the present day. Lecture three hours. Prerequisite: ARTS 211.

## ARTS 221 Ceramics II <br> Credit 3

Ceramics II is an advanced course in pottery design, construction, and studio processes. Emphasis will be focused on throwing techniques, design, glaze testing, and firing techniques. Laboratory four hours.

## ARTS $241 \quad$ Painting I <br> Credit 3

The body of knowledge covered in ARTS 341 is represented by traditional areas of concentration. The aim of the educational experience, however, is to have the student create freely and develop a visual vocabulary of his/her own. Emphasis will be placed on structured assignments employing the traditional devices of still life figure, collage, and color phenomena exercises. Laboratory four hours. Prerequisites: ARTS 102 and ARTS 103.

## ARTS 309 Photography II <br> Credit 3

This is an intermediate level course which builds on the technical and conceptual framework established in Photography I. Topics include manipulated and altered imagery, basic introduction to color Photography, and introduction of Macintosh computer manipulation. Laboratory four hours. Prerequisite: ARTS 206.

ARTS 310 African American Art History

## Credit 3

This course is a study of African American art in the United States, from its African roots to the present. Emphasis is placed on painting, sculpture, pottery, and crafts. OPEN TO ALL STUDENTS. Lecture three hours.

## ARTS 311 Photography III

## Credit 3

This course introduces students to medium and large format Photography and its use as a documentation tool. Course projects explore such topics as personal imagery, issues of political and social significance, and narrative forms. Technical information and exercises include advanced black and white film processing and Printing, and 4 "x5" studio and field camera techniques. Laboratory four hours. Prerequisite: ARTS 309.

ARTS 312 Photography IV
Credit 3
This course is a continuation of Photography III. Students explore color Photography and digital output, along with selected non-silver alternative Photographic practices. Laboratory four hours. Prerequisite: ARTS 311.

## ARTS 313 Foundations of Visual Computing Credit 3

This course introduces students to the tools, terms, and techniques of visual computing. Students learn basic computer skills and creative methods. Students continue to strengthen their design skills by manipulating and collaring digital images. Laboratory four hours. Prerequisites: ARTS 102 and ARTS 201. OPEN TO ART MAJORS ONLY.

## ARTS 314 Advanced Visual Computing <br> Credit 3

In this intensive studio class, students continue to explore the computer medium of expression. Using powerful programs like Photoshop, and Illustrator, students will create original digital images that express an understanding of both form and content. Laboratory four hours. Prerequisite: ARTS 313. OPEN TO ART MAJORS ONLY.

## ARTS 319 Representational Painting <br> Credit 3

In this course instruction strongly emphasizes the figure as a component of representational and/or observationbased painting and drawing. The choice of painting/drawing media is entirely up to the student and can change frequently. There is an emphasis on individualized instruction. Components of this course include observation from the model, two weeks of anatomy for artists, and invented compositions using the human figure; instruction emphasizes placing figure(s) in space and studying of the drawings and paintings of old and modern Master's in relation to these concerns. Laboratory four hours. Prerequisite: ARTS 342.

## ARTS 320 Advanced Representational Painting Credit 3

This is a continuation of ARTS 319. Prerequisites: ARTS 319 and consent of the instructor.

## ARTS 321 Water Based Media

Credit 3
This course is designed to introduce students to the rewarding and challenging water based media. Students explore the wide range of applications of watercolor as they paint both from life and from their imagination. Laboratory four hours. Prerequisite: ARTS 342.

## ARTS 322 Illustration I <br> Credit 3

Illustration I is an introductory course incorporating concept, individual expression, and development of skills. Demonstrations and discussions on creative process and media are given. Students are exposed to all areas of illustration: advertising, editorial, and corporate. Various black and white and color media are introduced. Laboratory four hours. Prerequisite: ARTS 103.

## ARTS 323 Illustration II <br> Credit 3

This is an advanced course in illustration which explores painting techniques as they relate to illustration problem solving. Students work in ink, acrylic, and watercolor. Students not only concentrate on developing a personal approach to painting, but also grapple with issues of concept and design in communicating ideas visually. Class assignments are wide-ranging; investigating the applicability of techniques to editorial and book illustration, product design, and packaging. Students will work by direct observation as well as learn how to make and use Photographic reference effectively in their working processes. Laboratory four hours. Prerequisite: ARTS 322.

## ARTS 330 Sequential Arts I <br> Credit 3

This course explores the fundamentals of sequential storytelling. All levels of the comic book industry are examined; contemporary and traditional techniques are demonstrated and mastered. Laboratory four hours. Prerequisite: ARTS 103.

## ARTS 331 Sequential Arts II

## Credit 3

This course will further examine the medium of sequential art. Advanced concepts of storytelling and pacing will be broached, and continuing study of computer applications and usage will be examined. Submission policies and standards will also be emphasized. Laboratory four hours. Prerequisite: ARTS 330.

## ARTS 332 Sequential Arts III

## Credit 3

This course is intended as an advanced study of the sequential arts medium. As such it will investigate the current trends of the art form and its international appreciation. Alternative materials and processes of visual expression will be introduced. Experimentation with progressive styles and presentation methods will be investigated. Laboratory four hours. Prerequisite: ARTS 331.

## ARTS 333 History of Sequential Arts

## Credit 3

This course will examine the history of sequential art. The origins of pictorial narratives will be examined from earliest stages of art history. Cave paintings, Egyptian Hieroglyphics, and illuminated manuscripts will serve as the foundation for a more focused study of cartoons and comics from the twentieth century. Lecture three hours

## ARTS 334 Elements of Cartooning <br> Credit 3

This course covers the theory and practice of single panel and newspaper comic art. Students will learn the history and practices of the fields leading artists. Students will then begin to create their own comics by incorporating lessons in storytelling and visual impact. Students will develop and execute unique cartoons in both single panel and newspaper strip formats. Upon completion of the course, they will have developed a professional portfolio of cartoons. Laboratory four hours. Prerequisite: ARTS 103.

## ARTS 340 Anatomy for Artists <br> Credit 3

This course examines the anatomy of the human form as it applies to artists. Muscle groups and skeletal structures will be studied through handouts, observation and drawing/photography. Skeletal models, photos and live models will be analyzed and drawn from. Nudity is an essential component to this course. Anyone who is sensitive to the objective depiction and observation of the natural human form should reconsider their placement in this class. Laboratory four hours. Prerequisite: ARTS 103.

## ARTS 342 Painting II

## Credit 3

The purpose of this course is to explore the ways in which painting can be used to give visual form to ideas through an experimental process. The course aims to give a more in-depth experience in painting. Students deal with problems which give a more comprehensive insight into painting in the contemporary area and more freedom of choice in the direction in which to work and explore ideas. Projects in the field of mixed media are explored. Laboratory four hours. Prerequisite: ARTS 341.

## ARTS 410 Studio Photography <br> Credit 3

This course is designed to acquaint the student with fundamentals of working in the photographic studio environment. Projects covering various techniques of studio lighting, portraiture, and product photography are investigated. In addition, students work in experimental set design for the studio. Projects incorporate both traditional silver and color photographic processes. Laboratory four hours. Prerequisites: ARTS 206, ARTS 309, and ARTS 311.

## ARTS 411 Digital Photography I <br> Credit 3

This course examines the impact of computer technology in photography. Topics include methods to bring images into the computer, such as digital cameras, scanning, Photo. CD, video capture, internet image access. Photographic image alteration is carried out primarily with digital technology. Laboratory four hours. Prerequisites: ARTS 206.

## ARTS 412 Digital Photography II <br> Credit 3

This course is a continuation of Digital Photography I. The course gives special emphasis to the challenged digital photographers face when working with models both in the studio and on location. In addition, the course will cover advanced Photoshop techniques. Laboratory four hours. Prerequisite: ARTS 411.

## ARTS 420 Illustration III

## Credit 3

This course explores the ways in which painting can be used to give visual form to ideas through experimental processes. The course aims to give more in-depth experience in painting. Students deal with problems which give a more comprehensive insight into painting in the contemporary area and more freedom of choice in the direction in which to work and explore ideas. Projects in the field of mixed media are explored. Laboratory four hours. Prerequisite: ARTS 323.

## Credit 3

This is a culminating course in Applied Design. It is a course based on extensive research and professional practice in the areas of graphic illustration, commercial photography, commercial ceramics or sequential arts based on the student's area of concentration. This course serves as an exit assessment of a student's knowledge and application of contemporary art theories and exhibition practice. Research paper, exhibition with oral defense required. Prerequisites: Senior standing and completion of ARTS 498.

ARTS 498J Internship: Illustration

## Credit 2

This course provides students a work experience under the direct supervision of selected professionals in their field of study. Students must register for the course during the summer semester following their junior year. The internship requires 240 hours of direct work experience. Prerequisites: Junior standing and consent of the instructor.

## ARTS 498K Internship: Photography

Credit 2
This course provides students a work experience under the direct supervision of selected professionals in their field of study. Students must register for the course during the summer semester following their junior year. The internship requires 240 hours of direct work experience. Prerequisites: Junior standing and consent of the instructor.

## ARTS 498Q Internship: Sequential Arts

Credit 2
This course provides students a work experience under the direct supervision of selected professionals in their field of study. Students must register for the course during the summer semester following their junior year. The internship requires 240 hours of direct work experience. Prerequisites: Junior standing and consent of the instructor.

## ARTS 499A Independent Study: Painting <br> Credit 3

This course provides students with the opportunity to elect specialized areas of study in painting. Students are required to meet and confer with the instructor on specified conference dates. Prerequisite: Consent of instructor.

## ARTS 499B Independent Study: Printmaking Credit 3

This course provides students with the opportunity to elect specialized areas of study in Printmaking. Students are required to meet and confer with instructor on specified conference dates. Prerequisite: Consent of instructor.

ARTS 499C Independent Study: Ceramics

## Credit 3

This course provides students with the opportunity to elect specialized areas of study in ceramics. Students are required to meet and confer with instructor on specified conference dates. Prerequisite: Consent of instructor.

## ARTS 499D Independent Study: Drawing Credit 3

This course provides students with the opportunity to elect specialized areas of study in drawing. Students are required to meet and confer with the instructor on specified conference dates. Prerequisite: Consent of instructor.

## ARTS 499F Independent Study: Photography Credit 3

This course provides students with the opportunity to elect specialized areas of study in Photography. Students are required to meet and confer with instructor on specified conference dates. Prerequisite: Consent of instructor.

ARTS 499G Independent Study: Sculpture

## Credit 3

This course provides students with the opportunity to elect specialized areas of study in sculpture. Students are required to meet and confer with the instructor on specified conference dates. Prerequisite: Consent of instructor.

## ARTS 499J Independent Study in Applied Design: Illustration Credit 3

This course is designed to provide Applied Design majors with opportunities to elect specialized areas of study in studio illustration. Students are required to receive written permission from the instructor. Laboratory four hours. Prerequisite: Upper Division standing and permission from the instructor.

## Credit 3

This course is designed to provide Applied Design majors with opportunities to elect specialized areas of study in studio photography. Students are required to receive written permission from the instructor. Laboratory four hours. Prerequisite: Upper Division standing and permission from the instructor.

## ARTS 499Q Independent Study in Applied Design: Sequential Art Credit 3

This course is designed to provide opportunities for art majors to explore specialized areas of sequential art. Students are required to receive written permission from the instructor. Laboratory four hours. Prerequisite: ARTS 330.

## AVIATION SCIENCES

## AVSC 100 First Year Orientation with Aviation Credit 1

This course offers an overview of the aviation industry and an overview of college life. This course is an orientation for incoming freshmen and covers stress and time management and life skills. In addition, the course explores ethics, educational requirements, FAA requirements, scholarship availability, career opportunities, and the need to be trained.

AVSC 112 Aviation Fundamentals Credit 3
This course provides a basic overview of aviation, including Fundamentals of Flight, Flight Operations, Aviation Weather, Performance and Navigation, and Integrating Pilot Knowledge and Skills. Critical thinking is stressed. Aviation Science students in the Professional Pilot Concentration should enroll concurrently in AVSC 141. Lab fee $\$ 350$.

AVSC 131 Air Transportation Credit 3
This course covers the history, development, and present status of air transportation, including: government legislation, regulations, the FAA and CAB organizations and functions; classification of air carriers; facilities and airline operations; future air transportation requirements; economics and social implications.

## AVSC 132 Introduction to Aviation Business <br> Credit 3

This course is an introductory course to provide an overview of the structure of business, management and organization, human resources, financial management, production, labor-management relations, marketing, accounting, and insurance as well as the global dimensions of business and social responsibilities of business as these topics relate to aviation business. Also included is an exploration of the management of FBOs and other general aviation enterprises. Prerequisite: AVSC 131

## AVSC 141 Private Pilot Ground Laboratory Credit 1

This course provides ground and simulator instruction to meet FAA private pilot aeronautical knowledge requirements. Subjects include all applicable Federal Aviation Regulations (FARs), visual flight rules (VFR) navigation, aviation weather, aircraft operations, safety considerations, etc. Training includes instruction necessary to complete the airmen knowledge requirements of the Private Pilot Airplane airmen knowledge test (FAA written exam). This course is designed for students in the Professional Pilot Concentration and should be taken concurrently with AVSC 112 Aviation Fundamentals. Co-requisite: AVSC 112

## AVSC $142 \quad$ Private Pilot Flight

## Credit 3

This course includes actual flight and simulator time to meet private pilot requirements. Topics include all FAA required maneuvers such as: aircraft pre-flight operations, airport and traffic pattern operations, flight maneuvering, flight at slow airspeeds, normal and crosswind takeoffs and landings, control and maneuvering of the aircraft solely by reference to flight instruments, cross-country navigation, maximum performance takeoffs and landings, night flying and emergency operations. Upon successful completion of this course the student will have the aeronautical experience and skill requirements for, and will have obtained, an FAA Private Pilot Airplane Single Engine Land
certificate. This course, completed together with AVSC 162, is the equivalent of AVSC 143, 153, and 163. Corequisite: AVSC 141.

## AVSC 143 Primary Flight Training I <br> Credit 2

This course includes actual flight and simulator time to meet the requirements of the first two stages of the FAA 141 Private Pilot Flight syllabus. Topics include the FAA required maneuvers such as: aircraft pre-flight operations, airport and traffic pattern operations, flight maneuvering, flight at slow airspeeds, normal and crosswind takeoffs and landings, control and maneuvering of the aircraft solely by reference to flight instruments, cross-country navigation training, maximum performance takeoffs and landings, night flying and emergency operations. Upon completion of this course, the student will have passed the Private Pilot Stage I (pre-solo) stage check. A Flight Lab fee is charged for this course. As of the Fall 2014 semester, this fee is $\$ 2,500$. Consult the Aviation Sciences Student Handbook for updated fees. Department Permission required.

## AVSC 152 Meteorology \& Environmental Issues Credit 3

This course covers the following topics: the atmosphere, atmospheric energy and temperature, pressure and density altitude, wind, atmospheric circulation systems, air-masses, fronts, vertical motion and stability, atmospheric moisture, tornadoes, thunderstorms, and local winds. Hazards associated with weather, such as wind shear, turbulence, icing, instrument meteorological conditions (IMC), etc. are also covered, as are applications of weather knowledge, including aviation weather resources and weather evaluation for flight. Air and noise pollution are introduced. Pre/Co-requisite: AVSC 112.

## AVSC 153 Primary Flight Training II <br> Credit 2

This course includes actual flight and simulator time to meet the requirements of the final stage of FAA Part 141 Private Pilot flight syllabus and the first stage of the FAA Part 141 Instrument Rating Flight syllabus. Topics include the FAA required maneuvers such as: solo cross-country navigation, and basic radio navigation. Upon successful completion of this course, the student will have passed the Private Pilot Stage II stage check, the Private Pilot end of course check, the FAA Private Pilot Airplane Single Engine Land practical test, and the Instrument Rating Stage I stage check. A Flight Lab fee is charged for this course. This fee may change from year to year depending on flight training cost adjustments. As of Fall 2014 semester, this fee is $\$ 6000.00$. Consult the Aviation Sciences Student Handbook for updated fees. Prerequisites: AVSC 141, AVSC 143. Co-requisite: AVSC 161. Departmental permission required.

## AVSC 161 Instrument Rating Ground Credit 3

This course provides ground and simulator training to meet FAA's instrument pilot aeronautical knowledge requirements. Subjects include Federal Aviation Regulations (FAR's) for instrument flight; IFR navigation; aviation weather; function, use, and limitations of flight instruments; etc. Training includes instruction necessary to complete the airmen knowledge requirements for the Instrument Airplane airmen knowledge test (written exam). Prerequisite: AVSC 141. Co-requisite: AVSC 152. Lab Fee $\$ 350$.

## AVSC 162 Instrument Rating Flight

## Credit 3

This course provides flight and simulator training for instrument pilot operations necessary to operate an airplane safely and accurately under instrument flight rules (IFR) within the National Airspace System. Upon successful completion of this course the student will have demonstrated both the aeronautical knowledge and skill requirements for, and will have obtained, an FAA Instrument Airplane Rating. This course, completed together with AVSC 142, is the equivalent of AVSC 143, 153, and 163. Laboratory fee $\$ 250$. Prerequisites: AVSC 141 and AVSC 142. Corequisites: AVSC 161 and 152.

AVSC 163 Primary Flight Training III

## Credit 2

This course provides flight and simulator training for instrument pilot operations which is necessary to safely and accurately perform standard instrument approaches to operate an airplane under Instrument Flight Rules (IFR) within the National Airspace System. Upon successful completion of this course, the student will have passed the

Instrument Rating Stage III and III stage checks, the Instrument Rating end-of-course check, and the FAA Instrument Airplane Rating practical test. A Flight Lab fee is charged for this course. This fee may change from year to year depending on flight training cost adjustments. As of the Fall 2014 semester, this fee is $\$ 7500.00$. Consult the Aviation Sciences Handbook for updated fees. Prerequisites: AVSC 153, AVSC 161, and AVSC 152. Departmental permission is required.

## AVSC 170 Software and Simulation Applications in Aviation Credit 3

This course provides an introduction to the use of software and simulation tools in support of aviation. An introduction to the use of software in support of the following will be covered: operations research as it relates to airlines, airports, and other aviation stakeholders; data management and statistical analysis; airspace and airport capacity modeling; geographic information systems; and simulation. Specific topics will be decided based on the unique and contemporary needs of the field.

## AVSC 188 Flight Training

## Credit 0

This course provides students with flight training activities. Students in flight training shall sign up for three sections of this course each semester to ensure three half days of flight training per week. Prerequisite: Enrollment in UMES Flight Training program.

AVSC 201 The National Airspace System Credit 3
Students review federal aviation regulations (FAR), the National Airspace System (NAS) structure, equipment, and cloud clearance requirements for the different airspace classifications including special use airspace (SUA). Students study the different air traffic control (ATC) facilities, terminal and en-route, to learn the various controller positions and functions. Students use the ATC simulator to demonstrate confidence in their ability to safely control at least 10 aircraft in a high density terminal environment. Students plan a flight and fly their flight plan on the flight simulator, describing the airspace and communications requirements as they proceed. Future plans for the NAS are discussed. Prerequisite: AVSC 112. Lab Fee $\$ 350$.

## AVSC 202 Air Traffic Control Credit 3

This course briefly reviews the history of the US Air Traffic Control (ATC) system. Students learn current ATC procedures and phraseology by flying and controlling air traffic in high density terminal environments. Students learn the ATC facilities and required operational positions (workstations). Teamwork, between pilots and controller, to move aircraft safely through today's ATC system is stressed. Prerequisite: AVSC 201. Lab Fee $\$ 250$.

AVSC 231 Airline Management I Credit 3
This course studies the operational requirements of Part 135 and 121 carriers in the National Airspace System. Discussions include value analysis of different aircraft types for various users, cost-effective operations, marketing considerations, facilities, equipment suitability, aircraft acquisition and modernization. Typical subjects include aviation regulations, records and documents associated with air carrier operations. Prerequisite: AVSC 131 or ECON 201.

AVSC 232 Airport Management

## Credit 3

The student is provided knowledge of airport administration, design, and planning. Airport operations and practices discussed include security, fire protection, facility maintenance, environment, public affairs, political, social and economic issues. Prerequisites: AVSC 231 or permission of instructor.

## AVSC 241 Aviation Safety

## Credit 3

Aviation Safety is designed to promote sound practice, and an understanding of the safety-net for commercial and general aviation. This course provides the student with a foundation and framework in aviation and transportation safety. The course objectives are: to gain an understanding of the knowledge, skills, and abilities required in aviation; to enhance the student's safety awareness; to familiarize the student with hazards associated with the aviation environment; and to impart to the student a broad understanding of the United States' safety system. Some
typical areas are: safety data, investigations, aviation maintenance, collision avoidance, Cockpit Resource Management (CRM), physiology, situation awareness, and human factors. Prerequisite: AVSC 112.

## AVSC 251 Commercial Pilot Ground <br> Credit 3

In this course, ground instruction to meet FAA Commercial Pilot aeronautical Knowledge requirements is provided. Subjects include all FAR's applicable to commercial pilot privileges, limitations, and flight operations; airplane performance, aerodynamics, performance prediction, weight and balance control; advanced airplane systems, including fuel injection, high performance power plants, environmental systems, complex aircraft systems, and commercial flight maneuvers. Training includes instruction necessary to complete the airmen knowledge requirements for the (FAA written exam) Commercial Pilot Airplane airmen knowledge test (written exam). Prerequisites: AVSC 152, AVSC 153, AVSC 161 and AVSC 253. Lab Fee $\$ 350$.

## AVSC 252 Commercial Pilot Flight I <br> Credit 2

This course is actual flight and simulator time for private pilots to learn commercial pilot operations. Emphasis is on advanced cross-country and night operations. Upon successful of this course the student will have mastered the VFR cross-country and night aeronautical knowledge and skill requirements for an FAA Commercial Pilot Certificate. A Flight Lab fee is charged for this course. This fee may change from year to year depending on flight training cost adjustments. As of the Fall 2014 semester, this fee is $\$ 5,500$. Consult the Aviation Sciences Student Handbook for updated fees. Prerequisite: Departmental permission required. Co-requisite: AVSC 251.

## AVSC 253 Commercial Pilot Flight II

## Credit 2

This course is actual flight and simulator time for private pilots to learn commercial pilot operations. Emphasis is placed on more advanced aerodynamics, aircraft performance, and practical experience to pilot a complex aircraft. Upon successful completion of this course the student will have mastered the complex aircraft aeronautical knowledge and skill requirements for an FAA Commercial Pilot Certificate. A Flight Lab Fee is charged for this course. This fee may change from year to year depending on flight training cost adjustments. As of the Fall 2014 semester, this fee is $\$ 5500.00$. Consult the Aviation Sciences Student Handbook for updated fees. Prerequisite: AVSC 251 and AVSC 252. Departmental Permission is required.

## AVSC 254 Commercial Pilot Flight III <br> Credit 2

This course is actual flight and simulator time for private pilots to learn commercial pilot operations. Emphasis is on commercial flight maneuvers and practical experience to master the aircraft. Upon completion of this course, the student will have mastered the complex aircraft aeronautical knowledge and skill requirements for an FAA Commercial Pilot Certificate. A Flight Lab Fee is charged for this course. This fee may change from year to year depending on flight training cost adjustments. As of the Fall 2014 semester, this fee is $\$ 5500.00$. Consult the Aviation Sciences Student Handbook for updated fees. Prerequisite: AVSC 251 and AVSC 253. Departmental Permission is required.

AVSC 261/Online Aviation Organization and Leadership

## Credit 3

This course is a study of the various organizational theories as they apply to the aviation industry. The course will cover the topics of human resources management, labor relations, classical and rational theories of organizational structure and management, the evolution of business organization, and the economics of organizations. Prerequisites: AVSC 231.

AVSC 298 Aerospace Design I: Gateway to Space

## Credit 3

The lectures will cover an introduction to space science and spacecraft functionality. The project effort will be organized by the professor, who will act as a Principal Investigator. The class will be divided in teams and asked to design, develop, test and operate a payload or a pico-satellite in response to a Request For Proposal (RFP) for a tailored mission. The project may be a payload for a BalloonSat or Sounding Rocket launch, or the students may be asked to develop a pico-satellite and enter in the "NearSat competition" organized by AIAA and AAS.

## AVSC 301 Aircraft Dispatcher <br> Credit 3

This is a preparatory course for the FAA Aircraft Dispatcher written examinations. The course is a review of the aviation core concepts and technology as they apply to the Aircraft Dispatcher. Prerequisites: AVSC 152, AVSC 201, AVSC 202, AVSC 241, and either AVSC 251 or AVSC 112 and permission of the instructor.

AVSC 302 Advanced Aircraft Systems

## Credit 3

This course covers all aircraft systems, their theory of design, operations, trouble shooting and maintenance standards. Study includes propulsion systems, associated instruments, auxiliary systems, propeller and control; aircraft structure, aircraft electrical and lighting, hydraulic and pneumatic systems, avionics, brakes and tires, deicing, flight instrumentation, navigation systems, and ELT. This course covers an in-depth understanding of a typical turboprop commuter-type aircraft as well as an overview of the design and development process of commercial aircraft. Prerequisite: AVSC112 and AVSC 251 or permission of instructor.

## AVSC 305 Aviation Career Preparation

## Credit 1

This course is designed to prepare Aviation Science students for entry into the aviation career field. Topics and assignments will include resume writing, course portfolio creation, and development of interview skills through the use of mock interviews. This course will prepare students to enter an Internship and complete AVSC 380. Prerequisite: Junior Standing

AVSC 310 Aerial Operations in Remote Sensing Credit 3
This course covers the operation of aerial platforms as it relates to remote sensing in support of various scientific endeavors. Topics discussed will include the operation of unmanned aerial systems (UAS), the collection of data using UAS and other aerial platforms, and data analysis using geographic information systems (GIS) and other relevant software tools. Students will engage in a research project, and collect and analyze data in accordance with the objectives of the project. Prerequisite: AVSC 390 or MATH 210 or permission of instructor.

## AVSC 311 Aerodynamics \& Aircraft Performance Credit 3

Students in this course study the fundamentals and more advanced theory of flight, the standard atmosphere, and subsonic and supersonic aerodynamics. Topics include airfoils, the complete aircraft, various aerodynamic shapes, wind tunnels, elements of airplane performances, principles of stability and control, and propeller and jet propulsion. Prerequisite: AVSC 112, MATH 112 or BUAD 252, PHYS 121 or PHYS 161 or PHYS 181, and Junior standing.

## AVSC 312 Advanced Aerodynamics and Performance of Flight Vehicles Credit 3

This course is designed for Junior or Senior students who have interest in pursuing in-depth studies of aircraft performance, including stability, sonic and hypersonic propulsion, and an introduction into space mechanics and reentry techniques. Prerequisite: AVSC 311.

## AVSC 323 Sport Pilot Ground School

## Credit 1

This course is provides the requisite aeronautical knowledge to successfully pass the Federal Aviation Administration Sport Pilot Certificate Written Exam. Students will cover topics including aircraft design and basic aerodynamics, flight Instruments, Federal Aviation Regulations (FARs), meteorology, ground operations, flight planning and navigation techniques, and required endorsements.

AVSC 326 Air Traffic Control Operations I Credit 3
This course provides the requisite aeronautical knowledge to successfully pass the Federal Aviation Administration Air Traffic Selection Training Aptitude Test Written Exam. Students will cover topics including the aircraft separation, NOTAMS, radar, FAA Orders, LOAs, regulations, navigation, publications, IFR structure, weather, PIREPS, communications, ATC clearances and strip marking as it relates to Air Traffic Controller duties. Students will practice hands on air traffic control procedures utilizing desk-top and/or an ATC simulator. Prerequisites: AVSC 202. Laboratory fee: $\$ 250$.

## Credit 3

This course is a study of the foreign and domestic legal system (federal, state, and local laws and regulations) concerning air transportation and implications as they relate to operations, contracts, insurance, liability, and regulatory status, in the field of aviation. Emphasis is on domestic and international legal aspects of air transportation. Prerequisites: AVSC 112, AVSC 131 and junior standing.

## AVSC 342 Flight Physiology <br> Credit 3

This course provides an understanding and overview of physiological situations that can interfere with safety. Topics include high altitude physiology, gas laws, human anatomy, hypoxia, fatigue, jet lag, stress, drugs, alcohol, spatial disorientation, vision, and the associated human factor issues. Prerequisite: AVSC 241 and junior standing.

## AVSC 355 Airport Planning

## Credit 3

This course provides a step by step process of airport design, layout, construction and all planning aspects of a medium hub-sized commercial airport. The student is provided with the knowledge of zoning laws, environment considerations, blueprint design, etc. The student will design and complete his/her own airport layout. Prerequisites: AVSC 131 and AVSC 231 or permission of instructor.

AVSC 361 Communication Electronics Credit 3
This course introduces the fundamentals of communication electronics. Topics introduced include signal, noise, FM/AM modulation, digital modulation, FSK, transmitting and receiving circuits, antenna, wave propagation, microwave devices, transmission lines, wave guides, radar systems, fiber optics, and practical applications. Prerequisites: PHYS122, MATH112, ENGE 170 and junior standing.

AVSC 365 Transportation Security
Credit 3
This course will focus on Transportation Security Administration regulations covering aviation, railroad, highway, marine, and pipeline transportation. Requirements for all modes of transportation will be covered, with emphasis on aviation security. Personnel and the technology needed to provide a safe and secure environment for airports and airlines will be discussed. Advanced security technology and its use to significantly increase the level of security in transportation will be covered. Prerequisite: Junior standing.

## AVSC 380 Cooperative or Internship Credit 1-3

Students are provided a cooperative or internship in the public or private sector to give the student an opportunity to gain experience and professional skills in an area related to aviation. Prerequisite: AVSC 305, junior standing.

## AVSC 381 Cooperative or Internship II Credit 1-3

Students are provided a cooperative or internship in the public or private sector to give the student an opportunity to gain experience and professional skills in an area related to aviation. Prerequisite: AVSC 305, junior standing.

## AVSC 382 Cooperative or Internship III Credit 1-3

Students are provided a cooperative or internship in the public or private sector to give the student an opportunity to gain experience and professional skills in an area related to aviation. Prerequisites: AVSC 305, junior standing.

AVSC $390 \quad$ Aviation Applications of Statistics and Research Design Credit 3
This course is an introductory statistics and research design course designed for Aviation Sciences students. Special emphasis will be made on the use of data and statistical analysis in operations research. Topics to be covered include: descriptive statistics; populations and samples; measures of central tendency and dispersion; elementary probability; distributions; random variables; hypothesis testing; estimation of population means and confidence intervals; Chi square distribution; correlation coefficient; problem definition and statement; literature review; research planning; and ethical issues in research. Prerequisites: MATH 102 or 109, junior standing.

## Credit 3

This course will examine the historical, economic, and political events that shaped the National Airspace System of foreign nations. The goal of the course will be to understand the differences between U.S. operations domestically as compared to abroad. Students will study current trends in international aviation policy by examining foreign Civil Aviation Authority's regulations and discussing their impact on future operations worldwide. Students will study under a host institution as approved by the department. Fees: Will vary on the host site location. Prerequisite: Departmental approval.

## AVSC 421 Aviation Psychology

## Credit 3

This course is designed to introduce students to human factors and crew resource management theory in aviation that relate to diverse areas such as engineering, psychology, physiology, aerospace safety and flight training. Special attention will be paid to the flight crew ergonomics, technology integration, human performance, pilot selection and training. Prerequisite: PSYC 100 or equivalent, AVSC 241 and junior status.

## AVSC 431 Maintenance Management

## Credit 3

The aviation industries are concerned about the design and operation of maintenance control systems. The ratio of maintenance craftsmen to operators is higher than traditional industry standards. This fact leads to the realization that the effective management of production resources would yield more benefits to the organization. The emphasis of this course is placed on computer information systems. Seniors or juniors will demonstrate the knowledge needed to set up and maintain a maintenance program. Prerequisite: Junior standing.

## AVSC 432 Airline Management II <br> Credit 3

This course is a study of the business practices, operations, and management principles used by domestic and international airlines. The following topics are discussed: regional airlines, fleet planning, customer services, routing the efficient flow of air traffic, domestic and foreign airline competition, and fare structuring. Prerequisite: AVSC 261 or permission of instructor.

## AVSC 441/Online Human Factors In Aviation Credit 3

Human factors, an interdisciplinary subject, is an empirical science that deals with human capabilities and behavior as applied to a given system. Technical disciplines contributing to human factors are anthropometry, biomechanics, engineering, mathematics, and psychology. This course is a study of the interface and relationship between humans and machines in the aviation environment. The outcome adjusts the things or ways people use them and the environment for a better match of capabilities, limits, or needs. Human factors in aviation is designed to bridge the gap between theory and practical application in aviation. The course material will include: performance, design, human senses, information processing, workload, group interaction, fatigue, errors, memory allocation and introduction to controls and displays. Prerequisite: AVSC 421.

## AVSC 442 Safety Management

## Credit 3

This course is a design course. Students will design their own safety plan for the company of the student's choice. The course covers safety quantification, laws, regulations and policies. Topics include: OSHA, cost analysis, hazardous conditions, failure models, risk analysis, and performance measurements. Prerequisite: AVSC 241 and junior status.

## AVSC 451 Certified Flight Instructor Airplane - Ground Credit 3

This course provides ground instruction required by the FAA for the student to become a FAA certified flight instructor. This course includes fundamentals of instruction, including responsibilities and requirements for instruction of private and commercial airplane flight students. Training includes instruction necessary to complete the airmen knowledge requirements (FAA written exam) for Fundamentals of Instruction and Certified Flight Instructor-Airplane. Prerequisite: AVSC 163, AVSC 251. Lab Fee \$350.

## Credit 2

Flight instruction required by the FAA for the student to become a FAA certified fight instructor is the focus of this course. The course includes: fundamentals of instruction; technical subject areas; preflight preparation; preflight lessons on a maneuver to be performed in flight; preflight procedures; airport and seaplane base operations; takeoffs, landings, and go-arounds; fundamentals of flight; performance maneuvers; ground reference maneuvers; slow flight, stalls and spins; basic instrument maneuvers; emergency operations; and post flight procedures. Successful completion of this course includes passing the FAA practical test for Certified Flight Instructor-Airplane. A Flight Lab Fee is charged for this course. This fee may change from year to year depending on flight training cost adjustments. As of the Fall 2014 semester, this fee is $\$ 3000.00$. Consult the Aviation Sciences Student Handbook for updated fees. Prerequisite: AVSC 254, AVSC 311. Departmental permission is required. Co-requisite: AVSC 451.

AVSC 461 Certified Flight Instructor - Instrument (Ground)

## Credit 2

This course provides ground instruction and practice teaching dealing with flight operations pertinent to training students in the instrument flight environment. Training includes instruction necessary to complete the airmen knowledge requirements (FAA written exam) for the Certified Flight Instructor-Instrument (Airplane) rating, and simulator console instructor. Prerequisites: AVSC 451 and junior standing. Lab Fee $\$ 350$.

AVSC 462 Certified Flight Instructor - Instrument (Flight) Credit 1
Flight instruction and practice teaching dealing with flight operations pertinent to training students in the instrument flight environment are provided in this course. Training includes instruction necessary to complete the aeronautical skill and experience requirements for the practical test for a FAA Certified Flight Instructor-Instrument (Airplane) certificate. A Flight Lab Fee is charged for this course. This fee may change from year to year depending on flight training cost adjustments. As of the Fall 2014 semester, this fee is $\$ 2500.00$. Consult the Aviation Sciences Student Handbook for updated fees: Prerequisite: AVSC 452 and junior standing. Departmental permission is required. Corequisite: AVSC 461.

## AVSC 472 Multi-Engine Pilot Flight <br> Credit 1

Students receive flight instruction necessary to provide the aeronautical skill and knowledge to meet the requirements for the addition of the multi-engine land class rating with instrument privileges. A Flight Lab Fee is charged for this course. This fee may change from year to year depending on flight training cost adjustments. As of the Fall 2014 semester, this fee is $\$ 2500.00$.. Prerequisite: AVSC 254. Departmental Permission is required.

## AVSC 475 Aviation Operations Research and Decision Theory Credit 3

This course covers the topics of operations research, analysis and decision theory as it applies to the field of aviation. Students will gain experience with a suite of operations analysis software currently being used in the industry. Topics to be covered include queuing theory, mathematical models, data sources, and practical application of data. Prerequisite: AVSC 170.

## AVSC 485 Advanced Concepts in Geographical Information Systems Credit 3

This is an advanced course for students who have taken one or more courses in geographic information systems (GIS). Emphasis will be on emergent technologies and applications relevant to aviation. An integral component of this course will be field work and the collection and analysis of data by students. Prerequisite: AGNR 483 or AVSC 170 or permission of instructor.

AVSC 490 Senior Capstone Course in Aviation

## Credit 3

This is the capstone course for all Aviation Science students. The capstone course is a partial requirement for graduation with a degree in Aviation Sciences. The course is a project or design or course in an area of mutual interest to the student and faculty advisor and includes a comprehensive examination in the core aviation studies. Prerequisite: Senior standing.

## Credit 3

The course involves a senior design project organized by the professor, who will act as Principal Investigator. Students will be asked to design, develop, test, and operate a, aerospace/aviation payload for a tailored mission. Students will be required to present their design and discuss various design elements that contributed to the overall project. Students will create a detailed project report including a summary of the design project. Prerequisites: AVSC 298 and senior standing.

AVSC 499 Senior Seminar

## Credit 3

In this senior seminar course, topics vary from year to year. The purpose of this course is to expose seniors to developing concepts and technology in aviation or aerospace. Prerequisite: Senior standing.

## BIOLOGY ${ }^{1}$

## BIOL 101/Online Theories and Applications of Biological Sciences Credit 3

This course provides an introduction to Biological principles as they apply to our daily lives. The course is designed to partially meet general education requirements in the Natural Sciences. Consideration is given to organisms, their components and activities. Emphasis is on the development and use of knowledge, skills and attitudes expected to be of value in future decision-making as it relates to Biology, our present environmental conditions, and problems facing each of us today. This course is comprised of three hours lecture per week.

BIOL 103 Biological Science Laboratory

## Credit 3

This course emphasizes student involvement in investigations related to Biology. Emphasis is placed on the scientific method, biological molecules, cellular respiration and dissection. Laboratory is designed to partially meet general education requirements in Natural Sciences. Prerequisite: One year of high school biology. Laboratory fee required.

## BIOL 111/Honors Principles of Biology I <br> Credit 3

This course is an introduction to the basic concepts of biology, with emphasis on molecular, cellular and genetic concepts related to living organisms. Basic concepts are considered, and major topics deal with (1) organization of cells and the molecular basis of life, (2) energetics and metabolism, (3) cell growth and reproduction, and (4) genetics. This course is for Natural Sciences majors and others in the related sciences. Co-requisite: BIOL $113 / 113 \mathrm{H}$. This course is comprised of three hours per week and one-hour discussion for the Honors section only.

## BIOL 112/Honors Principles of Biology II <br> Credit 3

This course is an introduction to the basic concepts of biology with emphasis on structure and function, focusing on adaptations of plants and animals. Representative animal systems are discussed and contrasted with representative plant systems. Included in the course is the study of the animal physiology and plant physiology. Prerequisites: BIOL $111 / 111 \mathrm{H}$ (grade of C or better). This course is comprised of three hours of lecture per week.

## BIOL 113/Honors Principles of Biology I Laboratory <br> Credit 1

This laboratory course is designed to accompany BIOL $111 / 111 \mathrm{H}$ and to reinforce the basic biological concepts of cellular biology, molecular biology, and Mendelian and molecular genetics discussed in the corresponding lecture. Supervised laboratory sessions enhance the student's skills in experimental manipulation, data collection, data interpretation and analysis, and data presentation in an effort to stimulate logical thinking and scientific reasoning. Co-requisites: BIOL 111/111H (grade of C or better). Laboratory fee required.

## BIOL 114/Honors Principles of Biology II Laboratory Credit 1

This laboratory course is designed to accompany BIOL 112/112H. Laboratory gives consideration to biological concepts related to the physiological mechanisms of living organisms both plants and animals. Selected systems are studied in a functional perspective Emphasis is placed on experimental manipulation, data collection, data
interpretation and analysis, and data presentation. Co-requisites: BIOL 112/112H (grade of C or higher). Laboratory fee required.

## BIOL 211 Principles of Biology III Credit 3

This course is an introduction to the principles of Biology with emphasis on biodiversity, evolution, and ecology. The course focuses on (1) biodiversity within five kingdom systems, (2) principles of evolution, and (3) population and community ecology with applications to environmental issues. Principles of Biology I is intended for the Biology major and persons in the related sciences. Prerequisite: BIOL 111/111H (grade of C or higher). The course is comprised of three hours of lecture per week.

## BIOL 213 Principles of Biology III Laboratory Credit 1

The laboratory activities of this course are related to principles of Biology with emphasis on biodiversity, evolution, and ecology. Topics of discussion include a survey of the five kingdoms, experimental tests of evolution and ecological concepts. This course is intended for the Biology major and persons in the related sciences. Prerequisite: BIOL 111/111H (grade of C or higher). Co-requisite: BIOL 211. This course is comprised of one three-hour laboratory per week. Laboratory fee required.

## BIOL 222 Genetics

## Credit 3

Basic principles governing transmission of traits from generation to generation in humans are covered in this course. Course material focuses on the structure and functions of DNA, RNA, proteins and chromosomes in eukaryotes, the mode of transmission of genes to the next generation, how genes are damaged and repaired, use of recombinant DNA technology as a treatment option, and the consequences of mutations and chromosomal abnormalities in producing human disorders. Lectures also include discussions on determinations of gene and allele frequencies in populations and how they affect evolution. Prerequisite: BIOL 111/111H (grade of C or higher). This course is comprised of three hours lecture per week.

## BIOL 223 Genetics Laboratory

## Credit 1

This course is designed to introduce students to experimental approaches to studying problems in molecular genetics. Upon completion of the course, students should have a working knowledge of how problems pertaining to hereditary disorders are addressed. Students are taught techniques of how to extract DNA and protein, how to analyze these molecules by electrophoresis, spectrophotometry, polymerase chain reaction, and mammalian cell culture. Prerequisites: BIOL $111 / 111 \mathrm{H}$; and BIOL $113 / 113 \mathrm{H}$. This course is comprised of three hours of laboratory per week. Laboratory fee required.

## BIOL 231 Human Anatomy and Physiology I Credit 3

This course provides an introduction to the structure and function of the human body. Topics included are chemistry and the cell, integument, skeletal, muscular and nervous systems. Prerequisites: BIOL 111/113, BIOL $112 / 114$ ) or for allied health program students (grade of C or higher). This course may not be used as a Biology Program Elective for credit toward the Biology major. This course is comprised of three hours of lecture per week.

## BIOL 232 Human Anatomy and Physiology II

## Credit 3

This course provides discussion of the respiratory, circulatory, excretory, endocrine, digestive, and reproductive functions of the human body. Pre-requisites: BIOL 231/233. This course may not be used as a Biology Program Elective for credit toward the Biology major. This course is comprised of three hours of lecture per week.

## BIOL 233 Human Anatomy and Physiology Laboratory I Credit 1

This course accompanies BIOL 231 and emphasizes student involvement in investigations related to human anatomy and physiology. The course provides practical experience with subject matter and includes written as well as practical examinations. Prerequisites: Biology 111/113. This course is comprised of two hours of laboratory per week. This course must be taken concurrently with BIOL 231. Laboratory fee required.

BIOL 234 Human Anatomy and Physiology Laboratory II
Credit 1
This course complements the BIOL 232 course and emphasizes student involvement in investigations related to human anatomy and physiology. The course is designed to provide practical experience with subject matter and includes written as well as practical examinations. Pre-requisites: BIOL 231 and BIOL 233 or equivalent. Corequisite: BIOL 232. Laboratory fee required.

## BIOL 261 Invertebrate Zoology

## Credit 4

This course is presented as a survey of invertebrate animals with emphasis on the relationship between structure and function and evolution of major groups. Life history, strategies, and behaviors and are major topics of discussion. Laboratory emphasis is on examination of animals. Pre-requisites: BIOL 111/111H (grade of C or higher) or consent of the instructor. This course is comprised of two hours of lecture and two two-hour laboratories per week. Laboratory fee required.

## BIOL 301 Microbiology

## Credit 3

This course examines the basic life processes of various microscopic organisms and their relevance to humans, focusing on pathogenicity. Discussion also encompasses chemotherapy and the immune response to infection. The course provides an introduction to the study of microorganisms and their diversity, growth, life cycle, physiology and control. The role of microorganisms in diseases, the environment and industry, as well as other economic considerations. Prerequisites: BIOL112/ BIOL112H or equivalent (grade of C or better); one year of Chemistry, or permission of the instructor. This course is comprised of three hours of lecture per week.

## BIOL 303 Microbiology Laboratory

## Credit 1

This course is designed to expose students to laboratory activities that will acquaint them with procedures for the proper and safe handling of microorganisms to facilitate investigations using microorganisms. Co-requisite: BIOL 301. This course is comprised of two two-hour laboratory sessions per week. Laboratory fee required.

## BIOL 311/Honors Vertebrate Embryology Credit 4

This course provides the student with a study of the development of the vertebrate body as exemplified by early development of pre-chordate, early chordate, amphibians, birds and mammalian embryos. The course offers the student a descriptive study of the normal morphology of the fundamental morphological aspects of development. In addition, to increase the student's understanding of the mechanisms underlying the development of form to function, experimental, molecular, and genetic approaches are studied. Pre-requisites: BIOL 111/111H (grade of C or higher). This course is comprised of three hours of lecture and three hours of laboratory per week. Laboratory fee required.

## BIOL 322 Comparative Vertebrate Anatomy Credit 4

This course is a study of the general features of chordate development, and a comparative study of the anatomy of the vertebrate classes. Evolution is the unifying theme. This course serves the need of students intending to pursue careers in medicine, biology, biomedical science and environmental science. Prerequisites for this course include: BIOL 111/111H (grade of C or higher) and BIOL112/112H (grade of C or higher). This course is comprised of two hours of lecture and four hours of laboratory per week. Laboratory fee required.

## BIOL 326 Cell Biology

## Credit 3

Course material of cell biology focuses on understanding the roles of nucleic acids, lipids, proteins and carbohydrates in development and maintenance of eukaryotic organelles and cells. Discussions will target processes in each major organelle including the nucleus, plasma membrane, smoother and rough endoplasmic reticulum, Golgi, lysosomes, cytoplasm, and mitochondria. Students learn how events such as ADP ribosylation, methylation, phosphorylation/dephosphorylation and cleavage of polypeptides influence the activities of proteins and enzymes. Other topics include enzyme kinetics and inhibition, how mutations in DNA are produced and corrected, recombinant DNA technology, cloning, the cell cycle, and cancer. Prerequisites: BIOL 111/111H (grade of C or higher) and BIOL 222 (grade of C or higher). This course is comprised of three hours of lecture per week.

## Credit 1

This course is designed to familiarize students with experimental approaches to studying problems in cell and molecular biology. Upon completion of the course, students should be able to participate in research projects aimed at studying molecular and cellular processes. Students are taught techniques of how to study DNA, RNA, and protein using computer databases and existing software, how to extract these molecules from cells and tissues, analyze them, and utilize them in subsequent studies such as the polymerase chain reaction, restriction enzyme analysis, SDS-PAGE, and Western Blot. Prerequisites: BIOL 111 (grade of C or higher), BIOL 113 (grade of C or higher), BIOL 222 (grade of C or higher), and BIOL 223 (grade of C or higher). Laboratory fee required.

## BIOL 330 Evolution

## Credit 3

This course is an advanced exploration of the evolutionary perspective on Biology, including genetic and ecological aspects of evolutionary processes. Topics of discussion focus on the mechanisms of evolutionary change, adaptation, and the history of living organisms. Examples of evolutionary principles in medicine and environmental science are explored to relate concepts to practical application. Prerequisites: BIOL 111/111H (grade of C or higher), BIOL 211, and BIOL 222. This course is comprised of three hours of lecture per week.

## BIOL 335 Biogeography

## Credit 3

Exploration of the environmental factors and historical perspectives that explain distributions of organisms are strongly emphasized in this course. Focus is placed on mechanisms of distribution, environmental constraints and phylogenetic perspectives. Prerequisites: BIOL $111 / 111 \mathrm{H}$ (grade of C or higher); and BIOL 211. This course is comprised of three hours of lecture per week.

## BIOL 341 Introductory Physiology

## Credit 4

An examination of the mechanisms involved in control of body functions. Basic chemical and physical principles of animal function will be discussed. Prerequisites: BIOL 111/113, BIOL 112/114, BIOL 211/213 (grade of C or higher), and one year of Chemistry and a course in vertebrate anatomy. Three hours of lecture per week and three laboratory hours per week. Laboratory fee required.

## BIOL 361 Animal Behavior <br> Credit 4

This course investigates the concepts and applications of animal behavior, with emphasis on the evolutionary basis of behavior. Topics include both proximate influences on behavior and adaptive perspectives on reproductive and social behavior. The laboratory component of this course includes bench work and fieldwork to illustrate specific concepts. Prerequisites: BIOL 111/111H (grade of C or higher), and BIOL 112/112H (grade of C or higher) and BIOL 211/213 is recommended. This course is comprised of two hours of lecture per week, three hours of laboratory, and one hour of discussion per week. Laboratory fee required.

## BIOL 402 Ecology

## Credit 4

This course is designed to provide the student with a study of the basic interrelations of plants and animals with physical and biotic factors of the environment. Prerequisites: BIOL 111/111H (grade of C or higher), and BIOL $112 / 112 \mathrm{H}$ (grade of C or higher). BIOL $211 / 213$ is recommended. This course is comprised of two hours of lecture, one hour of discussion, and three hours of laboratory per week. Laboratory fee required.

## BIOL 404 Conservation Biology

## Credit 3

This course provides an introduction to the principles of conservation biology. Topics of discussion emphasize the application of ecological principles, management tools, and case history studies related to conservation issues. Prerequisites: BIOL 402 or equivalent.

BIOL 420 Animal Histology

## Credit 3

This course is a study of the microscopic structure of vertebrate tissues and organs. Functional correlates are discussed. Prerequisites: BIOL 111/113, BIOL112/114, BIOL 211/213 (grade C or better) a course in vertebrate anatomy and consent of the instructor. This course is comprised of three hours of lecture per week.

## BIOL 421

Animal Histology Laboratory
Credit 1
This course is designed to accompany BIOL 420 and provides hands-on experience using the light microscope to examine vertebrate tissues discussed in lecture. Co-requisites for this course is BIOL 420. BIOL 421 must be taken concurrently. Laboratory fee required.

## BIOL 426M Biotechnology

## Credit 4

This course studies the basic principles of biotechnology and its applications to areas such as medicine, agriculture, and the industry. Emphasis is placed on recombinant DNA technology (gene cloning), metabolites of proteins, and animal and plant biotechnology. The weekly three-hour laboratory component of this course exposes students to various laboratory techniques employed in: gene cloning, cultivation components, sterile tissue culture, and study of cell-surface molecules. In addition to the scheduled three-hour component of this course, additional unscheduled time is required to complete assignments. Unscheduled time is dependent on specific techniques employed. This course is reserved primarily for advanced undergraduate students in the MARC Program. Prerequisites: BIOL 222 (grade of C or higher), BIOL 326 and CHEM 342/342H/342M. Co-requisites: CHEM 342/342H/342M. Laboratory fee required.

## BIOL 431 Mammalogy

## Credit 4

This course provides a detailed investigation of mammalian biology, with emphasis on special physiological and ecological adaptations within the group. Topics of discussion include classification, physiological adaptations, ecological specializations and biogeography of mammals. Prerequisites: BIOL 111/111H (grade of C or higher) and BIOL 211, or permission of the instructor. This course is comprised of three hours of lecture and three hours of laboratory per week. Laboratory fee required.

## BIOL 432 Herpetology

## Credit 3

This course is a concentrated study of the ecology, behavior, and physiological characteristics of amphibians and reptiles. Topics of discussion include classification, adaptations and diversity of groups within the two vertebrate classes. Prerequisites: BIOL 111/111H (grade of C or higher), and BIOL 112/112H (grade of C or higher). This course is comprised of three hours of lecture per week.

## BIOL 436 General Endocrinology

## Credit 3

This course provides discussions of the importance of hormones in regulating body functions, integrating biological systems, protecting the body against stress and various diseases, and maintaining day-to-day life processes. The course also emphasizes a review of concepts relative to mechanisms of hormone action. Consideration is given to classic endocrine case studies. Prerequisites for this course include: BIOL 111/111H (grade of C or better). A course in Cell Biology is recommended. This course is comprised of three hours of lecture per week.

## BIOL 441 Comparative Physiology

Credit 4
This course is a study of the major functional adaptations in animal systems providing for maintenance of homeostasis. The function of vertebrate and invertebrate systems is discussed. Prerequisites: BIOL 341, and CHEM 341 , or permission of the instructor. This course is comprised of three hours of lecture and three hours of laboratory per week. Laboratory fee required.

## BIOL 462 General Parasitology

## Credit 4

The identification of parasites common to man and domesticated animals is the primary focus of this course. Epidemiological aspects of zoonotic diseases are discussed. Other subjects to be covered are host habitats, vectors, types of hosts, and transmission methods, life cycles, and control and prevention measures. Prerequisites: BIOL $111 / 111 \mathrm{H}$ (grade of C or higher); and BIOL 112/112H (grade of C or higher); or consent of the instructor. A course in Invertebrate Zoology is recommended. This course is comprised of three hours of lecture and one four-hour laboratory per week. Laboratory fee required.

## BIOL 463

Wildife Management

## Credit 4

In this course, students develop an understanding of the theories, principles, and practices associated with wildlife management. Emphasis is placed on research design, sampling techniques, and field methodologies. Students gain theoretical knowledge and applied management techniques to work as professional wildlife biologists in natural resource professions. All terrestrial vertebrate taxonomic groups are addressed, including mammals, birds, amphibians, and reptiles. Graduate students are required to complete one additional research paper approved by the professor. Prerequisites: BIOL 111/111H (grade of C or higher), or permission of the instructor. Laboratory fee required.

## BIOL 464 Medical and Veterinary Entomology <br> Credit 4

This course provides a study of the arthropod (especially insects) species that are an economically important pest, and vectors of diseases of man and domesticated animals. Epidemiological aspects of zoonotic diseases are discussed. Prerequisites: BIOL 111/111H (grade of C or better), and BIOL112/112H (grade of C or better), or BIOL 261 , or consent of the instructor. This course is comprised of three hours lecture and one four-hour laboratory per week. Laboratory fee required.

## BIOL 466 Medical Parasitology

## Credit 3

This course provides students in the biological, agricultural, and medical sciences with the knowledge necessary to know and identify metazoan parasites common to all organisms including man and his domesticated animals. Detailed information on how to recognize and diagnose parasitic diseases, infections, histopathology, and infestations is discussed. Epidemiological aspects of zoonotic diseases are discussed, including detailed information on host habitats, vectors, types of hosts, and transmission. Life cycles, control measures, disease prevention, treatment, and location of parasites in relation to the hosts are considered. Prerequisites: BIOL 111/111H (grade of C or higher). This course is comprised of three hours of lecture per week.

## BIOL 497/Honors/M Biology Seminar/Honors/MARC

## Credit 1

This course focuses on the discussion of various topics in biology, with the contents varied each semester. Student presentations are required. The BIOL 497M section is reserved for students in the MARC Program. Prerequisite: Senior level classification. This course is comprised of one hour of lecture per week.

## BIOL 498/Honors

## Independent Study

Credit 1-3
This course focuses on readings of significant publications in selected subjects and discussions with a Biology faculty member. The course is designed to enhance the student's knowledge base of a subject area related to the biological sciences. Credits and hours are by arrangement. Student may register for 1, 2, or 3 cr . but should repeat the course to accumulate the number of credits required in the core program Prerequisites: Junior or Senior level classification and permission of the instructor.

## BIOL 499/Honors <br> Undergraduate Research <br> Credit 1-4

This course is designed for the undergraduate student who has an interest in pursuing a special problem as an independent research project. Credits and hours are by arrangement. Student may register for 1,2, or 3 cr . but should repeat the course to accumulate the number of credits required in the core program Prerequisites: Junior and Senior level classification and permission of instructor.

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## BUSINESS ADMINISTRATION

## BUAD 132 Introduction to Business

Credit 3
A course designed to acquaint students with the way in which business enterprises are owned, organized, managed, and controlled. It provides a broad background in common business practices by surveying the entire field of Business Administration. Not open as Free or Program Elective for business majors.

## BUAD 200/Online Business Ethics Credit 3

The purpose of this course is to assist students in understanding ethical implications in the decision-making process and to assume their role as managers with a sense of a broader purpose and a moral consciousness. Concepts and principles are discussed in light of problem situations with ethical implications, with a focus on the development of critical and analytical thinking. Prerequisite: Sophomore standing.

## BUAD 213/Hybrid/Online Business Software Applications Credit 3

The course is designed to develop advanced computer application competencies. Emphasis is placed on the use of various software packages in accessing and processing large quantities of data for decision making and developing practical methods for using the computer to solve quantitative business/management problems. Coverage will include advanced use of Operating System and Application Software related to spreadsheets, graphics, databases, and statistical analysis (SAS or SPSS), as applied in business and industry.

## BUAD 222 Principles of the Scientific Method in Business Credit 3

This three-credit course examines the scientific method, and discusses its importance and application to business. The course explores the key elements of the scientific method and introduces the foundations of research in business. Prerequisites: ENGL 102, MATH 109, and sophomore standing.

## BUAD 233/Online/Hybrid Business Communications Credit 3

This course prepares students for the future by enhancing writing, speaking, and delivery skills, as well as critical thinking and analytical skills that focus on how to organize reports and presentations, solve problems, and build arguments. Students will utilize technology in demonstrating presentation and organization skills associated with communicating in a business/management environment. Prerequisites: ENGL 305.

## BUAD 242 The Legal Environment for Business Credit 3

The study of laws governing commercial and business transactions are emphasized. Major areas of consideration are the forces that determine business laws, contracts, commercial paper, and bailments. Prerequisites: BUAD 302.

## BUAD 252 Calculus with Business and Management Applications Credit 3

The course focuses on development and review of mathematical techniques in Linear Algebra and Calculus for applications in a wide variety of courses in Business and Management. Emphasis is on those techniques which are required for an understanding of Business Statistics, Operations Research, Decision Theory, and Economic Theory. Prerequisite: MATH 109.

## BUAD 253/Honors Business Statistics I Credit 3

The course deals with descriptive as well as inferential statistics with specific reference to business. Major topic areas covered are measures of central tendency, variation, probability, estimation, and test of hypothesis. Prerequisite: BUAD 252.

## BUAD 302/Honors/Hybrid Management and Organizational Behavior Credit 3

This course is designed to develop a full understanding of the role of business organizations and their effective management. It deals with principles and practices of management and theory and analysis of organizations. Course content includes historical background of management theory and analysis of organizations, principles and processes of management functions, leadership, communication, and morale. Prerequisite(s): Junior standing and

ECON 201, ECON 200, ACCT 201 and ACCT 202, PSYC 100, and SOCI 101. Fashion Merchandising majors only: ECON 200 and permission of the respective Department Chairs.

## BUAD 303 Advanced Organizational Behavior

## Credit 3

This course provides an understanding of managerial behavior in an organizational setting. It explores individual attitudes and behavior in interpersonal and intra-group relationships, with the specific goal of improving awareness, perception, and understanding of one's own and others' points of view and behavior. Prerequisite: BUAD 302.

## BUAD 304 Small Business Management and Entrepreneurship/Hybrid Credit 3

Development and assessment of the viability of small and micro business ventures are the focus of this course. Emphasis is on the business planning process, the management of small enterprises, feasibility studies, formulation of business plans, risk management, and entrepreneurial characteristics. Not open as Free or Program Elective. Prerequisite: BUAD 302 and junior standing.

## BUAD 306 Human Resource Management Credit 3

This course involves a study of company personnel objectives, programs, policies and procedures relating to manpower planning, recruitment, selection, training and development, compensation, and employee appraisal. Prerequisites: BUAD 302 and junior standing.

## BUAD 307 Industrial Relations

Credit 3
Emphasis is on union-management relations and their effect upon personnel programs and economic and legal analysis of the union/management activities: collective bargaining trade agreements, strikes, boycott and lock-out; arbitration, mediation and conciliation, company unions, employee representation, and injunctions. Prerequisite: Junior standing.

## BUAD 313/Online/Hybrid Advanced Business Applications Credit 3

The course is designed to develop computer application techniques for skilled users. Emphasis is placed on more advanced commands and techniques as applied in business and industry. Prerequisite: BUAD 213.

## BUAD 354/Honors/Hybrid Business Statistics II Credit 3

Advanced inferential statistics are emphasized. The topics covered include time series, regression analysis, chisquare test, and analysis of variance as these relate to solutions to business and economic problems. Prerequisite: BUAD 253.

## BUAD 364 Managerial Economics

## Credit 3

This course is the application of economic theory and methodology to managerial decision-making and policy formulation organizations settings such as business firm or government agency in local or global context. Emphasis will be on demand analysis, production and cost analysis under different market conditions, and decision-making under uncertainty. This course requires some exposure to economics, and fair knowledge of basic algebra and calculus. Managerial Economics is basically an applied quantitative course in which managerial problems are studied, analyzed and solved using economic models including graphs, diagrams, mathematical expressions, and equations. Prerequisites: BUAD 252, ECON 200, BUAD 302.

## BUAD 410/Honors/Hybrid Production Management

## Credit 3

Emphasis is placed on production management, planning, and control in service and manufacturing enterprises. Topics include quality management, process selection, demand forecasting, materials planning and control, and capacity planning. Case studies are used to analyze the manufacturing and service environments in terms of operational planning, the use of teams, teamwork, and decision making regarding problems commonly confronting managers and supervisors in national and transnational production organizations. Prerequisites: BUAD 302, BUAD 354, and FINA 340.

## BUAD 411/Honors/Hybrid Operations Research and Decision Theory Credit 3

The course is designed to acquaint students with the latest Operations Research and Decision Analysis techniques. It includes Linear Programming, Transportation, Queuing, Algorithm simulations and other models. Prerequisite(s): BUAD 252 and BUAD 354 or MATH 112 and MATH 210.

## BUAD 414 Business Law II <br> Credit 3

The course will continue the emphasis on private law partnerships, corporations, risks, and property. It also examines public laws pertaining to government regulations of business competition, markets, and labor relations. Prerequisites: BUAD 242.

## BUAD 420 International Business

## Credit 3

This course is designed to develop an understanding of the various interdisciplinary factors bearing on the operations of businesses in a global economy. Emphasis is on the economic, political and social environment. Prerequisites: BUAD 302.

## BUAD 422 Principles of Supply Chain Management Credit 3

The purpose of this course is to examine supply chain management (SCM), its importance and benefits to the overall strategy and competitiveness of firms of all sizes. The course explores all of the key elements that comprise SCM: Operations, Distribution, and Integration. Prerequisites: BUAD 302, BUAD 354.

## BUAD 430 ONLINE Ethical, Economic, Managerial and Societal Considerations of Technological Information Systems Credit 3

This course will examine the evolution of technological systems exploring the impact on business, economics, knowledge acquisition, and society. Management considerations, system options, technology adoption models, major theories, security and data control issues, and factors that can either stimulate or deter technological implementation will be covered. The role of enterprise resource planning in supply chain, data, customer relationship, human resource, financial, and project management will be discussed. Critical legal and ethical issues will also be explored.

## BUAD 480 Directed Study \& Practical Applications in Business \& Accounting Credit 3

This course is designed to reinforce knowledge in certain specialized areas of study. It is structured to meet the needs of the students taking the course. Enrolled students are assigned to faculty advisors with whom they work out specific plans of study. Students will have the primary responsibility of completing all assignments. Approved internships with written projects are also appropriate. Prerequisite(s): Senior standing and consent of the Chair.

## BUAD 488C Ethical, Economic, Managerial and Societal Considerations of Technological Information Systems Credit 3

This course will examine the evolution of technological systems exploring the impact on business, economics, knowledge acquisition, and society. Management considerations, system options, technology adoption models, major theories, security and data control issues, and factors that can either stimulate or deter technological implementation will be covered. The role of enterprise resource planning in supply chain, data, customer relationship, human resource, financial, and project management will be discussed. Critical legal and ethical issues will also be explored.

BUAD 490 Senior Seminar in Business

## Credit 3

Topics of current interest are announced before registration. The course provides opportunity for individualized, in-depth study with presentation to and criticism by peers. Prerequisite: Senior standing.

## BUAD 491/Honors Research Methods in Business <br> Credit 3

The planning of research and the collection, analysis, and interpretation of data are important aspects of the course. A completed research project is required.

## BUAD 495/Honors/Hybrid Strategic Management

## Credit 3

The course is designed to integrate the knowledge and analytical skills acquired in the functional subject areas in Business Administration and related areas. The scope of the subject matter includes responsibilities of top management, together with the organizational processes for formulating and implementing organizational strategy. The course includes the integration of the functional areas of Economics, Accounting, Management, Marketing, Finance, and Law. This course uses case study methods and pedagogical techniques to deal with business problems and to formulate business policies and strategies. Prerequisite(s): Senior standing. To be taken during final semester of study. Capstone course culminating with the completion of a high quality written research project.

## BUAD 498 Independent Study in Management Credit 3

The hours for this course are by arrangement with designated or individual faculty. Under the guidance of the faculty member, students conduct an intensive investigation of a topic within the field of management. A written proposal is required for approval. Projects typically include library research, interviews with operating and/or staff managers, and other requirements appropriate to the topic. One of the products of this project is a report. Prerequisites: BUAD 302 and consent of instructor.

## BUSINESS EDUCATION

## BUED 100 First Year Experience/ Business

## Credit 1

The course is interdisciplinary in nature with emphasis on preparing graduates for productive personal and professional lives. Course content includes the following: orientation to The University; the role and responsibilities of the students; the student as a member of the University team; expectations of the faculty and staff; effective study techniques; time management, conflict management; stress management; test taking skills; and learning style assessment. Determination/perseverance, time on task and help-seeking are emphasized. The faculty facilitator relies heavily on guest lectures for selected topics.

## BUED 101 Sophomore Professional Development Credit . 5

A continuation of BUED 100 with emphasis on strategic planning for life, including personal and career planning, decision making, values clarification, and occupational testing. Interpersonal skill development, business etiquette, dressing for success, and the need for continued intellectual development are topics that are stressed. Business and professional resource persons present selected topics. Prerequisite: Business major with sophomore standing.

## BUED 102 Junior Professional Development Credit .5

A continuation of BUED 101 with emphasis on strategic planning for life including personal and career planning, decision making, values clarification, and occupational testing. Interpersonal skill development etiquette, dressing for success and the need for continued intellectual development are stressed. Business and professional resource persons present selected topics. Prerequisite: Business major with junior standing.

## BUED 212/Hybrid/Online Computer-Concepts/ Applications I Credit 3

The course introduces students to electronic information processing. Emphasis is placed on various computer concepts and applications. Contemporary computer software including System Software, and Application Software for word processing, spreadsheets and databases relevant to business and industry are taught. Not Open as Free or Program Elective.

## BUED 414/Online

## Office Management

Credit 3
A study of the various scientific and management principles applicable to office organization and control, office systems and procedures. Also included are office layout and equipment and personal supervision. Prerequisites: Senior standing, BUAD 302.

## CHEMISTRY

## CHEM 101/Online General Chemistry I <br> Credit 3

This course provides an introduction to inorganic chemistry and includes lectures on matter, dimensional analysis, elements (nomenclature, atomic structure, atomic formula and atomic orbital), compounds (nomenclature, molecular bonding, molecular structure, and molecular formulas), molecular conversions, solutions, acids, bases, and gases. This course satisfies General Education Requirements Area III (Biological and Physical Sciences). This course is recommended for the non-science major, pre-health professionals (including pre-nursing students and nutrition majors), agriculture and home economics majors. Note: Students requiring a laboratory-based course must also register for CHEM 103. Prerequisite or Co-requisite: MATH 101 or equivalent.

## CHEM 102/Online General Chemistry II

## Credit 3

This course provides an introduction to organic and biological chemistry and includes lectures on carbon chemistry, organic nomenclature, basic organic reactions, saccharides, amino acids, proteins, and DNA. This course satisfies General Education Requirements Area III (Biological and Physical Sciences). This course is recommended for the non-science major, pre-health professionals (including nursing students and nutrition majors), agriculture, and home economists majors. Note: Students requiring a laboratory-based course must also register for CHEM 104. Prerequisite or Co-requisite: CHEM 101 or equivalent.

## CHEM 103 ${ }^{1}$ General Chemistry Laboratory I

## Credit 1

This two-hour per week laboratory includes experiments that illustrate the basic principles discussed in General Chemistry I. This course satisfies the laboratory component for General Education Requirements Area III (Biological and Physical Sciences Laboratory). This course is recommended for the non-science major, pre-health professionals, (including pre-nursing students and nutrition majors), agriculture and home economics majors. Prerequisite or Co-requisite: CHEM 101. Laboratory fee required.

## CHEM 104 General Chemistry Laboratory II

Credit 1
This two-hour per week laboratory includes experiments that illustrate the basic principles discussed in General Chemistry II. This course satisfies the laboratory for General Education Requirements Area III (Biological and Physical Sciences Laboratory). This course is recommended for the non-science major, pre-health professionals (including nursing students and nutrition majors), agriculture and home economics majors. Pre-requisite or Corequisite: CHEM 102. Laboratory fee required.

## CHEM 111/Honors Principles of Chemistry I Credit 3

This course deals with the basic concepts in chemistry (the study of the changes in matter and energy). The student learns logical problem-solving skills, including strategies to attack complicated problems by using a step-by-step procedure. The concepts studied in this course include density, basic atomic and molecular theory, chemical nomenclature, reaction stoichiometry, and the gas laws. The course is intended for science majors. Prerequisite: High School Chemistry or CHEM 101. Pre or Co-requisite MATH 109. Co-requisite: CHEM 113/113H or consent of instructor.

## CHEM 112/Honors Principles of Chemistry II Credit 3

This course explores more advanced topics in chemistry, building on the concepts covered in CHEM 111/111H. The concepts studied in this course will include VSPER theory, intermolecular forces, properties of liquids and solids, chemical kinetics, chemical equilibrium, acid/base chemistry and electrochemistry. The course is intended for science majors. Prerequisite: CHEM 111/113, CHEM 111H/113H. Co-requisite: CHEM 114/CHEM 114 or consent of instructor.

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## CHEM 113/Honors Principles of Chemistry Laboratory I

## Credit 1

This course is the laboratory companion to CHEM $111 / 111 \mathrm{H}$. It is designed to deepen the students' understanding of topics discussed in the lecture, increase their skill with common laboratory equipment, and indoctrinate them in proper chemical safety practices. The students will learn to perform a valid experiment in a safe manner, to observe and record any data acquired, and interpret the data using various equations and graphs. Laboratory skills such as filtration, titration, and the accurate measurement of masses and volumes will be developed. The laboratory period will be a three-hour session. Prerequisite or Co-requisite CHEM 111/111H or consent of instructor. Laboratory fee required.

## CHEM 114/Honors Principles of Chemistry Laboratory II Credit 1

This course is the laboratory companion to CHEM $112 / 112 \mathrm{H}$. It is designed to deepen the students' understanding of topics discussed in the lecture, increase their skill with common laboratory equipment, and indoctrinate them in proper chemical safety practices. The students will learn to perform a valid experiment in a safe manner, to observe and record any data acquired, and interpret the data using various equations and graphs. Laboratory skills such as spectroscopic measurement, pH measurement, and qualitative analysis will be developed. The laboratory period will be a three-hour session. Pre- or Co-requisite CHEM 112/112H or consent of instructor. Laboratory fee required.

## CHEM 211/Honors Fundamentals of Organic Chemistry I Credit 3

Topics presented in this course include molecular structure, isomerism, and stereochemistry. The chemistry of alkanes, alcohols, ethers, alkenes, and aromatic hydrocarbons will also be discussed. Interpretation of spectra of major functional classes will be explained. Three hours of lecture, a one-hour discussion, and one three-hour laboratory (see below) must be taken concurrently. Prerequisite: The successful completion of CHEM 111/111H.and CHEM 112/112H. Pre or Co-requisite: CHEM 213/213H or consent of instructor.

## CHEM 213/Honors Fundamentals of Organic Chemistry I Laboratory Credit 1

This is the laboratory part of CHEM $211 / 211 \mathrm{H}$. This course covers the practical application of theory presented in the lecture. Laboratory record keeping, neatness, laboratory notebooks, manipulation of common laboratory glassware, and safe practice and handling of chemicals will be stressed. Analysis of preparations by UV-Vis, FTIR, NMR etc., will be done. Careful recording of laboratory data and its interpretation will be covered. The laboratory period will be a three-hour session. Pre or Co-requisite: CHEM 211/211H or consent of instructor. Laboratory fee required.

## CHEM 212/Honors ${ }^{1}$ Fundamentals of Organic Chemistry II Credit 3

This course is a continuation of CHEM $211 / 211 \mathrm{H}$. Preparation and functional group reactions of carboxylic acids and their derivatives, aldehydes, carbanions, amines, polycyclic and heterocyclic aromatics, and macromolecules will be presented. Three hours of lecture, a one-hour discussion, and a three-hour laboratory (see below) must be taken concurrently. Prerequisite: successful completion of CHEM 211/CHEM 211H. Pre or Co-requisite: CHEM 214/CHEM 214H or consent of instructor.

## CHEM 214/Honors Fundamentals of Organic Chemistry Laboratory II Credit 1

This course is the laboratory part of CHEM $212 / 212 \mathrm{H}$. The course is designed to refine the skills of safe practice and effective handling of chemicals and common laboratory equipment presented in CHEM 213. Spectroscopic analysis, laboratory data keeping and interpretation skills acquired in the previous laboratory course will be extended. The laboratory period will be a three-hour session. Prerequisites: CHEM 211/211H, 213/213H. Corequisite: CHEM 212/212H or consent of instructor. Laboratory fee required.

## CHEM 311 Analytical Chemistry I

## Credit 4

This is a general course in quantitative analysis, including gravimetric, volumetric and instrumental analysis. The emphasis is placed on the understanding of the reaction stoichiometry involved for the various methods. Statistical analysis using spreadsheet programs is also introduced. The course consists of three hours of lecture and one three-
hour laboratory period per week. Prerequisites: CHEM 112/112H and CHEM 212/212H or consent of instructor. Laboratory fee required.

## CHEM 312 Analytical Chemistry II

## Credit 4

This is a continuation of the quantitative analysis begun in CHEM 311. Analytical methods based on electrochemistry such as potentiometry will be explored. An introduction to some modern analytical techniques and instrumentation is also presented. This introduction includes uv-visible spectroscopy as well as infrared spectroscopy. Separation methods such as gas chromatography and high performance liquid chromatography are also introduced. The course consists of three hours of lecture and one three-hour laboratory per week. Prerequisites: CHEM 311, CHEM 112/112H and CHEM 212/212H or consent of instructor. Laboratory fee required.

## CHEM 331 Elementary Organic Chemistry

## Credit 4

This is a short course in the elementary principles of organic chemistry. This course is primarily intended for education, human ecology, and agriculture majors. It is not recommended for chemistry majors. The course consists of three hours lecture and one three-hour laboratory per week. Prerequisites: CHEM 101 and CHEM 102 or consent of instructor. Laboratory fee required.

## CHEM 332 Biochemistry

## Credit 4

This course is a survey of the chemical properties of compounds of biological significance, integrated with the study of fundamental metabolic and genetic processes at the molecular level. Three hours lecture and three hours laboratory per week. Prerequisite: CHEM 211 or CHEM 331 or consent of instructor. Laboratory fee required.

## CHEM 341 Biochemistry I <br> Credit 3

This course is a study of the physical and chemical properties of the four major biomolecules: carbohydrates, lipids, proteins, enzymes, and nucleic acid. The course includes an introduction to intermediary metabolic pathways and their involvement in the generation and use of energy. The student will learn how to incorporate basic chemical principles to the biological function of organisms. This course consists of three hours of lecture per week. Prerequisite: Passing CHEM $211 / 211 \mathrm{H}, 212 / 212 \mathrm{H}$ with a letter grade of C or better. Co-requisite: CHEM 343 or consent of instructor.

## CHEM 341 Honors Biochemistry

## Credit 3

This course is more an intense study of the physical and chemical properties of the four major biomolecules: carbohydrates, lipids, proteins, enzymes, and nucleic acid. The course includes an introduction to intermediary metabolic pathways and their involvement in the generation and use of energy. The student will learn how to incorporate basic chemical principles with the biological function of organisms. This course consists of three hours of lecture per week. Prerequisite: passing of CHEM $211 / 211 \mathrm{H}, 212 / 212 \mathrm{H}$ with a letter grade of C or better. Corequisite: CHEM 343 H or consent of instructor.

## CHEM 342 Biochemistry II

## Credit 3

This course is a continuation of CHEM 341. It is a more intense study of the detail of biochemical processes which include energy yielding metabolic pathways, the copying, transfer and decoding of genetic information, the regulation of gene expression and recombinant DNA techniques. This course consists of three hours of lecture per week. Prerequisite: Passing of CHEM 341/341H with a letter grade of C or better. Co-requisite: CHEM 344 or consent of instructor.

## CHEM 342 Honors ${ }^{1}$ Biochemistry II

## Credit 3

This course is a continuation of CHEM 341 H . Students will focus on the detail of biochemical processes which include energy yielding metabolic pathways, the copying, transfer and decoding of genetic information, the regulation of gene expression and recombinant DNA techniques. This course consists of three hours of lecture per week. Prerequisite: Passing of CHEM 341H with a letter grade of C or better. Co-requisite: CHEM 344H or consent of instructor.

## CHEM 343 Biochemistry Laboratory I

## Credit 1

This is the co-requisite/laboratory part of CHEM 341. This laboratory includes three hours of work per week on experiments that expose students to methods covering isolation and characterization of biomolecules. Co-requisite: CHEM 341 or consent of instructor. Laboratory fee required.

## CHEM 343 Honors Biochemistry Laboratory I

## Credit 1

This is the co-requisite/laboratory part of CHEM 341H. This laboratory includes three hours of work per week on experiments that expose students to methods covering isolation and characterization of biomolecules. Students are required to perform literature searches. Co-requisite: CHEM 341 H or consent of instructor. Laboratory fee required.

## CHEM 344 Biochemistry Laboratory II <br> Credit 1

This is the co-requisite/laboratory part of CHEM 342. This laboratory includes three hours of work per week in experiments that expose students to methods covering isolation and characterization of biomolecules. Co-requisite CHEM 342 or consent of instructor. Laboratory fee required.

## CHEM 344 Honors Biochemistry Laboratory II Credit 1

This is the co-requisite/laboratory part of CHEM 342H. This laboratory includes three hours of work per week on experiments that expose students to methods covering isolation and characterization of biomolecules. Students are required to perform literature searches. Co-requisite CHEM 342H or consent of instructor. Laboratory fee required.

## CHEM 401 Principles of Physical Chemistry I <br> Credit 4

This course covers the laws of thermodynamics with emphasis on their application to chemical systems. Topics covered include: thermochemistry, equation of state, physical and chemical equilibrium and electrochemistry. The course consists of three hours of lecture and one three-hour laboratory period per week. Prerequisites: CHEM 112/112H. Co-requisites: PHYS 161/181H, PHYS262/182H, MATH 211 or consent of instructor Laboratory fee required.

## CHEM 402 Principles of Physical Chemistry II Credit 4

This course is the continuation of CHEM 401. The course will cover molecular structure and bonding, interpretation of spectra, elementary quantum and statistical mechanics, kinetic, theory of gases, chemical kinetics and the theory or rate processes. The course consists of three hours of lecture and one three-hour laboratory period per week. Prerequisite: CHEM 401 or consent of instructor. Laboratory fee required.

## CHEM 407 Protein Structure and Function Credit 4

This course deals with the study of protein structure from primary to quaternary and the structure correlation to function. Techniques for the study of protein structures will be extensively examined. Prerequisites: CHEM 211/213 CHEM 212/213, CHEM 341/343 CHEM 342/344, ENGL 305/310, MATH 112. Laboratory fee required.

## CHEM 420 Advanced Inorganic Chemistry <br> Credit 4

This course builds upon introductory courses that cover elementary principles of chemical bonding and structure, thermodynamics, kinetics and descriptive chemistry of the elements. This course consists of three hours of lecture and one three-hour laboratory period per week. Prerequisites: CHEM 112/112H, CHEM 114/114H or permission of the instructor. Laboratory fee required.
${ }^{1}$ A grade of "C" or better is required in all prerequisite courses (lecture and laboratory) to continue with sequence classes in Chemistry.

## CHEM 421 Instrumental Analysis <br> Credit 4

This course is an introduction to the various instruments in current use in analytical laboratories. The course is designed to afford the student an opportunity to develop an appreciation of the fundamental functions and importance of specialized instruments. The principles underlying their construction are gained through the performance of selected experiments. The methods studied in this course include uv-visible spectroscopy, infrared
spectroscopy, nuclear magnetic resonance spectroscopy, gas chromatography-mass spectrometry, and thermogravimetric analysis. This course consists of three hours of lecture and three hours of laboratory per week. Prerequisite: CHEM 112/112H, CHEM 311 or consent of instructor. Laboratory fee required.

## CHEM 422M Bio-Inorganic Chemistry MARC

## Credit 3

This course deals with the functions of metallic elements in biology. Consequently the roles of metal ions and a variety of non-metals in crucial life processes will be discussed. The course, which is interdisciplinary in nature, is intended for pre-medical biology and chemistry majors and those who aspire to become researchers in the biomedical field. It will also serve the needs of final year undergraduates in inorganic chemistry, as coordination chemistry will be emphasized. Prerequisites: CHEM 212/212H, CHEM 214/214H, CHEM 341/341H, BIOL 326 or permission of the instructor.

## CHEM 431 Intermediary Metabolism

## Credit 3

Intermediary metabolism is a vast subject within biochemistry. The first half of this course will deal mostly with general principles and with pathways discussed in general textbooks such as: glycolysis, gluconeogenesis, pentose phosphate pathway, integration of carbohydrate and fatty acid metabolism, citric acid cycle, fatty acid oxidation, fatty acid synthesis, serine and glycine metabolism, urea cycle, purine biosynthesis, purine salvage pathway, pyrimidine biosynthesis, calvin cycle, threonine to isoleucine conversion, glyoxylate cycle, and Entner-Doudoroff Pathway. The second half of this course will be devoted to group work on Case Study/ Problem-based Learning Problems. Prerequisites: CHEM 211/213 CHEM 212/213, CHEM 341/343 CHEM 342/344, ENGL 305/310.

## CHEM 432 Advanced Organic Chemistry

## Credit 3

This course is a continuation of CHEM $211 / 211 / \mathrm{H}$ and CHEM $212 / 212 \mathrm{H}$. This course includes advanced organic reactions (controlled radical processes, carbon - carbon bond formation, pericyclic reactions); advanced NMR analysis of organic molecules (one and two dimensional NMR methods, DEPT, COSY, HetCorr and others); reaction involving organometallic reagents (organometallic complexes and their structure, 18 electron rule, oxidative addition and reductive elimination, C-H bond activation and others). In addition, the course covers principles of multistep synthesis and retro-synthetic analysis. Pre-requisites: CHEM211/213 and CHEM 212/214.

## CHEM 435 Introduction to Immunology <br> Credit 3

Introduction to Immunology is designed to present a complete overview of the process regulating the immune response. Lecture will first provide an overview of the immune system organization, cellular and organ components, and general function. The evolution of the immune system is emphasized through the major scientific discoveries that have contributed to the current understanding of the immune system. Mechanisms of innate immunity will be introduced followed by discussion of antibodies and antibody diversity, antigens, and antigen-antibody interactions. Adaptive immunity will also be discussed: major histocompatibility complex function, B and T cell development and differentiation, antigen recognition by B and T cell receptors, generation of lymphocyte antigen receptors, antigen presentation to T lymphocytes, and the development and survival of lymphocytes. Lectures will transition to an introduction to cytokines and their role in regulation of immune responses and the role of the complement system and cell-mediated effector response. Lastly, this course will explore the roles of the immune system in disease prevention with a focus on adaptive immunity to infection, vaccination, and cancer immunology. Consequences of abnormal immune responses such as mechanisms for rejection of transplanted tissue and autoimmunity will also be reviewed. Prerequisites: BIOL 326/327, CHEM 341/343, CHEM 342/344.

## CHEM 436 Introduction to Immunology, Laboratory Credit 1

Introduction to Immunology Laboratory is designed to provide students with an opportunity to learn and participate in common immunological laboratory protocols and procedures. Such protocols will include the identification of rodent lymphoid organs, immunization of rodents for antibody production, cell type staining and identification, enzyme-antibody conjugation, analysis of antibodies and titers of immunized rodents by ELISA and Western Blot. Prerequisites: BIOL 326/327, CHEM 341/343, CHEM 342/344. Co-requisite: CHEM 435.Laboratory fee required. Laboratory fee required.

## CHEM 488A/621 Advanced Environmental Chemistry Credit 4

This course is a study of the origin, transport and effects of atmospheric and aquatic pollutants with emphasis on energy-related pollutants including coal, oil and synthetic fuels. The material is divided into a study of source, fate, distribution and toxicity of inorganic and organic substances of current environmental interest. The subject matter is divided into inorganic course material consisting of metals, nutrients, greenhouse gases, and vehicular emissions and organic chemical content including pesticides and petroleum hydrocarbon source material and products. The course consists of three hours of lecture and one three hour laboratory period per week. The laboratory includes gas chromatography, gas chromatography-mass spectrometry and high performance liquid chromatography experiments to supplement class discussion. Prerequisites: CHEM 112/112H, CHEM 211/211H and CHEM 311 or permission of the instructor. Laboratory fee required.

## CHEM 497/Honors Chemistry Seminar/Honors/MARC Credit 1

This course focuses on current issues in the chemical field. Student participation is required. Both oral and written presentations will be required. Prerequisite: CHEM 112/112H or consent of instructor.

## CHEM 498/H ${ }^{2}$ Independent Study Credit 1-3

The hours for this course are by arrangement with the individual instructor. This course will explore current and historic chemical topics and projects. It will also cover chemical information retrieval. Written presentations will be required. Oral presentation will be encouraged. Students should finish a contract with instructor during the first week of the class. Student may register for 1,2 , or 3 cr . but should repeat the course to accumulate the number of credits required in the core program. Prerequisite: CHEM $112 / 112 \mathrm{H}$ and consent of instructor.

## CHEM 499 Undergraduate Research <br> Credit 3-4

The hours for this course are by arrangement with the individual instructor. The student will be exposed to research methodology and have an opportunity to work closely with a faculty research advisor. It usually requires the use of advanced concepts, a variety of experimental techniques, and state-of-the-art instrumentation. This course is open to undergraduate students with an interest in pursuing a special problem as an independent research project. A written final report is required and an oral presentation is encouraged. Students should finish a contract with the instructor during the first week of the class. The students must follow American Chemical Society guidelines for preparing the final research report. . Student may register for $1,2,3$ or 4 cr . but should repeat the course to accumulate the number of credits required in the core program. Pre- or Co-requisite: CHEM 498 or consent of instructor.

## CHILD DEVELOPMENT

## CHDE 220 Foundations of Early Childhood

## Credit 3

This course provides a conceptual framework for examining roles and services in early childhood education, and includes historical, social, and philosophical influences while emphasizing current trends, issues, and practices. Attention is given to family and professional partnerships. The course introduces basic techniques for observing children. A field experience is required. Prerequisite: PSYC 100. OPEN TO MAJORS AND MINORS ONLY.

## CHDE 222 Infant/Child Development and Learning Credit 3

This course is the study of how children develop and learn from conception to middle childhood. Theory and research relating to the physical, social-personal, and cognitive development of children and the role of family are emphasized. Field experience required. Prerequisite: PSYC 100. OPEN TO MAJORS AND MINORS ONLY.

## CHDE 224 Emerging Language \& Literacy

Credit 3
This course examines the theories, processes, and acquisition of language arts, and addresses the cognitive, linguistic, social and physiological factors involved in oral and written language development. Prerequisite: CHDE 222. OPEN TO MAJORS AND MINORS ONLY.

## CHDE 246 Guiding Young Children

## Credit 3

This course focuses on developmentally appropriate, positive authoritative child guidance. Pre-service teachers will explore various discipline strategies, as well as learn to build a child's self-esteem and resilience in order to minimize challenging behavior in classroom settings. Co-requisite: CHDE 220.

## CHDE 323 Creative Activities for Young Children <br> Credit 3

This course is designed to provide many opportunities to gain techniques and resources for art, music, play, and creative dramatics. The students will identify resources and age appropriate activities to develop skills for organizing and presenting creative activities to young children. This course has two-hour lectures and one twohour laboratory. Prerequisites: CHDE 220, CHDE 222. OPEN TO MAJORS ONLY.

## CHDE 325 Special Needs in Early Childhood

## Credit 3

This course provides a framework for using principles of developmentally appropriate practice to design effective learning programs for young children with special needs. The focus includes children from birth to age 8 and their families who are in a variety of early childhood settings. Emphasis will be placed on inclusion. Prerequisites: CHDE 220, CHDE 222. OPEN TO MAJORS ONLY.

CHDE 327 Curriculum and Instruction for Infants and Toddlers Credit 3
This course provides application of theoretical and empirical research for field observations and curriculum projects. Emphasis is on integration of curricula responsive to individual needs in multidisciplinary and inclusive settings, along with the study of parent-child relations and early socialization with significant others and peers in program environments through activities which foster all areas of development. Prerequisites: CHDE 220, CHDE 222. OPEN TO MAJORS ONLY.

CHDE 330 Observing and Interpreting Behavior of Young Children Credit 3
Approaches will be provided for observing, recording and interpreting the behaviors of children who are developing normally and those with special needs in a variety of early childhood education settings. A child observational study is required. This class has two hours lecture and one two-hour laboratory. Prerequisites: CHDE 220, CHDE 222. OPEN TO MAJORS ONLY.

## CHDE 332 Curriculum and Instruction for Preschool Children Credit 3

This course examines curricula development and implementation of instructional strategies for preschool children in a variety of settings, including nursery schools, childcare and home-care centers, Headstart, hospitals, and community programs. A field experience is required. Prerequisite: CHDE 327. OPEN TO MAJORS ONLY.

## CHDE 335 Movement Education

## Credit 3

This course provides application of theoretical and empirical research for field observations and curriculum projects in the field of movement education. Emphasis is placed on gross motor development in a successoriented, child-centered, non-competitive environment. Traditional and non-traditional outdoor activities, kinesthetic learning activities across the curriculum, as well as structured and unstructured play will be covered. Outdoor learning and playground safety will be included. Pre or co-requisites: CHDE 220, CHDE 222. OPEN TO MAJORS ONLY.

## CHDE 427/Online Partnerships

## Credit 3

The aim of this course is to examine the role of the teacher and parent in the school setting with the goals of maximizing the child's education and developing insights into students' growth. Development of strategies for parent-teacher collaboration that support growth of the child's learning potential in home and school environments are emphasized. Prerequisites: CHDE 330. CHDE 332. Senior Standing. OPEN TO MAJORS ONLY.

## CHDE 430 Supervision and Administration of Early Childhood Programs

## Credit 3

This course examines the role and function of an early childhood program administrator. Instructional focus includes planning, budgeting, financing, staffing and the facilitation of parent involvement within childhood programs. Students assess educational and professional information needs in terms of the system services available. Materials and experiences in this course are appropriate for the early childhood education student as well as the practicing director. Prerequisites: CHDE 330, CHDE 332, Senior Standing, or Permission of Instructor. OPEN TO MAJORS ONLY.

## CHDE 440 School Age Programming

## Credit 3

This course will have students examining appropriate principles, materials and methods used with school age children. Emphasis is place on growth and development of children 5 to 12 years of age. Development and implementation of age appropriate activities is considered as well as classroom management, environmental planning, utilization of community resources, and communication with parents. Prerequisites: CHDE 222. OPEN TO MAJORS ONLY.

CHDE 499 Independent Study/Research in Child Development Credit 1-3
This course provides an intensive study of a specialized topic in Child Development for advanced students. Permission to take an independent study must be obtained from the instructor. OPEN TO MAJORS ONLY.

## CHINESE

## CHIN 101 Beginning Chinese

## Credit 3

An introduction to speaking, reading, and writing Mandarin Chinese, this course emphasizes the mastery of pronunciation and basic characters. This course also uses discussions and authentic materials to develop the student's understanding of Chinese culture.

## CHIN 102 Intermediate Chinese

## Credit 3

A continuation of speaking, reading and writing Mandarin Chinese, this course emphasizes the mastery of pronunciation and basic characters. This course also uses discussions and authentic materials to develop the student's understanding of Chinese culture.

## COMPUTER SCIENCE

The Department of Mathematics and Computer Science requires that, prior to enrolling in any departmental course, students should earn a grade of "C" or better in all course prerequisites.

CSDP 100 Computer Science Orientation
Credit 1
This course is a survey of Computer Science with special emphasis on topics of importance to computer scientists. It also provides an exploration of skills required and resources available to students majoring Computer Science. Topics include nature of problems, hardware, human factors, security, social, ethical and legal issues, familiarization of various aspects of computing and networks. This course must be taken by all Computer Science major and minor students.

## CSDP 120 Introduction to Computing

## Credit 3

This course is for students new to Computer Science. The goal is to introduce students to different general computing aspects of the computer systems. Course topics include overview of the history of computing machines, computing codes and ethics, computing algorithms, programming languages, and mathematical software packages. Prerequisite: High school mathematics. CSDP 120 does not satisfy the General Education Area III Requirement.

## CSDP 121 Microcomputer Applications

## Credit 3

This course is designed for non-technical majors in different applications of modern computing systems. The course surveys computing hardware and software systems and introduces students to the present state-of-the-art word processing, spreadsheet, and database software. Applications to other disciplines, such as medicine, administration, accounting, social sciences and humanities, will be considered. Prerequisite: High school mathematics. CSDP 121 does not satisfy the General Education Area III Requirement.

CSDP 150 Office Automation Workshop

## Credit 1

This course is an introduction to current progress in word processing and/or office automation. The course involves considerable hands-on work with current equipment. This course may be repeated (with different topics) for a maximum of six credits. Prerequisite: Variable, depending on topic selected. CSDP 150 does NOT satisfy the General Education Area III Requirement.

## CSDP 151 Special Software Workshop Credit 1

This course is an intensive introduction to various commercially available software packages, such as spreadsheet and database packages. The course involves considerable hands-on work with current software tools. The course may be repeated for a maximum of six credits. Prerequisite: Variable, depending on the topic selected. CSDP 151 does NOT satisfy the General Education Area III Requirement.

CSDP 152 Programming Techniques Workshop

## Credit 1

This course is an intensive introduction to special programming techniques, e.g., handling disk files on computers and writing computer-assisted instruction materials. This course involves considerable hands-on experience in the area chosen. The course may he repeated (with different topics) for a maximum of six credits. Prerequisite: Variable, depending on the topic selected. CSDP 152 does NOT satisfy the General Education Area III Requirement.

## CSDP 153 Programming Language Workshop

## Credit 1

This course is an intensive introduction to special implementations of programming languages, e.g., hypertext and operating systems languages. The course involves considerable hands-on experience in the area chosen. This course may be repeated (with different topics) for a maximum of six credits. Prerequisite: Variable, depending on the topic selected. CSDP 153 does NOT satisfy the General Education Area III Requirement.

## CSDP 154 Computer Hardware Workshop

## Credit 1

This course is an intensive introduction to new hardware and hardware methodology in special areas, e.g., microcomputer interaction with analogue devices, small-system data communications, etc. The course involves considerable hands-on experience in the area chosen. The course may be repeated for a maximum of six credits. Prerequisite: Variable, depending on the topic selected. CSDP 154 does NOT satisfy the General Education Area III Requirement.

## CSDP 155 Computer Utilities Workshop

## Credit 1

This course is an intensive introduction to special computer utilities and operating systems such as OS/2, and UNIX look-alikes. The course involves considerable hands-on experience with the utilities or systems chosen. The course may be repeated (with different topics) for a total of six credits. Prerequisite: Variable, depending on topic selected. CSDP 155 does not satisfy the General Education Requirement in Area III Requirement.

CSDP 199 Introduction to MatLab Programming

## Credit 3

This course introduces basic computing and programming techniques using MatLab development environment and language. This course is suitable to all STEM majors especially to students who need scientific computing. Topics covered includes: MatLab interface and environment, variables, matrices, structures and cellarrays, symbolic math ID and 2D signals, plotting, scripting and programming, standard I/O and file I/O, basic GUI. Further, the course is extended to include training on Geographical Information System-GIS. The students are trained on basic GIS skills and expected to work on read world projects. Co-requisites: Currently enrolled in or the completion of MATH 109.

## CSDP 220 Introduction to Computer Programming

## Credit 4

This course is designed to introduce the student to computers and to programming in a high level language. Course topics include but are not limited to computer hardware, software algorithms, programming methodology, social and ethical implications of computing. The programming language Visual BASIC is used to learn input/output, arithmetic computation, and debugging of programs in the computer laboratory. Prerequisites: MATH 102 or MATH 109 or MATH 110. Students planning on continued study in Computer Science might well consider CSDP 221 instead.

## CSDP 221 Introduction to Computer Programming

## Credit 4

The course, primarily for departmental majors, is designed to introduce the student to computers and to programming in a high level language. Course topics include but are not limited to computer hardware, software, algorithms, programming methodology, and social and ethical implications of computing. The programming language $\mathrm{C}++$ is used to learn input/output, arithmetic computation, control structures, subroutines and functions, string manipulation, arrays, and pointers. Significant emphasis is placed on coding and debugging of programs in the computer laboratory. Prerequisites: MATH 109 or MATH 110.

## CSDP 222 Advanced Programming

## Credit 4

This course covers advanced programming language features, including structured programming, top-down, and object-oriented techniques. Emphasis is placed on team projects and structured walk-throughs. Much of the work in this course involves the construction and debugging of programs that accomplish realistic applications. Prerequisite: CSDP 221.

## CSDP 240 Principles of Data Programming Credit 3

This course is an introduction to the COBOL language and its business data processing environment. Topics include the six divisions: arithmetic, input/output, control statements, control-break logic, tables, and searching logic. The course is a computer lab-based course involving extensive coding and debugging of small to large programs. Prerequisite: CSDP 221.

CSDP 241 File Structures

## Credit 3

This course is an introduction to the theory of file structures and its applications. Topics include sequential direct, indexed sequential access methods, entry and updating techniques, and reports. The relationship between file structures and program structures is discussed with extensive program development and production. Prerequisites: CSDP 222 and CSDP 240.

## CSDP 250 Data Structures

## Credit 3

This course covers the properties, implementation and analysis of data structures and object-oriented programming styles. Topics covered include linked lists, queues, stacks, binary trees, B-trees, graphs and heaps. Prerequisite: CSDP 222.

## CSDP 301 Computer Organization and Assembly Language Programming

## Credit 3

This course covers the basics of computer organization with emphasis on the lower-level abstraction of a computer system, including digital logic, instruction set and assembly language programming. Topics include data representation; logic gates; simplification of logical expressions; design and analysis of simple combinational circuit, such as decoders and multiplexers, flip-flops and registers; design and analysis of simple synchronous sequential circuit, random-access and read-only memories; instruction set architecture; and programming in assembly language. Prerequisite: CSDP 222

CSDP 305 Software Engineering I

## Credit 3

This course introduces methodologies and tools that are useful in software engineering, including structured programming, software charts, sequence selection, and iteration structure charts. The course covers ethical and social implications of computing, concepts of software design, software module structures, data flow diagrams,
system dynamics, engineering system analysis, real-time data flow, and introduction to object-orientation and requires written and oral presentations. Computer Aided Software Engineering (CASE) will be introduced. Prerequisite: CSDP 250.

## CSDP 332 Internet Programming

## Credit 3

This course introduces students to various aspects of internet programming and scripting languages. Topics include object-oriented programming, general information on Internet and World Wide Web, active server pages, HTML, DHTML, XML, JavaScript, VBScript, CSS, and databases. Prerequisite: CSDP 222.

## CSDP 341 Numerical Analysis

## Credit 3

This course is designed to introduce fundamental aspects of numerical analysis including the basic concepts, representation of numbers, error analysis, and iterative methods. Additional topics include solution techniques for non-linear equations, interpolation and approximation, numerical differentiation and integration, and their computer applications. Prerequisites: CSDP 222 and MATH 211.

## CSDP 345 Introduction to Mobile Robotics Programming Credit 3

This course provides an introduction to the basic concepts of mobile robotic systems in a hands-on oriented environment using iRobot Create platform and MatLab software development environment. Topics covered in this class include: robotic system architecture, control schemes of robotics systems, robotic communication and teleoperation, robotic sensor and robotic mobility. The course will train the students on programming mobile robots in real world and simulated virtual environments. Students will be trained and exposed to advanced GUI programming and machine learning methods. Prerequisite: CSDP 222.

## CSDP 351 Computer Architecture

## Credit 3

This course covers how computer hardware works, logical aspects of system implementation as seen by the programmer and what considerations go into the design of a computer and components. Topics include processor design, instruction set design and addressing; control structures and microprogramming; memory management, caches, and memory hierarchies; interrupts and I/O structures; and advanced topics. Prerequisite: CSDP 301.
CSDP 390 Social, Ethical and legal issues in Computer Science Credit 3
The growth in computer usage and the number of networks in the information age of 21st century have placed responsibilities on computer scientists to properly use both computers and networks. Issues such as professional, social, ethical and legal responsibilities, intellectual property, piracy, hacking, Internet crimes, viruses, privacy, crime and civil liberties are addressed. Prerequisite: Students must have a junior status and have a basic understanding and awareness of computer programming.

## CSDP 395 Internship

## Credit 3

This course is designed to encourage a student to engage in a professional discipline oriented, and supervised work place learning experience in a work setting to be approved by development chair and a faculty advisor. In all cases, approval to register for this course must be granted by the department chair and a departmental faculty advisor prior to the commencement of the work experience for which the student desires this credit. A student is eligible to enroll in this course upon attaining junior level classification. The work place supervisor must submit a confidential performance evaluation of the work done by the student to the faculty advisor. This course may be repeated for maximum of 6 credits. Prerequisites: Junior level classification, approval by faculty advisor and department chair.

## CSDP 398 Computer and Language Topics A Credit 3

This is a reading/research course recommended for all computer science majors. The course allows the student to gain experience in new or otherwise unavailable programming languages (e.g., JAVA, C, LISP, ADA, PROLOG). At least one section in JAVA, to satisfy major requirements will be given each year. This course may be repeated (with different topics) for a maximum of 12 credits. Prerequisite: CSDP 222

## CSDP 399 Computer and Language Topics B

## Credit 3

This is a reading/research course recommended for all computer science majors. This course allows the student gain experience in new or otherwise unavailable programming languages (e.g., UNIX, PROLOG, XML, C\#). At least one section in UNIX to satisfy major requirements will be given each year. This course may be repeated (with different topics) for a maximum of 12 credits. Prerequisite: CSDP 222.

## CSDP 401 Operating Systems

## Credit 3

This course is an introduction to the fundamentals of operating systems. Topics may include interrupts and recovery, inter-process communication and synchronization, process scheduling, deadlock, memory management, virtual memory file systems, scheduling, and distributed systems. Formal principles are illustrated with the examples and case studies of one or more contemporary operating systems. Prerequisite: CSDP 250 and CSDP 301

## CSDP 402 Computer Networks <br> Credit 3

This course is designed to introduce students to the basic concepts of computer network communication. Topics may include OSI model and computer network protocols (with emphasis on the TCP/IP suite of protocols), data signals and data encoding, transmission media and multiplexing, network architectures (with emphasis on the Ethernet and its various IEEE models), internetworking devices, IP addressing, and sub-netting. Prerequisite: CSDP 250.

CSDP 403 Computer Language Theory

## Credit 3

This course examines the principles of programming languages. Topics include criteria, formal specifications of syntax, lexical analysis, declarations binding, allocation data and control structures, imperative programming, and functional programming. Prerequisite: CSDP 301 and MATH 323.

## CSDP 404 Database Management Systems

## Credit 3

This course covers database management and the different data models currently used to structure the logical view of databases. It provides an introduction to concepts and design principles used in database management systems, including entity-relationship data models, physical and logical database design, relational databases, query language, transaction management, reliability, and security, and considers the social and ethical implications of computing. This course has a significant writing component. Prerequisite: CSDP 250.

## CSDP 405 Software Engineering II <br> Credit 3

This course is designed to expand software engineering skills using structured programming methodologies with object-oriented design. State of the art technique in software design and development of laboratory experience in applying the techniques are covered. Topics may include structured design, structured programming, top-down design and development, segmentation and modularization techniques, iterative enhancement, design and code inspection techniques, correctness, and chief-programmer teams. Software engineering metrics, including measures of size, reuse, functionality, complexity, and quality, will be taught. Critical human factor issues involving software design, reliability, team productivity, and project management are addressed for a clearer understanding of software engineering. Prerequisite: CSDP 305.

## CSDP 406 Introduction to Artificial Intelligence

## Credit 3

This course is designed to provide an introduction to the different topics of Artificial Intelligence as well as the basic principles that Artificial Intelligence application areas are based on. Topics covered include automated reasoning, knowledge representation, automated interpretation systems and automated behavior. Prerequisite: CSDP 250

## CSDP 407 Advanced Database

## Credit 3

This course is intended for computer science students and professionals who have already acquired a basic background on databases. The objective of the course is to introduce the students to the most advanced concepts and recent issues in several areas of database technology, including the following: advanced database design and
implementation, transaction management and concurrency control, distributed database management systems, object-oriented databases, and client/server systems. The course includes lab work and individual database application projects. Prerequisites: CSDP 404

## CSDP 425 Computer and Network Forensics

## Credit 3

This course provides an introduction to the basic knowledge of network forensics process, incident response and response after detection, data collection, handling and analysis in different operating system environments. It also provides competence in using established forensic methods to investigate electronic evidence and offers a rigorous audit/logging and data archival practices. It further provides hands-on experiencers throughout the semester with a number of laboratories using a variety of forensics tools like FTK, Encase and others. Prerequisites: Reasonable experience with programming and operating systems and permission of the instructor.

## CSDP 431 Data Warehousing and Data Mining <br> Credit 3

This course introduces students to concepts and techniques of data mining and data warehousing. Concepts, principles, architecture, design, implementation, application of data warehousing and data mining are taught. The course also introduces several systems for data warehousing and/or data mining. Prerequisite: CSDP 222, MATH 232, and MATH 210.

CSDP 442 Numerical Analysis II
Credit 3
This course extracts numerical solutions of systems of equations by direct and iterative methods, ordinary differential equations, optimization, evaluation of determinants, matrix inversion, and calculation of eigenvalues and eigenvectors, and partial differential equations. This course makes use of the powerful MATLAB software utilizing a more practical approach to link every method to real engineering and/or science problems without deriving theoretical concepts. Prerequisite: CSDP 341 and MATH 212.

## CSDP 450 Algorithms and Data Structures Credit 3

This course will focus on the design and analysis of algorithms. Topics include: review of data structures, analysis of algorithms, brute force algorithms, searching techniques, divide-and-conquer, sorting and selection, dynamic programming, graph algorithms, greedy algorithms, P and NP, and coping with NP-completeness. Prerequisites: CSDP250 and MATH 323.

## CSDP 490 Senior Design Project

## Credit 3

This course deals with formal software development techniques applied to the definition, design, coding, testing and documentation of a computer programming project. Each student completes an individual project. Prerequisite: Senior Standing.

## CSDP 498 Selected Topics in Computer Science A Credit 3

This is a reading/research course recommended for all computer science majors. The grade for this course will be based primarily on a research project in an area of computer science chosen together by the student and the instructor. This course may be repeated (with different topics) for a maximum of 12 credits. Advanced undergraduate students may also enroll in graduate-level computer science courses below CSDP 610 with permission of the Department.

## CSDP 499 Undergraduate Research

## Credit 3

This course is designed to provide a student an active experience in research methodology while working closely with a faculty research advisor. It will generally require literature search and review, problem selection, and the student's approach to addressing the problem. A written final report of the student's work is required and an oral presentation is encouraged. The credit hours for this course are arranged with a research faculty advisor whose approval is needed prior to registration for the course. Prerequisites: permission of a departmental faculty advisor and the department chair.

## CONSTRUCTION MANAGEMENT TECHNOLOGY

## CMTE 201 Architectural Drawing

## Credit 3

This is an introductory course in architectural planning and blue print reading utilized by architects and builders of residential, commercial, and light industrial properties throughout the construction industry. Students utilize CAD drafting skills and sketches to produce plans, details, and sections used in field and office operations. Lecture one hour, laboratory four hours. Prerequisite: EDTE 131.

## CMTE 205 Computer Applications in Construction

## Credit 3

This course develops a solid understanding of micro-computers, the Windows operating system, and Internet usage. Students develop proficiency in the use of various commercially available software packages, such as word processing, presentation, spreadsheet, and database management. A variety of construction specific software programs in estimating, scheduling, and construction project management are introduced. Lecture two hours; laboratory two hours. Prerequisite: Sophomore standing.

## CMTE 214 Construction Surveying

## Credit 3

This course covers coordinates, directions, distances and elevations. The course includes traverses, boundary surveys leveling, national rectangular coordinate systems, property description, public land subdivision, metes and bounds, and topographic surveys. Lecture one hour; laboratory four hours. Prerequisite: MATH 110 or MATH 111.

CMTE 230 Construction Materials
Credit 3
The properties of various materials used in construction, such as wood, steel, clay products, concrete, plastic, glass, concrete products, soils, and other materials are covered in this course. Lecture two hours; laboratory two hours.

## CMTE 286 Construction Planning \& Scheduling <br> Credit 3

The focus of this course is on the application of planning and scheduling techniques to a construction project. The use of bar charts and critical path method (CPM) are emphasized, as well as cost allocation, resource leveling, scheduling updating, and microcomputer application. Lecture two hours; laboratory two hours. Prerequisite: CMTE 201, CMTE 205.

## CMTE 295 Construction Management Internship I

## Credit 2

This course is designed to provide students with work experience as interns under supervision of construction professionals. Students become familiar with many phases of construction under actual job conditions, which may include estimating, field engineering, inspecting, scheduling, and supervision. Students must register for the course during summer school and work a minimum of 40 hours per week for six (6) weeks to receive credit for the course. Students enrolled in the Military Reserve Officer Training Corps may receive credit for (1) summer camp experience under this course listing (while enrolled at UMES). Prerequisites: Completion of sophomore year and permission of instructor.

## CMTE 313 Statics

## Credit 3

This course covers the composition and resolution of forces, equilibrium of force systems; application of the principles of statics to problems, including force analysis of simple structures; centroids; and moments of inertia. Lecture three hours. Prerequisites: MATH 110 and PHYS 121.

## CMTE 314 Strength of Materials

## Credit 4

This course covers the behavior of materials subjected to tension, compression, shear, and bending; design of beams and columns; tests to determine the physical properties of various structural materials, including steel, wood, and aluminum; and analysis and interpretation of test data. Lecture three hours; laboratory two hours. Prerequisites: CMTE 313 and MATH 112.

## CMTE 315 Environmental Technology I

## Credit 3

This course covers heat loss, heat gain, and humidity control; the control of temperature and humidity in buildings; basics of designing heating, ventilation, and air conditioning systems; sizing of pipes and ducts, and selection of HVAC equipment. Principles of water services, drainage, waste and vent, and fire protection systems will also be covered. Lecture two hours; laboratory two hours. Prerequisites: Junior standing, CMTE 201, ENGL 305, MATH 112, and PHYS 121.

## CMTE 316 Environmental Technology II

## Credit 3

This course covers the principles and practices of electrical systems, lighting systems, vertical transportation for buildings, sound control, and year-round climate control in buildings. The course also includes code provisions and cost estimation. Lecture one hour; laboratory four hours. Prerequisites: CMTE 201, ENGL 305, PHYS 121, PHYS 122, and MATH 112.

CMTE 317 Soils in Construction

## Credit 3

This course covers the identification and properties of soils with emphasis on laboratory and field testing. The influence of soil material in certain construction operations and in the construction contract are emphasized. Lecture one hour. Laboratory four hours. Prerequisites: CMTE 230 and CMTE 325.

CMTE 325 Construction Methods and Equipment
Credit 3
This course is the study and analysis of construction methods, materials, equipment safety methods and OSHA safety standards for personal safety, employed on residential, commercial, institutional, and industrial construction projects. Lecture one hour. Laboratory four hours. Prerequisites: CMTE 201, CMTE 230, and MATH 110 or 111.

CMTE 342 Construction Estimating I Credit 3
The is the first course of a two course sequence which will concentrate on the classification of work, quantity survey techniques, as well as cost estimating of labor, material, and equipment used residential construction projects are covered in this course. Lecture three hours. Prerequisites: CMTE 201, CMTE 230 and CMTE 325, MATH 110 or MATH 111H.

## CMTE 350 Green Building Fundamentals

## Credit 3

This course covers the fundamental concepts of sustainable design and green building practices. The course includes green building materials, water use efficiency, renewable energy, indoor environmental quality, and the LEED Green Building Certification Program and other rating systems. Prerequisite: CMTE 325.

## CMTE 395 Construction Management Internship II Credit 2

This course is designed to provide students with work experience as interns under supervision of construction professionals. Students become familiar with many phases of construction under actual job conditions, which may include estimating, field engineering, inspecting, scheduling, and supervision. Students must register for the course during summer school and work a minimum of 40 hours per week for six (6) weeks to receive credit for the course. Students with verifiable construction experience of three (3) years or more may receive credit under this course listing. Verification will be through letters of recommendation from employer(s) on company letterhead and documented payroll receipts. Junior college transfer students who have completed an Associate Degree Program are required to complete one internship course.

CMTE 413 Structural Design I

## Credit 3

This course covers theory and principles of the design of steel and timber structural elements and connections and their applications in construction. Lecture three hours. Prerequisite: CMTE 314.

CMTE 414 Structural Design II

## Credit 3

This course covers the theory and principles of the design of reinforced concrete and masonry structural elements and their applications in construction. Lecture three hours. Prerequisite: CMTE 314.

## CMTE 425 Construction Management I

Credit 3
The effective management and control to complete a construction project in accordance with the contract documents, within budget, on time, and safely. Topics discussed include: effective communications, procurement, management accounting, change orders, claims, value engineering, quality control, safety and management applications. Lecture three hours. Prerequisites: CMTE 286, CMTE 325, and CMTE 342.

CMTE 426 Construction Management II

## Credit 3

This course covers construction industry labor organizations and ethics; contract documents, their relationships, meanings and significance in construction; construction contract administration; human relations and communications. Safety, health, risk management are topics that are also included in this course. Lecture three hours. Prerequisite: CMTE 286, CMTE 425 and CMTE 445.

## CMTE 445 Construction Estimating II

## Credit 3

The analysis and determination of costs of construction operations, including all the normal bid-preparation activities that take place in a constructor's estimating section. Also includes construction cost accounting and control, microcomputer applications, and professional ethics. Lecture three hours. Prerequisites: CMTE 205 and CMTE 342.

## CMTE 454 Site Development

Credit 3
This course covers market analysis and search, site selection criteria, zoning, deed restrictions, physical influences on land, use of information coming from personal interviews and printed information from city and county offices, and preliminary layout and design of selected projects. Lecture two hours; laboratory two hours. Prerequisites: CMTE 201, CMTE 214, and CMTE 325.

## CMTE 458 Senior Seminar

## Credit 2

This course covers selected construction problems by individuals or project teams. The course includes presentation of selected topics by students and construction industry representatives. Laboratory four hours. Prerequisite: Senior standing in Construction.

## CMTE 499 Undergraduate Research in Construction Management Technology Credit 1-6

This course is designed for the junior-senior undergraduate student who has an interest in pursuing a special problem as an independent research project. An Independent Study Contract must be prepared and submitted for the Department Chair's approval within the first week of the semester. Student cannot take more than two 499 courses for a total of 6 credits. Prerequisite: Consent of the instructor and approval of the Department Chairperson.

## CRIMINAL JUSTICE

## CRJS 100 First Year Experience Credit 3

This course is to provide an opportunity for students to make a seamless transition from high school to college. Essential skill for transition will be explored and discussed. This course will assist students in developing cognitive skills and will assist them in adjusting personally and socially to the college environment. This course will enable first-year students to develop creative and critical thinking skills, and information literacy skills needed to facilitate a successful transition from high school to university.

CRJS 101/Online Introduction to Criminal Justice Credit 3
This course presents an overview of the functioning of the criminal justice system and its relationship to society.

## CRJS 200 Law Enforcement

## Credit 3

This course is an introduction to law enforcement, with emphasis on police organizations and functions. It covers the recruitment, training, and socialization of police officers, the use of deadly force and selective enforcement of the law, and other critical issues in policing. Prerequisite: CRJS 101

CRJS 201/Online Introduction to Corrections
Credit 3
Philosophical foundations of punishment, historical developments in the American penology. Corrections in contemporary American. Prerequisite: CRJS 101.

CRJS 203/Honors/Online Criminal Law
Credit 3
An examination of the central principles of criminal law, which includes the substantive elements defining criminal conduct for specific crimes and various exculpatory conditions for criminal liability. Prerequisite: CRJS 101.

## CRJS 204 Courts

Credit 3
This course presents an introduction to the structure, jurisdiction, policies, procedures, and processes of local, state, and federal courts and the role of the defense attorney, prosecutor, and judge. Special focus on adjudication, sentencing, and the jury. Prerequisite: CRJS 101.

## CRJS 212/Honors Criminology Credit 3

Theoretical explanations of crime: the nature and extent of crime, historical development of criminological theory; and analysis of crime control and implications. Prerequisite: CRJS 101, SOCI 201, or SOCI 202 and sophomore, junior, or senior standing.

CRJS 226/Online Juvenile Delinquency/Honors Credit 3
This course is an analysis of historical and contemporary factors underlying juvenile delinquency, its treatment, and its prevention. Prerequisites: Sophomore, junior or senior standing.

CRJS 234/Honors Law of Evidence Credit 3
This course involves the study and evaluation of evidence and proof. Prerequisite: CRJS 101.
CRJS 290/Online Research Methods in Criminology and Criminal Justice Credit 3
Basic methodological and statistical (applied) issues in Criminology and Criminal Justice. Designed to provide students with a foundation in social science research methods. Prerequisite: CRJS 101.

CRJS 302 Criminal Procedure

## Credit 3

General application of U.S. constitution principles to investigate and prosecutorial process of the criminal justice system. Emphasis will be placed on the Bill of Rights and its application in justice administration. Prerequisites: CRJS 204, Sophomore, Junior or Senior standing.

CRJS 306 Victimology Credit 3
This course examines the impact of victimization upon the victim; new emphasis of the role of the victim in criminal justice practice and victim impact statement, assistance, and restitution. Prerequisite: CRJS101 for CRJS majors or permission from instructor for non-majors, and sophomore, junior or senior standing.

## CRJS 320 Introduction to Forensics and Criminalistics Credit 3

A study in crime scene investigation including procedures for preservation, processing, and analysis of physical, chemical, biological, and forensic evidence to determine association to crime. Prerequisites: Sophomore, junior or senior standing, CRJS 204; and 3 to 4 credit hour science course with labs such as BOIL 101, CHEM 101, ENVS 101, PHYS 101 or equivalent course applicable to forensic evidence.

## CRJS 323/Honors Organizational and Governmental Deviance Credit 3

Analysis of internal (pilfering, embezzlement, corruption, violence, drug abuse, etc.) and external (chemical dumping, hazardous product sales, etc.) forms of state-sponsored terrorism and organizational deviance and control. Prerequisites: Sophomore, junior or senior standing.

## Credit 3

This course will provide students with the fundamentals of economics particularly as it pertains to crime in society. Theory and cost analysis will be emphasized. Prerequisites: Sophomore, junior or senior standing.

CRJS 333 Law Enforcement Community Relations
Credit 3
Factors affecting the relationship between law enforcement agencies and the communities in which they are embedded. Police strength, use of deadly force, assaults on police, and other indices of community/police distance will be analyzed. Prerequisites: CRJS 200 and sophomore, junior, or senior standing.

## CRJS 347 Terrorism and Contemporary Society

## Credit 3

This course focuses on the history of terrorism, the dynamics of terrorism and society's reaction to terrorism. It includes world view of terrorism, the cause, typologies (including environmental/ecological, economic, industrial, and state-sponsored terrorism), proliferation, and global initiatives in combating terror. It also covers the definitional dilemma of the US laws on terrorism in relation to contemporary terror. It also covers the definitional dilemma of the US laws on terrorism in relation to contemporary society. Prerequisites: Sophomore, junior or senior standing.

## CRJS 350/Honors/Online Parole and Probation Credit 3

An examination of historical development, decision-making processes, management, and supervision of Probation and Parole. The course discusses judicial diversion to community intervention and treatment programs as a rational alternative to prison overcrowding quagmire. Prerequisite: CRJS 201 and sophomore, junior or senior standing.

CRJS 359 Field Training in Criminology and Criminal Justice
Credit 1-6
This is a service-learning course which requires students to serve as mentors to juvenile delinquents.
CRJS 360 Field Training in Criminology and Criminal Justice (with Juvenile Services) Credit 3
This course entails a supervised research project in a criminal justice agency. Prerequisite: Junior or senior Standing.

## CRJS 370 Statistical Methods in Criminal Justice and Criminology Credit 3

Statistical methods commonly utilized in criminal justice research; emphasis on descriptive and inferential statistics, measures of significance, and interpretation of results; use of microcomputers and statistical programs for data collection and analysis. This course deals with the principles of structure, process, and procedures in criminal justice administration. Prerequisite: MATH 102 or higher and Sophomore, Junior or Senior standing.

## CRJS 373/Online <br> Criminal Justice Administration <br> Credit 3

Management philosophies for administration of criminal justice agencies; focus on organizational behavior, theories of management, planning and budgeting, administrative legal issues, and administrative problems unique to the criminal justice system. This course deals with the principles of structure, process, and procedure in criminal justice administration. Prerequisite: Sophomore, junior and senior standing

## CRJS 375 Judicial Process

## Credit 3

This course examines the impact of judicial decision on social policy as it relates to criminology and criminal justice administration. Emphasis is placed on the federal constitutional courts, the growth of law, and the law making of the courts. Prerequisite: CRJS 204, sophomore, junior or senior standing.

## CRJS 406/Honors Law of Corrections

## Credit 3

This course examines the evolution and current status of the law governing correctional institutions, prisoners' rights, and their relationship to society. Prerequisites: Junior or senior standing

## CRJS 415/Online Dynamics of Planned Change in Criminal Justice Credit 3

This course deals with the use of research, social science, and management theory as tools in the planning and evaluation of change in the criminal justice system. Prerequisites: Junior or senior standing.

## CRJS 430/Honors/Online Contemporary Criminological Theory

Credit 3
This course examines advances in criminological theory and research from biological, psychological, and sociological perspectives. Prerequisites: Junior or senior standing, CRJS 312.

## CRJS 435/Online Psychology of Criminal Behavior Credit 3

This course entails an in-depth examination of psychological factors in criminal behavior, the role of the psychologist in constructing profiles of different types of criminals, and problems in validation. Prerequisites: Junior or senior standing, CRJS 312.

## CRJS 450/Honors Treatment of Control of Criminals and Delinquents Credit 3

This course examines alternative institutional and non-institutional approaches to treatment and control of criminal and delinquent populations. Prerequisites: Junior standing, CRJS 312

## CRJS 451/Honors/Online Crime and Delinquency Prevention Credit 3

In-depth history and typologies of crime and delinquency prevention strategies in the United States. Theoretical and practical strategies for crime prevention through mechanical construction, social engineering or environmental designs. The role of the agencies of the criminal justice system is analyzed in terms of current effectiveness and future potential for crime prevention. Prerequisite: Junior or senior standing.

## CRJS 460 Minority Groups and the Criminal Justice System Credit 3

The involvement of minorities, especially African Americans and Hispanics, in crime and in the criminal justice system will be analyzed. Special attention will be paid to the role of racism in theories of crime and in American law and to the treatment of minorities by various components of the criminal justice system. Prerequisite: Junior or senior standing.

## CRJS 465 Comparative Criminal Justice System Credit 3

An examination, in comparative analysis, of the criminal justice and penal methods of pertinent countries and the United States. Major emphasis will be given to the issues of intent, criminal responsibility, individual and public interests, purposes, and modes of prevention, repression and punishment, methods of trial, punishment and pardon. Prerequisite: Junior or senior standing.

CRJS 470 Independent Study Credit 3
An individualized approach to selected topics by guided reading and critical evaluation. A student registered for this course must submit a prospectus, outline, and bibliography and meet with the professor on weekly basis. Prerequisite Junior or senior standing.

## CRJS 489 Internship in Criminology and Criminal Justice Credit 3-9

Field placement in an approved criminal justice or social service agency for integration of theory and practice through participant observation study. Prerequisite: Junior or senior standing.

CRJS 492/ Online ${ }^{1} \quad$ Special Topics in Criminology and Criminal Justice Credit 3
Special topics in criminology and criminal justice. Topic to be explored is determined by the professor. Each professor will have special designation pertaining to their course when offered. Prerequisite: CRJS 312 and Junior or Senior standing.

CRJS 492 Special Topics: Criminology \& Corrections
CRJS 492 Special Topics: Women in Corrections
CRJS 492 Special Topics: Crime, Class, and Ideology
CRJS 492 Special Topics: Unequal Justice
CRJS 492 Special Topics: Drugs and Crime
CRJS 492 Special Topics: Police, Law and Society

CRJS 495 Senior Capstone in Criminology and Criminal Justice

## Credit 3

Senior Capstone in Criminology and Criminal Justice is the culminating course in the study of criminal justice and criminology. The class will review materials relevant to the field. Students will have the opportunity demonstrate all they have learned in the major. Students will be required to take a comprehensive final examination at the conclusion of the course. In addition, students will be required to complete a research paper as their senior project. Prerequisites: Senior status.
${ }^{1}$ All CRJS 492 courses are three credits.

## CULINARY ARTS

## CARM 301 American Cuisine

## Credit 3

In this course students examine the major culinary regions of North American; emphasis is placed on cultural habits, food availability, geographic locations, etc., and how those variables affect and influence each region cooking style and the actual cuisine. Students will prepare foods from the regions and display the appropriate cooking methods and techniques. Course is formatted as one 50 minute lecture and one four and one-half hour laboratory per week. Chef knives and uniforms are required.

## CARM 303 International Cuisine

## Credit 3

In this course, students are introduced to the techniques, ingredients, and spices unique to a variety of international cuisines. Students research and prepare representative regional menu items from the European and American continents. Timing, organization, mise en place, and plate presentation are stressed. The course format is a $50-$ minute lecture and one four-hour laboratory per week. Chef knives and uniforms are required.

CARM 401 Garde Manager

## Credit 3

This course introduces students to the modern and traditional techniques in the preparation of cold entrees, pates, terrines, galantine chaud-froid, and ice carving. Students plan, organize, and direct buffets. This course also concentrates on the practical techniques of showpieces and centerpieces. The course format is a 50 -minute lecture and one four-hour laboratory per week.

## CARM 403 Baking Basic Breads

## Credit 3

This course introduces students to the basic fundamentals of bread baking. Different types of breads will be discussed and produced: quick, traditional, regional and international breads. The components of bread baking will be applied; also, different mixing, leavening agents and baking techniques will be discussed and executed. Course is formatted as one 50 minute lecture and one four and one-half hour laboratory per week. Chef knives and uniforms are required.

## CARM 405 Pastry Shop

Credit 3
In this course, emphasis is placed on pastry work and management, such as the production of specialty breads, including brioche, puff pastry, Danish, and croissants. Cookie and tart dough, torts and specialty cakes are covered. This course also introduces the student to chocolate ganache, piping with gelee, Bavarian, and marzipan. The course format is a 50 -minute lecture and one four-hour laboratory per week. Chef knives and uniforms are required.

CARM 407 Classical Kitchen
Credit 3
In this course, students examine the history and terms relating to classical menus, food preparation, and presentation. Students prepare a classical French menu each day following the principles and techniques of Auguste Escoffier. Emphasis is placed on organization, timing, and platter and plate presentation. The course format is a 50 -minute lecture and one four-hour laboratory per week. Chef knives and uniforms are required.

CARM 499 Independent Studies in Culinary Art Management

## Credit 3

CARM 499 is designed to permit the student to obtain directed study in the specialized area of the hospitality industry identified as Culinary Art Management. The course is structured to meet the needs of the student. The enrolled student is assigned a faculty member with whom he/she will work out a specific plan of study. The course is similar to tutorials in structure. The student has the primary responsibility of completing the assignments. The ultimate objective is to provide the student with a learning opportunity not available in regular scheduled CARM electives. Prerequisite: Junior or Senior standing; written permission of Department Chair.

## ECONOMICS

## ECON 200/Honors/Online Principles of Microeconomics Credit 3

This course explores how households and firms make decisions and how they interact in markets. Topics covered include market forces of supply and demand; economic reasoning of individual choices; behavior of firms in a competitive and noncompetitive environment; markets for factors of production including land, labor, and capital; and effects of government policies on the markets. Prerequisite: MATH 102 or higher.

## ECON 201/Honors/Online Principles of Macroeconomics Credit 3

Students learn the principles of analyzing the economy as a whole. Topics covered include inflation and unemployment; saving, investment and financial systems; fiscal and monetary policies; economic growth; and international trade. Prerequisite: MATH 102 or higher.

## ECON 300/Honors Intermediate Micro Economic Theory Credit 3

Students learn the general principles and analytical tools of price theory. Topics include an analysis of consumer behavior, business firms, and industry and factor markets. Prerequisites: ECON 200 and ECON 201.

## ECON 301 Intermediate Macro Economic Theory Credit 3

This course includes analysis of the determination of national income, employment, and price levels from the viewpoints of classical, Keynesian, neo-classical and neo-Keynesian economists. Key topics include consumption, investment, inflation, and monetary and fiscal policies. Prerequisites: ECON 200 and ECON 201.

## ECON 302/Honors Money and Banking <br> Credit 3

This course explores the role of money, credit and the banking system in the United States. The growth of the commercial bank is traced from the colonial times to the present. Topics included are demand deposit, bank investments, Federal Reserve System, and monetary and fiscal policies. Prerequisites: ECON 200 and ECON 201.

## ECON 303 Labor Economics

## Credit 3

This course includes a study of the labor force in the United States with special reference to employment, wage structure, and historical and social background of trade unionism and labor legislation. Prerequisites: ECON 200 and ECON 201.

## ECON 304 The Economics of Black America

## Credit 3

This course includes survey and analysis of economic conditions of Black people in the United States from 1906 to present. Topics covered include Black land ownership, income, education, wages, mobility, businesses, employment welfare, discrimination, the Civil Rights Act of 1964, the impact of Federal economic policy on Blacks, and the historical factors which shaped them. Prerequisites: ECON 200 and ECON 201.

## ECON 401 Interpretative Analysis of Economic Theories

## Credit 3

Students do an in-depth study of basic economic concepts and theories which will be applied to understanding current economic policies and issues. Topics in general include monetary policy, fiscal policy, the public debt, income distribution, black economic development, collective bargaining, various marketing structures, international trade, alternative economic systems, and the less developed countries. Prerequisites: ECON 200 and ECON 201.

## Credit 3

This course involves a study of the economic factors involved in the development of an economy. Particular emphasis is placed upon the capital accumulation in economies at various stages of economic growth. The economic problems of the developing areas of the world are examined. Prerequisites: ECON 200 and ECON 201.

## ECON 403 Economics of Public Finance

Credit 3
The course involves a study of principles and practices of taxation and public expenditure. Topics include economic effects of public spending and debts, taxation, financing social security and other services, fiscal and monetary policies and their relation to inflation and social problems. Prerequisites: ECON 200 and ECON 201.

## ECON 404 International Economics <br> Credit 3

Students study international economic problems, policies and processes. Topics covered include foreign trade, the balance of payments, exchange rate and exchange controls, international economic organization, the relationship between domestic and international economic organization, and the relationship between domestic and international economic policies. Prerequisites: ECON 200 and ECON 201.

## ECON 480 Directed Independent Study in Economics

## Credit 3

This course is designed to upgrade knowledge in a specialized area of study determined by deficiencies or projected area of growth and plans for further studies. It will be structured to meet the needs of the students taking the course. The enrolled student will be assigned to a faculty member with whom he will work out a specific plan of study. The course will be similar to tutorials in structure. The student will have the primary responsibility of completing the assignments. Credit hours may vary in accordance with the need and amount of work assigned. Prerequisite: Senior standing and permission of instructor.

## ECON 490 Senior Seminar in Economics

Credit 3
This course offers students the opportunity for individualized, in-depth study with presentation to and criticism by peers. Topics of current interest will be announced before registration. Prerequisite: Senior standing.

## EDUCATION

## EDCI 100 First Year Experience Credit 1

This course provides an opportunity for students to make a seamless transition from high school to the University by enabling first-year students to develop creative and critical thinking skills, and information literacy skills needed to facilitate the successful transition. Further skill development will include cognitive skills, self-awareness and interpersonal communication skills to assist them in adjusting personally and socially to the University environment. In addition, to providing information needed for student success at the University, this course serves as a conduit for students entering the field of teacher education. Students will be provided with the prerequisite needed to make a successful transition into the Teacher Education program. It is designed for all Teacher Education majors: Agriculture, Art, Biology, Business Education, Chemistry, English, Family and Consumer Sciences, Mathematics, Music, Social Studies, Special Education and Technology Education.

## EDCI 200/Online Introduction to Contemporary Education Credit 3

This course is a comprehensive overview of the foundations of education in the United States. It incorporates the historical, political, economic, legal, social, philosophical and curricular foundations to provide future educators with an understanding of the teaching profession and the issues and controversies confronting American education today. The topics covered in the course provide novice educators with a broad picture of P-12 education and schooling in the United States. The primary focus is the preparation of reflective teachers who will make informed decisions that will improve and enhance the learning environment for children. Students will have a required field experience in the local public schools.

## EDCI 201

PRAXIS Preparation
Credit 1
This course provides training in the content and skills assessed in Praxis I testing in the areas of Reading, Writing, and Mathematics. This course is taken concurrently with EDCI 200. Credit for this course does not count towards graduation.

## EDCI 306 Integrating Technology into the Curriculum Credit 3

This course emphasizes the use of technologies to promote teaching and learning in the P-12 environment. Major software applications, Internet resources, and related technologies will be fully covered. Each class focuses on applications that include useful educational tools and methods for designing and delivering instruction. Prerequisite: Teacher Candidacy Status.

## EDCI 311 Comprehensive Assessment in Education <br> Credit 3

This course is designed to present an in-depth study of the purposes, principles, practices, and ethics of student assessment in elementary and secondary classrooms. The course emphasizes the basic concepts and terminology of assessment, as well as classroom applications. The course addresses the purposes, goals, and strategies for developing, administering, and interpreting a variety of assessments, including performance, portfolio, and standardized assessments. An understanding of current trends and practices in state and national assessment is emphasized. Prerequisite: Teacher Candidacy Status.

## EDCI 400 Senior Seminar in Education

Credit 3
The senior seminar is designed to supplement and complement the teaching internship phase of the teacher education program. The seminar focuses on the analysis and synthesis of the internship experiences so that teacher interns may successfully integrate their experiences into future practice. Preparation of a professional portfolio, maintenance of a log book and journal, and participation in group synthesis and analysis are required. This course is intended for all secondary and P-12 specialty teacher interns. Students enroll concurrently in the teaching internship and the senior seminar. Prerequisites: Admission to the Teacher Internship. This includes passing the PRAXIS II Tests for the specific content or specialty major.

## EDCI 406 Classroom Management

## Credit 3

This course introduces the basic theories, techniques, and skills necessary to successfully manage small and large groups of diverse student populations at the elementary and secondary school levels. The focus of the course is on the study and application of effective individual and group management techniques based upon behavioral, cognitive, environmental, developmental, and psychoanalytic theories. Special emphasis is placed on developing supportive learning environments that promote self-esteem and motivate success. Students will have a required field experience in the local public schools. Prerequisite: Teacher Candidacy Status.

## EDCI 408 Multicultural Education Credit 3

This course is designed to introduce the theories and dynamics of multicultural education. Ethnic, racial, and cultural diversity in education is explored. Through a global perspective, the impact of changing demographics on the educational system is discussed. Sensitivity and responsiveness to different economic, social, cultural, racial, ethnic, and religious backgrounds are promoted.

## EDCI 409 Teaching Reading in the Content Areas: I <br> Credit 3

This course addresses the fundamentals of the reading process, theories, and instructional strategies. It emphasizes the development of vocabulary and comprehension skills, the assessment of student reading levels, and textbook readability, with particular emphasis on the reading of content material at the secondary level. This course is intended for all secondary and P-12 specialty area teacher candidates. This course includes a required field experience. Prerequisite: Teacher Candidacy Status.

## EDCI 410 Teaching Reading in the Content Areas: II Credit 3

This course addresses the literacy needs of diverse student populations and includes training in specific strategies to facilitate reading comprehension, incorporate writing to increase reading comprehension, interpret standardized reading test scores, use collaborative learning to promote literacy and content learning, and model processes for assessing literacy growth. It builds on theories and strategies in EDCI 409. A field experience/pre-internship in the area of specialization at a Professional Development School is required. This course is intended for all secondary and P-12 specialty area teacher candidates. Prerequisites: Teacher Candidacy Status and a "C" or better in EDCI 409.

## EDCI 42X Curriculum and Instruction in Content Specific Areas Credit 3

This course is an in-depth study of current instructional methods and curricular materials used in teaching content in grades relative to the specific area (i.e., P-12 or 7-12). The focus of the course is on effective program development and instructional delivery. It includes lesson and unit planning, collecting reference and illustrative materials, observing and evaluating teaching, and applying effective strategies and techniques. Additional curricular topics include performance objectives, student outcomes, scheduling, community resources, and specialized equipment and technology. The philosophy, history, and important issues and trends related to the content specific area of education are included. A field experience/pre-internship in the content specific area at a Professional Development School is required. Refer to individual areas for specific course descriptions. Prerequisite: Teacher Candidacy Status.

## EDCI 430 Methods and Materials for Teaching Art P-12 Credit 3

This course is an in-depth study of current instructional methods and curricular materials used in teaching art in grades P-12. The focus of the course is on effective program development and instructional delivery and includes lesson and unit planning, collecting reference and illustrative materials, observing and evaluating teaching, and applying effective strategies and techniques. Additional curricular topics include performance objectives, student outcomes, scheduling, community resources, and specialized equipment and technology. The philosophy, history, and important issues and trends related to art education are included. A field experience/pre-internship in art at a Professional Development School is required. Prerequisite: Teacher Candidacy Status.

## EDCI 440 Teaching Internship: Specialty Programs (P-12): Elementary Credit 6

The student is assigned to a seven (7) or eight (8) week teaching internship at an elementary level Professional Development School. During this directed teaching experience, the student assumes the role and responsibilities of an educator on a full-time basis in the area of specialization. The internship provides the student with the opportunity to study the application of methods and techniques in a clinical setting through extended supervised practice. The student has the opportunity, under the direction and guidance of a university supervisor and a professional mentor, to refine skills and to develop professional expertise. This course is taken concurrently with EDCI 400 and EDCI 450. Prerequisites: Admission to Teacher Internship. This includes passing the PRAXIS II Tests for the specific specialty major.

## EDCI 450 Teaching Internship: Specialty Programs (P-12): Secondary

## Credit 6

The student is assigned to a seven (7) or eight (8) week teaching internship at a secondary level Professional Development School. During this directed teaching experience, the student assumes the role and responsibilities of an educator on a full-time basis in the area of specialization. The internship provides the student with the opportunity to study the application of methods and techniques in a clinical setting through extended supervised practice. The student has the opportunity, under the direction and guidance of a university supervisor and a professional mentor, to refine skills and to develop professional expertise. This course is taken concurrently with EDCI 400 and EDCI 440. Prerequisites: Admission to Teacher Internship. This includes passing the PRAXIS II Tests for the specific specialty major.

## EDCI 460 and EDCI 480 Teaching Internship: Secondary Program (7-12): Middle School Credit 6

The student is assigned to a seven (7) or eight (8) week teaching internship at a Professional Development School at the middle school level. During this directed teaching experience, the student assumes the role and responsibilities
of an educator on a full-time basis in the area of specialization. The internship provides the student with the opportunity to study the application of methods and techniques in a clinical setting through extended supervised practice. The student has the opportunity, under the direction and guidance of a university supervisor and a professional mentor, to refine skills and to develop professional expertise. This course is taken concurrently with EDCI 400 and EDCI 470 or 490 . Prerequisites: Admission to Teacher Internship. This includes passing the PRAXIS II Tests for the specific content major.

## EDCI 470 and EDCI 490 Teaching Internship: Secondary Programs (7-12) (High School) Credit 6

The student is assigned to a seven (7) or eight (8) week teaching internship at a Professional Development School at the high school level. During this directed teaching experience, the student assumes the role and responsibilities of an educator on a full-time basis in the area of specialization. The internship provides the student with the opportunity to study the application of methods and techniques in a clinical setting through extended supervised practice. The student has the opportunity, under the direction and guidance of a university supervisor and a professional mentor, to refine skills and to develop professional expertise. This course is taken concurrently with EDCI 400 and EDCI 460 or 480 . Prerequisites: Admission to Teacher Internship. This includes passing the PRAXIS II Tests for the specific content major.

## EDCI 498 Special Topics in Education

## Credit 3

This course provides an in-depth exploration of selected topics in education based on the needs and interests of the student. Current issues, trends, and research problems structure the focus and content of the course. A comprehensive, field based, independent research or clinical project is required. Prerequisites: Teacher Candidacy Status and permission of the instructor.

## EDCI 499 Independent Study in Education Credit 1-6

This course is designed to refine the skills and expand the knowledge base in critical areas within the field of education. This self-directed course of study is individualized to meet the student's academic and professional needs. Working closely with a faculty mentor, the student develops an independent, fully detailed plan of study including goals and objectives. Successful completion of the course requires that the student complete a significant research or clinical project. Prerequisites: Teacher Candidacy Status and permission of the instructor.

## ELECTRICAL/ELECTRONICS ENGINEERING TECHNOLOGY

## ETEE 303 Circuit Technology III Credit 3

This course covers advanced network analysis and provides an introduction to the use and applications of Laplace and Fourier transforms, filter theory, and computer applications. Lecture two hours. Laboratory two hours. Prerequisites: Junior Standing, CSDP 221 and MATH 211.

## ETEE 314 Electric Power and Machinery Credit 3

This course focus on the generation, transmission and distribution of electrical energy, theory and operation of transformers, DC machines, and AC machines including three phase synchronous, asynchronous, single phase and their equivalent circuits and performance analysis. Lecture two hours; laboratory two hours. Prerequisites: Junior standing and ETEE 202.

ETEE 335 Logic and Switching Circuits Credit 3
This course will focus on the principles and application of asynchronous logic, encoder and decoder, control and programmable logic, multiplexer, demultiplexer, PLA, memory latches, systems and codes, counters, shift registers, computer arithmetic circuits, memory systems, static and dynamic RAM and ROMS, and interfacing. Lecture two hours; laboratory two hours. Prerequisites: Junior standing and ETEE 216.

## ETEE 346 Control Circuits Credit 3

This course will focus on the study of open and closed loop control systems, principles of feedback control, analysis of system response and criteria of system stabilities and compensation. Lecture two hours. Laboratory two hours. Prerequisite: ETEE 303.

## ETEE 355 Advanced Electronic and Computer Networks

## Credit 3

This is an introductory course in electronic circuits for computers that covers number systems, computer organization, assembly language programming, microprocessors, system components and interfacing concepts. Lecture two hours; laboratory two hours. Prerequisite: ETEE 335.

## ETEE 421 Instrumentation and Measurements <br> Credit 4

This course will focus on the fundamental concepts of mechanical and electronic measurement of distance, velocity, acceleration, time, pressure, force, strain. Introduction to development of measuring systems and calibration of these systems and the application of measuring systems to industrial technology. Lecture two hours. Laboratory four hours. Prerequisites: CSDP 221, ETEE 212 and MATH 112.

## ETEE 425 Communication and Microwave Technology

Credit 3
The course will cover the basics of electronic communication technology, digital communication, codes, serial interfaces, error detection, data link control, protocol, networking and network topology. Lecture two hours. Laboratory two hours. Prerequisites: Permission of instructor and MATH 211.

## ETEE 474 Nuclear Fundamentals

## Credit 3

This course will focus on the basic theory related to the nuclear energy complex, nuclear reactor design, isotopic and chemical separations and computer applications in problem solving. Lecture three hours. Prerequisites: Permission of the instructor and MATH 211.

ETEE 485 Design Technology I

## Credit 3

This course will focus on the design process, including creativity, analysis, synthesis, and decision-making. It will also cover applications of analytical techniques, experimental results and individual or group design projects, emphasizing the synthesis of a design solution to meet performance specifications. Lecture three hours. Prerequisites: ETEE 335, ETEE 421 and senior standing.

## ETEE 486 Design Technology II Credit 3

This course will focus on individual or group design projects requiring the synthesis of analytical, experimental and manufacturer's data for the development of an electronic system. The course will require execution of the design in sufficient detail to permit construction and testing or evaluation of a prototype, model, or mock-up and consideration of reliability, safety, human factors, and economics of production. Computer applications will be required. Lecture one hour. Laboratory four hours. Prerequisites: CSDP 221 and ETEE 485.

## ETEE 499 Undergraduate Research in Electrical/Electronic Engineering Technology Credit 1-6

This course is designed for the junior-senior undergraduate student who has an interest in pursuing a special problem as an independent research project. An Independent Study Contract must be prepared and submitted for the Department Chair's approval within the first week of the semester. Student cannot take more than two 499 courses for a total of 6 credits. Prerequisite: Consent of the instructor and approval of the Department Chair.

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## ENGINEERING

ENGE 100 First Year Orientations with Engineering
Credit 1
An overview of the engineering profession and college life; an orientation for incoming freshmen to stress, time management, ethics, and life skills; educational requirements, scholarship availability, career opportunities, and the importance of teamwork are explored. Prerequisite: Engineering Freshman Status.

## ENGE 150 Modern Engineering Design

## Credit 3

This course provides an introduction to modern engineering design with emphasis on various aspects of developing a product via hands-on design approach, communication skills, and teamwork, use of product visualization and computer software such as word processing, power point, and spreadsheet; students work as teams to develop and design a working prototype. Prerequisite: MATH 109. Laboratory fee: $\$ 25.00$.

## ENGE 170 Programming Concepts for Engineers

## Credit 3

This course provides an introduction to algorithms, overview of computers and programming, principles of software development, high level languages, C-programming; input/output, data types and variables, operators and expressions, selection structure, repetition, functions, arrays, pointers, strings, structure data types, linked list, stream and file management and debugging and documentation are provided in this course. Prerequisite: ENGE 150

ENGE 240 Basic Circuit Theory
Credit 3
The course focuses on basic circuit elements, resistors, capacitors, inductors, independent and dependent sources, and operational amplifier; Kirchhoff's laws; nodal and mesh analysis; superposition; Thevenin and Norton theorems; DC and AC steady state analysis; Transient analysis for first and second order circuits; and phasors. Prerequisite: MATH 211. Co-requisite: MATH 241, ENGE 241.

## ENGE 241 Analog Circuit Laboratory <br> Credit 1

This course is an introduction to basic measurement techniques and electrical laboratory equipment, power supplies, oscilloscopes, multi-meters, and function generators; and experiments concerning principles taught in ENGE 240 Basic Circuit Theory course. Prerequisite: MATH 211. Co-requisite: ENGE 240.

## ENGE 250 Digital Logic Design

## Credit 3

This course is an introduction to number systems, elements of binary arithmetic and codes; Boolean algebra; Karnaugh map and simplification of gate networks; Quine-McCluskey method; adders, subtractors, comparators, multiplexers and demultiplexers, and PLAs; latches, flip-flops, shift registers, counters, and memories; design and analysis of combinational logic and synchronous sequential circuits. Prerequisite: ENGE 170. Co-requisite: ENGE 251.

## ENGE 251 Digital Logic Laboratory

## Credit 1

This course provides an introduction to basic laboratory skills in operating digital test equipment, testing digital logic circuits, generating test inputs and analyzing outputs, and emphasis is placed on experiments concerning principles taught in ENGE 250 Digital Logic Design course. Prerequisite: ENGE 170. Co-requisite: ENGE 250.

## ENGE 260 Statics

## Credit 3

This course offers addition, subtraction, and multiplication of force and moment vectors, equilibrium of particles, planar, and 3-dimensional rigid bodies under the action of forces and moments, applications of equilibrium principles to simple trusses, frames, and machines, center of mass and centroids, moments of inertia; internal forces and moments; and shear force and bending moment diagrams. Prerequisite: MATH 112.

## Credit 3

This course covers kinematics and kinetics of particles and rigid bodies; relative motion, force acceleration, work energy, and impulse momentum relationships in Cartesian, normal tangential, polar, spherical, and cylindrical coordinate systems; and an introduction to design analysis involving dynamics principles. Prerequisite: MATH 211, ENGE 260.

ENGE 270 Computer Aided Design Credit 3
This course is an introduction to 3-D solid modeling, engineering drawings, assembly modeling and computer animation based on parametric feature-based CAD systems such as Solid Works along with an overview on main geometric modeling theoretical concepts behind commercial CAD systems. Prerequisite: ENGE 150.

ENGE 320 Statistics and Probability for Engineers
Credit 3
This course examines probability, random variables and processes, discrete and continuous distributions and densities, collection and presentation of sample data, frequency distributions and histograms, confidence intervals, hypothesis testing, basic problems of statistical inference, linear regression and correlation, designing engineering experiments. Prerequisite: MATH 241.

## ENGE 340 Analog \& Digital Electronics

## Credit 3

Conceptual operation of PN-junction diodes, bipolar junction transistors (BJTs), and mono-oxide semiconductor field effect transistors (MOSFETs); transistor circuits for inverters, NAND, and NOR gates; semiconductor memory; large and small signal characteristics of diodes and transistors; basic transistors configurations; DC bias and small signal analysis of BJTs and MOSFETs; multiple-transistor circuits such as operational and differentialamplifiers; frequency response of simple amplifiers. Prerequisite: ENGE 240. Co-requisite: ENGE 341.

ENGE 341 Analog \& Digital Electronics Laboratory

## Credit 1

This course provides laboratory experiments concerning topics taught in ENGE 340 analog and digital electronics course. Prerequisite: ENGE 241. Co-requisite: ENGE 340.

ENGE 362 Mechanics of Materials

## Credit 3

Students will be introduced to stress, strain, materials properties, and Hooke's law; distortion of engineering materials in relation to changes in stress or temperature; torsion of circular rods and tubes; bending and shear stresses in beams; deflection of beams; thin wall pressure vessels; combined loading; stress and strain transformation; buckling of columns; engineering applications. Prerequisite: MATH 211, ENGE 260.

ENGE 370 Computational Methods in Engineering Credit 3
Fundamentals of linear algebra and basic operations of vectors and matrices are discussed; students will also study error analysis, solution of a system of linear equations, iterative solution of nonlinear equations, numerical integration, and numerical solution of differential equations. An introduction to Matlab software programming and applications relating to the computational functions in Matlab is included. Prerequisite: MATH 211. Co-requisite: MATH 241.

ENGE 380 Instrumentations

## Credit 3

This course provides principles of measurement and instrumentation, transduction and calibration, noise measurement and signal conditioning, data acquisition, recording, and presentation, sensor selection to measure temperature, pressure, flow, level, force, and torque, transducers to measure translational displacement, velocity, acceleration, and vibration, rotational displacement, velocity, acceleration measurement and sensor application to measure different physical phenomena. Prerequisite: ENGE 240. Co-requisite: ENGE 340.

ENGE 382 Control Systems

## Credit 3

Mathematical models of control system are discussed in addition to Laplace transform; signal flow graph; frequency and time domain characteristics of the system response; methods of linear control system analysis and designs, root locus, Bode, and Nyquist plots; stability theory; design specifications in time and frequency domains; compensator design; and PID controller design. Prerequisite: MATH 241. Co-requisite: ENGE 383.

## ENGE 383 Instrumentation \& Control Laboratory Credit 1

This course involves experiments on topics covered in ENGE 380 Instrumentations and ENGE 382 Control Systems courses. Prerequisite: ENGE 380. Co-requisite: ENGE 382.

ENGE 476 Senior Design Project I

## Credit 2

Students are introduced to a design project to demonstrate their ability to engage in the practice of engineering as a profession. Students in consultation with the supervising professor and course coordinator must identify and implement a design project. The topic may be analytical, numerical, experimental, or field-oriented, utilizing knowledge gained from academic and research experiences integrated in the curriculum. A written proposal, literature search, and an oral presentation are required. Use of professional engineering standards and a design approach are required. Prerequisite: Senior standing and permission of instructor.

## ENGE 475 Engineering Seminar

Credit 1
This is a general seminar course that covers current topics in General Engineering. Prerequisite: Permission of instructor and Senior Standing.

ENGE 477 Senior Design Project II
Credit 2
This course is a continuation of ENGE 476 Senior Design Project I, with the same standards and requirements. A progress report, a final report, and an oral presentation are required. Prerequisite: ENEG 476.

## ENGINEERING - COMPUTER

## ENCE 330 Signals and Systems <br> Credit 3

In this course, the concept of linear systems, state space equations for continuous and discrete systems, time domain analysis of linear systems, Fourier, Laplace, and z-transforms and application of theory to problems in general engineering are examined. This course is cross-referenced as ENEE 330. Prerequisite: MATH 240, MATH 241.

## ENCE 350 Computer Organization

Credit 3
This course provides an introduction to the structure and function of computers, digital computer organization, design of digital computer at the machine and microprogramming level, assembly language programming concepts, data and instruction formats, architecture of the central processing unit, input-output peripherals, registers, memory unit, addressing modes, subroutines and their linkages. Prerequisite: ENGE 250.

ENCE 352 Microprocessors \& Microcomputers
Credit 3
This course focuses on microprocessor architectures, instruction sets, and applications, bus structures, memory, and I/O interfacing. The course also covers assembly language programming, real-time system design, interrupt-driven system design, LSI peripheral configuration and drivers, and embedded-system design. Prerequisite: ENGE 250.

## ENCE 387 Simulation \& Virtual Reality

## Credit 3

This course offers an introduction to computer simulation and virtual reality; fundamental of 3-D simulation modeling; analysis of model output; interaction devices for virtual environments; physical based simulation; virtual prototypes; data exchange and data communication; user interfaces and interactive applications; complete virtual reality systems; using simulation and virtual reality software for modeling. Prerequisite: ENGE 370.

## ENCE 452 Artificial Intelligence

## Credit 3

Introduction to theoretical and computational techniques related to human and machine intelligences, selection of data representations and algorithms useful in the design and implementation of intelligent systems, knowledge representation languages, problem-solving heuristics and machine learning are the focus of this course. Prerequisite: ENGE 370

## ENCE 454 Computer System Architecture

Credit 3
This course provides an overview of fundamentals of computer design; cost and performance models; evaluation methodologies; implementation techniques and tools; instruction set architectures; parallel and pipeline design; memory system design and basic concepts in storage systems. Prerequisite: ENCE 352.

ENCE 456 Microprocessors Design Laboratory

## Credit 2

Hardware designed experiments to provide practical experience in the design, construction, components selection, and interfaces of digital computers and data transmission systems are examined in this course. Prerequisite: ENCE 352. Co-requisite: ENCE 454

## ENCE 458

VLSI Design

## Credit 3

This course focuses on the introduction to the concepts of large-scale integrated circuit design; device fabrication and modeling; designing CMOS combinational and sequential circuits; designing arithmetic building blocks and memory structures; interconnection and timing issues; testing and verification; simulation and use of current CAD tools. Prerequisite: ENGE 340

## ENCE 460 Digital Signal Processing

## Credit 3

This course explores an introduction to digital signal processing; discrete-time description of signals; z-transform; digital filter structures; infinite and finite impulse response filter design techniques. Prerequisite: ENCE 330.

## ENCE 462 Digital Control Systems <br> Credit 3

This course offers an introduction to techniques for the analysis and design of digital control systems; linearization; difference equations; z-transforms; design of linear controllers; and digital implementation of control systems. Prerequisite: ENGE 382.

## ENCE 464 Embedded System Design Laboratory

## Credit 2

Fundamentals of embedded system hardware and firmware design, embedded processor selection, hardware/firmware partitioning, architecture and instruction set of a microcontroller, firmware architecture, design, and debugging, circuit design, layout, and debugging, development tools, and a set of design experiments utilizing a popular microcontroller for practical applications are examined. Prerequisite: ENGE 383.

## ENCE 468 Robotics

## Credit 3

This course examines an introduction to industrial manipulator systems; Kinematic and dynamic models of robotic arms; homogeneous transformations; forward and inverse kinematics; motion control through coordinate transformations; and robotic vision and sensors. Prerequisite: MATH 241, ENGE 382.

## ENCE 469 Robotics and Automation Design Laboratory <br> Credit 2

This course continues the topics covered in ENCE 468 through laboratory experiments to design and develop flexible automation systems utilizing robot manipulators. Prerequisite: ENCE 468.

ENCE 472 Selected Topics in Engineering
Credit 3
This course covers selected topics on special or current topics and issues relating to engineering structured for students in engineering and other areas. Prerequisite: Permission of instructor.

## ENGINEERING - ELECTRICAL

ENEE 330 Signal and Systems

## Credit 3

In this course, the concept of linear systems, state space equations for continuous and discrete systems, time domain analysis of linear systems, Fourier, Laplace, and z-transforms and application of theory to problems in general engineering are examined. Prerequisite: MATH 241, ENGE 240.

## ENEE 348 Electromagnetic Theory

## Credit 3

This course offers an introduction to electromagnetic fields; Coulomb's law; Gauss' law; electrical potential; dielectric materials; capacitance; boundary value problems; Biot-Savart law; Ampere's law; Lorentz force equation; magnetic materials; magnetic circuits; inductance; time varying fields and Maxwell's equations. Prerequisite: MATH 241, PHYS 263.

## ENEE 385 Power Electronics

## Credit 3

This course is an overview of the basic principles of power electronics and its applications; power electronics elements and circuits; connections between power electronics and circuit theory; semiconductor devices for electric power, motor drives, and control are examined. Prerequisite: ENGE 340.

## ENEE 387 Simulation \& Virtual Reality

## Credit 3

This course is an introduction to computer simulation and virtual reality; fundamental of 3-D simulation modeling; analysis of model output; interaction devices for virtual environments; physical based simulation; virtual prototypes; data exchange and data communication; user interfaces and interactive applications; complete virtual reality systems; using simulation and virtual reality software for modeling. Prerequisite: ENGE 370.

## ENEE 443 Communication Systems

## Credit 3

This course covers Fourier transforms and linear system analysis; random signals; autocorrelation functions and power spectral densities; analog communication systems; amplitude modulation; single sideband modulation; frequency and phase modulation; sampling theorem and pulse-amplitude modulation; digital communication systems; pulse-code modulation; phase-shift keying; differential phase shift keying; frequency shift keying; performance of analog and digital communication systems in the presence of noise. Prerequisite: ENEE 330.

## ENEE 444 Communication Design Laboratory

## Credit 2

Emphasis is placed on laboratory experiments exploring the design and development of communication systems based on topics covered in ENEE 443 Communication Systems. Prerequisite: ENEE 443.

## ENEE 460 Digital Signal Processing <br> Credit 3

This course is an introduction to digital signal processing; discrete-time description of signals; z-transform; digital filter structures; infinite and finite impulse response filter design techniques. Prerequisite: ENEE 330.

## ENEE 462 Digital Control Systems

## Credit 3

This course is an introduction to techniques for the analysis and design of digital control systems; linearization; difference equations; z-transforms; design of linear controllers; digital implementation of control systems. Prerequisite: ENGE 382.

## ENEE 464 Embedded System Design Laboratory <br> Credit 3

This course covers the fundamentals of embedded system hardware and firmware design; embedded processor selection; hardware/firmware partitioning; architecture and instruction set of a microcontroller; firmware architecture, design, and debugging; circuit design, layout, and debugging; development tools; a set of design experiments utilizing a popular microcontroller for practical applications. Prerequisite: ENGE 383.

## ENEE 465 Remote Sensing and Image Processing Credit 3

This course covers passive remote sensing from aerial platforms; basic principles of photogrammetry; geospatial information technology, georeferencing, mosaicking, and rectification; RGB and CIR imagery, multi-spectral imagery; fundamentals of digital image processing; introduction to active remote sensing; applications of remote sensing in engineering and sciences. Prerequisite: ENGE 370.

ENEE 468 Robotics
Credit 3
This course is an introduction to industrial manipulator systems; Kinematic and dynamic models of robotic arms; homogeneous transformations; forward and inverse kinematics; motion control through coordinate transformations; robotic vision and sensors. Prerequisite: MATH 241, ENGE 382.

ENEE 469 Robotics and Automation Design Laboratory

## Credit 2

This course provides laboratory experiments to design and develop flexible automation systems utilizing robot manipulators based on topics covered in ENEE 468 Robotics course. Prerequisite: ENEE 468.

ENEE 472 Selected Topics in Engineering

## Credit 3

This course covers selected topics on special or current topics and issues relating to engineering structured for students in engineering and other areas. Prerequisite: Permission of instructor.

## ENGINEERING - MECHANICAL

## ENME 342 Fluid Mechanics

## Credit 3

This course explains fluid properties, fluid statistics, conservation of mass, momentum, and energy in control volumes, steady and unsteady Bernoulli's equation, differential analysis of fluid flow, and dimensional analysis and similitude. This course also provides an introduction to laminar and turbulent flow in addition to an introduction to boundary layers, lift and drag. Prerequisite: MATH 241, ENGE 261.

## ENME 345 Thermodynamics

## Credit 3

This course offers insight into work and heat transfer, the study of classical thermodynamics approach to closed systems and control volumes, properties and processes of gases and vapors, zeroth, first, and second laws of thermodynamics for closed systems and control volumes, entropy, thermodynamic power and refrigeration/heat pump cycles. Prerequisite: ENGE 261.

## ENME 346 Heat Transfer

## Credit 3

This course examines conduction, convection, radiation, heat storage, energy conservation, steady-state/transient conduction, thermal circuit modeling, multidimensional conduction, surface radiation properties, enclosure radiation exchange, surface convection/fluid streams over objects, non-dimensional numbers, laminar, turbulent, thermo buoyant flow, boiling and condensation and heat exchangers. Prerequisite: ENME 342.

ENME 422 Mechanisms and Machine Design
Credit 3
This course focuses on Kinematic and dynamic analysis of motion of linkages, cams, and gears/gear trains, synthesis and analysis of motion in machines, visualizing motion in mechanisms and machinery using simulation software environments as well as exploration of machine/mechanism design solution for specified requirements. Prerequisite: ENGE 261, ENGE 370.

## ENME 425 Rapid Prototyping and Product Development Credit 3

This is an introduction to rapid prototyping; product development process; materials for rapid prototyping; CAD solid model interaction with rapid prototyping systems; applications of rapid prototyping technologies to product development and design; rapid tooling process, rapid manufacturing process; reverse engineering. Prerequisite: ENGE 270, ENGE 362.

## ENME 430 Finite Element Analysis

## Credit 3

This is an introduction to finite element method and application; relations between stresses, strains, displacements, temperature and material properties; discretization and meshing; force vector, displacement vector, stiffness matrix, assembly process, solution techniques; truss elements, beam elements; triangular and quadrilateral elements; isoparametric formulation; plane stress and plane strain applications; penalty and Lagrangian methods; and software applications. Prerequisite: ENGE 270, ENGE 362.

## ENME 440 Mechatronics

## Credit 3

In this course, emphasis is placed on physical and mathematical modeling of mechanical, electrical, electromechanical, thermal, fluid, and multidisciplinary physical systems; sensors and electronics for measurements of system; embedded/external feedback control using conventional and intelligent control algorithms; computer aided engineering tools for mechatronic system design and analysis and practical applications using mechatronic devices. Prerequisite: ENGE 370, ENGE 382.

ENME 442 Micro-Electro-Mechanical Systems

## Credit 3

This course offers basic integrated circuit manufacturing processes; electronics devices fundamentals; microelectromechanical systems fabrications including surface micromachining, bulk micromachining, and lithography; introduction to micro-actuators and microsensors such as micromotors, grippers, accelerometers and pressure sensors; physics of MEMS, scaling law, heat transfer, mechanics, electrostatics; introduction to micro-
fluid systems; mechanical and electrical issues in micromachining; packaging techniques; and CAD tools to design microelectromechanical structures. Prerequisite: ENGE 380.

ENME 462 Digital Control Systems Credit 3
This is an introduction to techniques for the analysis and design of digital control systems; linearization; difference equations; z-transforms; design of linear controllers; and digital implementation of control systems. Prerequisite: ENGE 382.

ENME 464 Embedded System Design Laboratory Credit 2
Fundamentals of embedded system hardware and firmware design are the focus of this course. Students will also learn embedded processor selection, hardware/firmware partitioning; architecture and instruction set of a microcontroller, firmware architecture, design, and debugging, circuit design, layout, and debugging; development tools and a set of design experiments utilizing a popular microcontroller for practical applications. Prerequisite: ENGE 383.

## ENME 468 Robotics

 Credit 3This course provides an introduction to industrial manipulator systems, Kinematic and dynamic models of robotic arms, homogeneous transformations, forward and inverse kinematics, motion control through coordinate transformations, and robotic vision and sensors. Prerequisite: MATH 241, ENGE 382.

ENME 469 Robotics and Automation Design Laboratory
Credit 2
This course involves laboratory experiments to design and develop flexible automation systems utilizing robot manipulators based on topics covered in ENME 468 Robotics course. Prerequisite: ENME 468.

ENME 472 Selected Topics in Engineering

## Credit 3

This course offers selected topics on special or current topics and issues relating to engineering structured for students in engineering and other areas. Prerequisite: Permission of instructor.

## ENGLISH

## ENGL 001 English Proficiency Examination

## Credit 0

The English Proficiency Examination (EPE), ENGL 001, is a two-hour persuasive essay examination required by the University of Maryland Eastern Shore (UMES) to meet a University System of Maryland (USM) requirement to assure that all undergraduate students are able to write at an acceptable level. In order to graduate, every student who enrolls at the University for the first time, beginning Fall 1998, must pass the English Proficiency Examination. No student will be exempt. Since the EPE assesses the writing skills taught in ENGL 101 and ENGL 102, it is given to registered ENGL 102 students during the ENGL 102 final exam period. Students who enter UMES with credit for ENGL 102 should register for the EPE the first semester/session after coming to the University, and they take it toward the end of the semester. The exam is given year-round: Spring and Fall semesters and Winter and Summer sessions. Grades are Satisfactory ("S") or Unsatisfactory ("U"). Pre-requisites/co-requisites: "C" or better in ENGL 101 and "C" or better in ENGL 102 or current registration in ENGL 102.

## ENGL 100 First Year Experience Credit 1

This course is to provide an opportunity for students to make a seamless transition from high school to college. Essential skills for transition will be explored and discussed. This course will assist students in developing cognitive skills and will assist them in adjusting personally and socially to the college environment. This course will enable first-year students to develop creative and critical thinking skills, and information literacy skills needed to facilitate a successful transition from high school to university. Additionally, this course shall facilitate self-awareness and interpersonal communication skills. In addition to providing information needed for student success at the University, this course serves as a conduit for students entering the field of English and Telecommunications. Students will be provided with the prerequisites needed to make a successful transition into the English Major. The course will develop interpersonal and conflict resolution skills providing academic, personal, social, and emotional adjustments.

## ENGL 101/Online Basic Composition I

## Credit 3

This course is designed to provide instruction in the basics of college level essay writing, with an emphasis on organization and development of ideas and the rhetorical modes of expository writing. The course will also review the fundamentals of grammar, punctuation, and conventional usage. Adequate opportunity for written analysis and oral discussion of selected examples of prose and creative writing are provided to encourage development of critical reading and thinking skills.

## ENGL 101 Honors English Composition I

## Credit 3

The major goal of this course is to develop proficiency in expository writing, particularly the communication of ideas in clear, precise language that demonstrates advanced knowledge of organization, grammar, and usage. This course satisfies the "Statement of Expectations" for freshman writing.

## ENGL 102/Online Basic Composition II

## Credit 3

This course continues the study of college level essay writing, with an emphasis on the development of critical analysis skills. Students will be introduced to basic research concepts, the use of secondary source material, and the tenets of source citation. A research essay will be required. Prerequisite: "C" or better in ENGL 101.

## ENGL 102 Honors English Composition II

## Credit 3

This course is a continuation of ENGL 101H. The course will review modes of expository writing with emphasis on the research paper. The major goal is to develop proficiency in critical writing.

## ENGL 203/Online Fundamentals of Contemporary Speech Credit 3

This course requires the preparation and delivery of short original speeches, outside readings and reports. It is recommended that this course be taken during the sophomore year. Prerequisites: ENGL 101 and ENGL 102.

ENGL 204/Online Introduction to Fiction

## Credit 3

This course is an introduction to the development of fiction with concentration on several major fiction writers. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 205/Online Introduction to Drama Credit 3

This course is an introduction to drama around the world through reading, analyzing, viewing, and performance. Prerequisites: ENGL 101 and ENGL 102.

ENGL 206/Online Introduction to Poetry Credit 3
This course is an introduction to the development of poetry with concentration on several major poets. Prerequisites: ENGL 101 and ENGL 102.

ENGL 207/Online Introduction to Creative Writing Credit 3
This course provides an introduction to various techniques used by successful writers of all genres with the object of assisting students in developing and improving their technique. Prerequisites: ENGL 101 and ENGL 102.

ENGL 215/Online Introduction to Film Credit 3
This course involves a study of the motion picture as an art form and as an influence on society. Basic concepts of organization, structure, and techniques of editing are examined through the reading of selected material and the viewing of a number of short films and excerpts from feature films. The course moves from the basic psychology of visual perception through the history, theory, and critical standards of film. Prerequisites: ENGL 101 and ENGL 102

ENGL 218/Online Approaches to Grammar Credit 3
This course provides a comprehensive review of traditional English grammar and is designed particularly for prospective teachers and writers. Prerequisites: ENGL 101 and ENGL 102.

ENGL 301/Online American Literature I Credit 3
This course is a survey of the major American authors and their works from the beginning of American civilization to Walt Whitman. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 302/Online American Literature II Credit 3

This course is a survey of the major American authors and their works from Walt Whitman to the present. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 305/Honors/Online Technical Writing Credit 3

This web-based course concentrates on the techniques of expository writing in the preparation of technical material. Among the areas of concentration are writing to support graphic illustrations, writing to clarify statistical information, and writing to explain process. Students are introduced to the selective use of the library and basic research facilities, particularly the use of periodical indexes and selective bibliographies. The course is open to all degree-seeking and special students who have successfully completed their freshman and sophomore years with at least 56 credit hours, and who have satisfactorily completed ENGL 101, ENGL 102, and ENGL 203.

ENGL 310/Honors/Online Advanced Composition
Credit 3
This course involves a study of prose techniques such as definition, classification, analysis, and process analysis. It includes the reading of model documents (essays, news stories, etc.) and a substantial amount of practice of expository writing. The course is open to all students who have successfully completed ENGL 101 and ENGL 102.

ENGL 311 Argumentation and Persuasion
Credit 3
This course is designed to reflect and refine current theory and practice in argumentation and debate. Students develop conceptual apparatus to apply general principles as required by circumstances. The course blends
theoretical explanation and practical advice. Students must master the basic terms and theories common to all argumentation which are necessary as a prelude to the more specific study in academic debate. Subsequently, the ultimate purpose of the course is to help students learn to become effective advocates. Prerequisite: ENGL 203

## ENGL 312 Group Discussion

## Credit 3

Group discussion provides students with the knowledge and practical experience necessary to enable them to work with discussion groups as active and productive participants. The students will be knowledgeable of the theoretical grounding and participate in a variety of roles as a discussion-group participant. Because the course is designed with student-oriented activities as an integral part of the structure, active class participation is mandatory. Prerequisite: ENGL 203

## ENGL 317 Shakespeare

## Credit 3

This course examines characteristics and qualities of selected works of Shakespeare. Emphasis is generally placed on the more significant tragedies, comedies and histories within the context of the Elizabethan world view. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 319 Theater Practicum

Credit 1
This course is an opportunity for acting and technical experience through participation theater performed in front of a live audience. Prerequisite: Permission of the instructor.

## ENGL 321 English Literature I

Credit 3
This course involves a survey of selected authors and works in English Literature from the beginning through the Restoration. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 322 English Literature II Credit 3

This course is a continuation of ENGL 321 dealing with English Literature since the Restoration. This course may be substituted for ENGL 321 by English majors. Prerequisites: ENGL 101 and ENGL 102.

ENGL 324 Literature and Film
Credit 3
This course examines the relationship between literature and film, with particular emphasis on the problems and procedures inherent in the transition of novels and short narratives into screenplays. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 325 Literary Criticism Credit 3

This course entails the study of various critical approaches to literature, such as textual, archetypal, psychological, and sociological. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 328 World Literature I

## Credit 3

This course is an introductory study of major movements and genres in Eastern, Western, and African Literatures from ancient times through the Western Renaissance, with the objective of helping students to gain knowledge of the culture of people other than American. Prerequisites: ENGL 101 and ENGL 102.

ENGL 329 World Literature II

## Credit 3

This course is a continuation of English 328. It deals with World Literature since the Western Renaissance. Prerequisites: ENGL 101 and ENGL 102.

ENGL 330 Advanced Public Speaking
Credit 3
This course involves a study of rhetorical principles and models of speech composition in conjunction with the preparation and presentation of specific forms of public address. Prerequisites: ENGL 101, ENGL 102, and ENGL 203.

## Credit 3

This course focuses on contemporary African Literature, with special emphasis on the role of the writer. The course includes many of the major African literary works (fiction, poetry, and drama) of the last sixty years. The course also focuses on the African writer's unique role as creator of functional art.

ENGL 345 Special Topics in Literature

## Credit 3

Structured around rotating topics, this course involves an intensive study of the literary works of various authors. Prerequisites: ENGL 101, ENGL 102 and permission of the instructor.

ENGL 346/Online History of the English Language
Credit 3
This course covers major developments in the history of English to the modern period with consideration of important changes and principles of development in phonology, syntax, and semantics. Prerequisites: ENGL 101 and ENGL 102.

ENGL 347/Online Adolescent and Adult Literature

## Credit 3

An eclectic survey of fiction and other forms of literature written primarily for adolescents (ages 10 through 14) and young adults (ages 15-18), the course explores and examines themes and ideas in literature relevant to the period prior to adulthood, utilizing the principles of contemporary literary criticism. The course is intended for English Education majors but is open to all students who meet the prerequisites. Prerequisites: successful completion of ENGL 101 and ENGL 102.

## ENGL 357 African American Literature I <br> Credit 3

This course provides a survey of African American literature encompassing both oral tradition and written literature beginning with the vernacular tradition and slave narratives up to the Harlem Renaissance. Attention is given to the genres of poetry, drama, slave narrative, novel and essay. Prerequisites: ENGL 101 and ENGL 102.

ENGL 358 African American Literature II

## Credit 3

This course provides a survey of African American Literature covering the period of Realism, Naturalism \& Modernism to the present. Attention is given to the genres of poetry, drama, novel, and essay. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 359 Women's Literature

## Credit 3

A discussion of literature by and about women, including poetry, drama, short stories and novels, mostly from the $19^{\text {th }}$ and $20^{\text {th }}$ centuries. Writers from a variety of cultures will be studied. The course will emphasize the way writers express and deal with the social, political and legal limitations facing women. Prerequisites: ENGL 101 \& ENGL 102.

## ENGL 380/Online Introduction to Language Science Credit 3

This course provides an introductory survey of contemporary linguistics with special focus on present-day American English. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 383 Major Authors

## Credit 3

This course will concentrate on major literary figures, singly or in combination. The author(s) to be studied will be based on the professional preparation of the departmental faculty and will be announced in the schedule of courses. In order to provide the broadest coverage of study, the course will be offered each semester. Prerequisites: ENGL 101 and ENGL 102.

## Credit 3

This course is designed to give an overview and understanding of modern drama from Ibsen to the present. Prerequisites: ENGL 101 AND ENGL 102.

## ENGL 404 Studies in Drama

Credit 3
This course allows opportunities for a variety of topics pertinent to drama. An analysis of drama from around the world through reading, viewing, performance, and various forms of artistic expression will be explored. The course also concentrates on specific social and political events that foster the various types of drama produced during a particular period. Prerequisites: ENGL 101, ENGL 102 and ENGL 205.

## ENGL 405 Studies in Film

## Credit 3

This course provides an in-depth examination of some particular aspect of film. In any given semester the course may concentrate on, but by no means be limited to, such diverse topics as American film genre, the work of a particular film director, or literature-to-film transition. Prerequisites: ENGL 101, ENGL 102 and ENGL 215.

ENGL 408 Studies in Poetry Credit 3
This course traces the development of poetry with concentration on several major poets. Prerequisites: ENGL 101, ENGL 102, and ENGL 206.

ENGL 412/Online
Commonwealth Literature
Credit 3
This course involves intensive study of the works of writers from Commonwealth countries. Attention is paid to the evolution of the author's canon, the effects on the literary context, the relationship between the literary works and the historical and cultural context of the writer. Prerequisites: ENGL 101 and ENGL 102.

ENGL 413/Online The Novel - East and West
Credit 3
This is a multicultural course that examines novels as a global form that speaks for the aspirations of the modern middle class individual and criticizes social abuses. Comparison of novels from America, Africa, Europe, and Asia are made. Prerequisites: ENGL 101 and ENGL 102.

## ENGL 457 African American Cinema

## Credit 3

An analysis of film content and style through screenings and substantial readings in aesthetic theory and film history. Also considers social issues, black film makers, cultural artifacts and forms of artistic expression. Prerequisites: ENGL 101, 102, and 215.

## ENGL 467 Peer Tutor Workshop

## Credit 1

This course provides training and guidance to Peer Tutors working in the University Writing Center. The course will explore the role and responsibilities of a peer tutor and will impart the fundamental research based knowledge and skills of effective peer tutoring. Specific issues will be addressed on a weekly basis. Writing Center Peer Tutors must take this course before or during their first semester as a tutor. Course may be repeated for credit. Prerequisites: ENGL 101, 102, 203, and 305 or 310 and permission of the instructor.

## ENGL 472/Online Internship

Credit 3-12
This course is an internship in various study areas arranged by and with the permission of the instructor. Students wishing to travel abroad may petition for Foreign Language credit under this course. Contact the Department Chair for details. Prerequisites: ENGL 101, ENGL 102, \& permission of the instructor.

ENGL 490 Senior Capstone in English and Modern Languages

## Credit 3

The required Senior Capstone Course in English and Modern Languages is designed for seniors who will demonstrate their competence as English majors by preparing and presenting a portfolio of their best works, suitable for assessment by a three-panel faculty jury. The portfolio should include a cover letter, résumé, personal statement, a foreign language writing sample, in addition to four significantly revised and polished essays from four different English courses across the student's collegiate career. Students are also required to give a brief oral presentation in a foreign language and a Microsoft PowerPoint presentation of the final portfolio at the conclusion of the course. Prerequisite: Senior English majors only.

## ENGL 499 Independent Research in English

Credit 1-3
This course provides a vehicle to enable the student to range academically as far as interests and preparation carry him on a topic agreed upon by the instructor and student in the area of English and Modern Languages. The student is required to meet and confer with the instructor on specified conference dates. Limited enrollment. Prerequisite: permission of instructor.

## ENGLISH AS A SECOND/OTHER LANGUAGE

## ESOL 101 ESL Writing Skills

## Credit 3

This course provides basic composition for second language learners of English. The focus of the course is written expression through sentences, paragraphs, and essays.

## ENTOMOLOGY

## ENTO 313 General and Applied Entomology

## Credit 3

This course consists of lectures and laboratory exercises that focus on biology, taxonomy, and management of insects. The fundamentals of integrated pest management will also be covered.

## ENVIRONMENTAL SCIENCES

## ENVS 101/Online Introduction to Environmental Sciences Credit 3

This is an introductory lecture-based course in environmental science for the non-science majors. This course surveys the scope and extent of man's environmental problems and also deals with socioeconomic and scientific aspects of pollution and control methods. The course emphasizes man's disruption of the environment, population, growth, urbanization, public policy, and environmental trade-offs and is also designed to discuss the scientific processes that have been applied to the identification of environmental problems.

## ENVS 201 Marine Biology

## Credit 3

This course is designed to introduce to students the diversity of life in the sea, including the taxonomy, anatomy, physiology, and ecology of organisms as well as the physical environment, chemical processes, anthropogenic interactions that affect them. Prerequisites: BIOL 111/111H

## ENVS 203 Marine Biology Laboratory Credit 1

This course is the laboratory component to ENVS 201, Marine Biology. It is designed to introduce to students the field and laboratory methods used to study life in the sea through hands-on activities. Co-requisite: ENVS 201. Laboratory fee required.

## ENVS 202 General Oceanography

## Credit 3

This is a survey course of the physical and chemical processes associated with the ocean environment. Topics discussed include earth history and ocean basin evolution, global plate tectonics, the marine provinces, the chemistry of sea water, air-sea interaction, oceanic control of climate, oceanic sediments, major currents, waves, tides, water column stratification, deep-sea research, coastal and estuarine processes, and marine resources. Corequisite: ENVS 204.

ENVS 204 General Oceanography Laboratory

## Credit 1

This is a laboratory experience to accompany ENVS 202. Laboratory exercises are designed to acquaint the student with basic oceanographic methods, instruments, and data analysis. Exercises include ocean floor geology, plate tectonics and basin evolution, marine charts and navigation, salinity, beach profile determinations, bathymetry, marine weather, and seismic reflection data analysis. Field trips are also conducted during which students gain practical experience using oceanographic apparatus. Co-requisite: ENVS 202. Laboratory fee required.

## Credit 3

This is an interdisciplinary course that examines human influences on the world's environments. This course integrates biological, physical, and chemical sciences to study the problems affecting our environment and engages social, political, and economic concepts to understand why these problems exist and the complexity of these issues. Various topics will be discussed, including ecology of natural systems, population growth, air and water pollution, global climate change, extinction of species, use of water, land, and food resources, energy use, toxic compounds, solid wastes, and legal and economic aspects of environmental degradation. This course is for science majors only. Prerequisites: BIOL $112 / 112 \mathrm{H}$, CHEM $112 / 112 \mathrm{H}$.

## ENVS 222 Principles of Environmental Science Laboratory <br> Credit 1

This course presents applications of basic principles in environmental sciences through experimental exercises in the laboratory, demonstration of field techniques in a problem solving setting and visits to sites that illustrate these basic principles. Co-requisite: ENVS 221. Laboratory fee required.

## ENVS 301 Marine Chemistry

## Credit 3

The course provides understanding of the dynamic nature of marine ecosystems. Basic oceanography, the role of the oceans in geochemical cycles, the resident time of different elements in the ocean, the chemical cycling of elements important to biological systems, effects of the chemistry of the oceans on the future of planet Earth, and examples of human impacts on ocean chemistry will be covered. Pre-requisite: BIOL $111 / 111 \mathrm{H}, \mathrm{BIOLL} 13 / 113 \mathrm{H}$ and CHEM 212/212H, CHEM 214/214H.

ENVS 333 Energy, Environment and Economics
Credit 3
This course examines the scientific, social, and economic factors affecting energy consumption in the United States and world-wide. The effects of global energy production on the environment are emphasized as well as the potential effects of new energy sources. Because of the potential political, social and economic ramifications, the course involves discussions and readings into the role of these factors in influencing regional and global patterns of energy consumption and resultant environmental change. Prerequisite: PHYS 122, ENVS 221.

## ENVS 403/601 Marine Ecotoxicology

## Credit 3

This course cuts across traditional subject boundaries by integrating different disciplines, such as chemistry and biochemistry, through ecology and statistics. It provides students with a distinct approach to solving marine environmental pollution issues stemming from stable pollutants how they interact with biotic and abiotic components of the marine ecosystem. Pre-requisites: CHEM $112 / 112 \mathrm{H}$, CHEM $211 / 211 \mathrm{H}$, BIOL $112 / 112 \mathrm{H}$ and MATH 210.

## ENVS 405 Marine Ecotoxicology Laboratory Credit 1

This course is comprised of two hours of laboratory per week and is designed to accompany ENVS 403. The course will provide hands-on research training to students in Marine Ecotoxicology. Students will learn, among other things, including wet chemistry, instrumental analysis, environmental data analysis and environmental modeling. Prerequisites: CHEM 112, CHEM 211, BIOL 112, MATH 210 and Co-requisite: ENVS 403. Laboratory fee required.

## ENVS 411 Water Pollution and Purification

## Credit 3

This course discusses biological, chemical, and physical impurities in water, with emphasis on agricultural, industrial, and municipal water pollution, including acid mine drainage, detergents and eutrophication, thermal pollution, oil spills, and other non-point source pollution. Further study of the physical and biochemical processes for waste-water treatment, sludge handling and disposal, and land disposal of wastewaters. Prerequisites: BIOL 111, BIOL $112 / 112 \mathrm{H}$, CHEM $112 / 112 \mathrm{H}$, PHYS 122/182H, ENVS 221, Junior class standing or consent of the instructor.

## ENVS 413 Water Pollution and Purification Laboratory

## Credit 1

This course consists of a three-hour laboratory session every week, designed to provide hands-on experiences in the determination of dissolved and suspended volatile solids in liquids, biochemical oxygen demand, chemical oxygen demand, turbidity, free and residual chlorine, nutrients and metals in water and wastewaters. Co-requisite: ENVS 411. Laboratory fee required.

ENVS 422 Solid and Hazardous Waste Management

## Credit 3

The course introduces fundamentals of solid and hazardous waste management that include their source characterization, collection, transportation, storage and final disposal. It also deals with resource recovery and utilization, risk assessment, biological, physical and chemical waste treatment methods/technologies and various waste legislation and implementation.

## ENVS 434 Air Pollution

## Credit 4

This course discusses air quality measurements and air pollution control legislation classification of atmospheric pollutants and their effects on visibility, inanimate, and animate receptors are discussed. Evaluation of source emissions and principles of air pollution control governing the distribution of air pollutants are studied. The laboratory section includes hands-on experiments to study the effect of smoke on living cells, thermal inversion, particulate collection using an impactor, effects of air pollutants on materials and field trips to electric power plant and other facilities. Prerequisites: BIOL 112/112H, CHEM 112/112H, PHYS 122/182H, ENVS 221, Junior class standing or consent of the instructor. Laboratory fee required.

ENVS 456 Future Sources of Energy

## Credit 3

This course examines various sources of energy used in the United States and globally. Sources discussed include fossil fuels, hydro-electricity, and nuclear energy; alternative sources of energy, including geothermal, solar, photovoltaic cells, wind, tidal, hydrogen fuels from wastes and biomass, and ocean thermal gradient. Students also study processes dealing with energy conservation and energy policy and discuss current issues. Prerequisite: PHYS 122.

ENVS 460 Earth Science

## Credit 3

This course is an interdisciplinary examination of the grand challenges confronting the environmental sciences in the 21st Century. Topics examined include biogeochemical cycles, biodiversity and ecosystem functioning, climate variability, hydrologic forecasting, infectious disease and the environment, legal control of resource use, land-use dynamics, and the re-use of materials. The practical and scientific importance of each topic is discussed as well as the readiness of the scientific establishment to meet important areas for future research. Students are expected to research and answer a series of practical hypothetical environmental problems in each area discussed. Prerequisites: ENVS 221, 222, or consent of the instructor.

## ENVS 497 Environmental Science Seminar

## Credit 1

The course covers discussions on current issues in Environmental Sciences and includes student presentations. Topics such as global warming, green house effects, eutrophication, desertification, and other pertinent issues on the environment are covered. The course is opened to juniors and seniors only.

## ENVS 498/H Independent Study

## Credit 1-3

In this course, students conduct literature survey under the supervision of a faculty member. It is designed to enhance student comprehension of specific environmental science specialty areas. Students are required to read significant literature in selected subjects followed by discussions with the instructor. The hours and credits for this course are by arrangement with the individual instructor. Student may register for $1,2,3$ or 4 cr. but should repeat the course to accumulate the number of credits required in the core program.

ENVS 499 Undergraduate Research

## Credit 1-4

In this course, students conduct independent research project under the supervision of a faculty member. Apart from
the research, students are also expected to present oral and written reports. The course is designed for juniors or seniors who have an interest in pursuing a special problem as a research project. The hours and credits for this course are by arrangement with the individual instructor. Student may register for $1,2,3$ or 4 cr . but should repeat the course to accumulate the number of credits required in the core program.

## EXERCISE SCIENCE

## EXSC 100

First Year Experience Seminar

## Credit 1

The course provides an opportunity for students to make a seamless transition from high school to college. Essential skills for transition will be explored and discussed. This course will assist students in developing cognitive skills and in adjusting personally and socially to the college environment. Additionally this course shall facilitate selfawareness and interpersonal communication. Required of all first year students. The course is taken by Exercise Science majors in lieu of GNST 100.

## EXSC 103 Beginning Karate/Self-Defense

## Credit 2

This course gives students a comprehensive exposure to the fundamental techniques and procedures necessary for competently performing martial arts skills; this exposure includes students' demonstration of physical, mental and psychological skills which are inherent components of martial arts.

## EXSC 104 Women's Health

Credit 3
This course is designed to help students understand the changes that have occurred historically in society's attitude toward women and to gain a deeper understanding of their anatomy and physiology. The course helps the student to develop an awareness and become more knowledgeable regarding diseases and health problems that affect women specifically, and learning how to prevent these diseases.

EXSC 105 Aerobic Dance and Conditioning Credit 2
This course will stress accessing, developing, and maintaining physical fitness through aerobic exercise and dance.
EXSC 107 Human Sexuality

## Credit 2

This course provides students with an overview of the many biological, psychological, sociological, and historical dimensions of sexuality in a nonjudgmental tone. The main emphasis will be helping students make responsible decisions that promote healthy sexual behaviors and well-being.

## EXSC 111 Personal Health and Fitness

## Credit 3

This course studies the principles and practices that affect human health. Emphasis is on physical fitness, stress management, nutrition, and weight control with specific personalized techniques for optimizing health. Students should select the course section they desire as indicated by the topic. Satisfies GEN ED CURR AREA VI.

## EXSC 121 Beginning Swimming

## Credit 2

Basic skills of swimming are taught in this class; including adjustment to the water, buoyancy, floating, propulsion through the water involving coordination of arms and legs in stroking, combined with breathing and safety.

EXSC 151 Beginning Golf
Credit 2
This course is designed to provide students with the skills, rules, techniques and terminology of golf.
EXSC 200 Introduction to Exercise Science Credit 3
This course is an overview of the field of Exercise Science; its development, professional activities and subdisciplines.

EXSC 202 Personal and Community Health

## Credit 3

This course is designed to develop attitudes and practices which contribute to better individual and group health.

Emphasis is placed upon major health problems of early adulthood.
EXSC 222 Intermediate Swimming
Credit 1
This course is a continuation of techniques of elementary swimming with emphasis on the development of skills in the basic or standard swimming strokes.

EXSC 252 Sport Psychology
Credit 3
This course is an in-depth study, comparison and analysis of human behavior while participating in sport and physical activity.

EXSC 265 Contemporary Issues in Kinesiology Credit 3
Students will have opportunities to investigate and learn first-hand information about developing issues in Exercise Science including youth fitness, youth sports, sports for the aged, resistance training for prepubescent athletes, demographics of aging and physiology of aging.

EXSC 301 Measurements in Exercise Science

## Credit 3

This course studies the use and interpretation of basic statistical techniques in the application of Exercise Science. Including measures of central tendency, variability, graphic representation, large sample, error theory and simple correlation analysis as applied particularly in evaluation of test material.

EXSC 302 Sport Medicine and First Aid
Credit 3
Prevention, treatment and rehabilitation of athletic injuries and First Aid procedures are studied in the course
EXSC 311 Applied Kinesiology Credit 3
This course is an analysis of movement based on a knowledge of anatomy and physiology as applied to the function of body mechanics.

EXSC 332 Exercise Physiology Credit 3
Basic human physiology with emphasis on the physiological changes and residues of exercise are studied in this course. It is to be concurrent with EXSC 333. Prerequisite: BIOL 232.

EXSC 333 Exercise Physiology Laboratory

## Credit 1

The Exercise Physiology laboratory experience provides students with an opportunity to measure and evaluate selected physiological parameters.

EXSC 341 First Aid Credit 2
Lectures, discussions, and practical demonstrations of American Red Cross methods in First Aid are studied.

## EXSC 355 Exercise Testing and Prescription

Credit 3
This course provides an understanding of individualized exercise prescription design in programs to develop and maintain physical fitness through testing and re-evaluation strategies. Prerequisite: EXSC 311.

EXSC 360/Online Exercise and Sport Nutrition

## Credit 3

This course provides students with a key to understanding interactions between nutrition and exercise concepts as well as practical applications.

EXSC 382 Socio-Cultural Analysis of Sports
Credit 3
This course is an analysis of sports and exercise in social-cultural contexts. Topics include professional sports, intercollegiate sports, youth sports, violence in sports, gender and sports, ethnicity and sports, and media and sports.

This course provides an understanding of the health aspects of aging as it pertains to the biological, physiological, psychological and sociological factors in mature adults.

EXSC 455 Health Fitness Management

## Credit 3

This course is an in-depth study of Allied Health Facilities design and management. Practical experiences in operational procedures, marketing, analyst budgeting and public safety issues will be discussed.

EXSC 464/Online Adult Health Fitness Programming Credit 3
This course is designed to instruct individuals in implementation of health fitness programs and management of the various facilities, which includes fitness management.

EXSC 475 Advanced Strength and Conditioning

## Credit 3

Procedures to strengthen and condition individuals in aerobic and anaerobic activities will be discussed. Exercise models, performance evaluations, exercise equipment, training ethics, and professional development are discussed.

## EXSC 490 Internship in Exercise Science Credit 6

A structured off-campus learning experiences is designed to provide students with a terminal professional experience that permits first-hand, direct practical and professional experiences in Exercise Science. Prerequisite: Senior status with approval of Department Chair. Student may not exceed 12 semester hours during the semester in which they complete their professional internship experience.

## EXSC 499 Independent Study in Exercise Science Credit 1-3

This course will provide senior students with opportunities to engage in in-depth-study of any professional area or related areas germane to Exercise Science. Prerequisite: Senior or Junior academic standing and permission of the Department Chair.

## FASHION MERCHANDISING CLOTHING AND TEXTILES

## FMCT 141 Introduction to the Fashion Industry <br> Credit 3

Introduction to the Fashion Industry provides an overview of the fashion industry, including the organization and operation of the numerous facets of the textile, apparel, home furnishings, and cosmetics industries, product development, the impact of technology, and career opportunities. This course consists of three hours of lecture. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 201 Clothing and Textiles for Consumers ${ }^{1}$

## Credit 3

This course focuses on the basic knowledge of fabric characteristics and its application in the selection of products for apparel and home furnishings. The study of social, cultural, economic, and psychological factors that influence choices related to textile products are discussed.

## FMCT 203 Introduction to Fashion Forecasting

## Credit 3

This course will introduce students to trend research, presentation, and forecasting principles needed to work in the merchandising environment to be examined through influences on acceptance and rejection of apparel and textile products. Students will develop basic technological skills needed to forecast and work in the merchandising environment. Prerequisite: FMCT 141. OPEN TO MAJORS AND MINORS ONLY.
${ }^{1}$ Course cannot be completed by Fashion Merchandising majors

## FMCT 300/Online

Historic Costumes
Credit 3
This course is the study of historic costumes and design reflecting the social, economic, and political environment of the past and fashion cycles relating historic costume/designs to current fashions. The course consists of three hours of combined lecture and laboratory. FMCT 300 Online: OPEN TO MAJORS AND MINORS ONLY.

## FMCT 321 Fashion Illustration

Credit 3
Fashion Illustration provides an introduction to drawing fashion figures, rendering various textiles, and illustrating apparel and accessories utilizing an array of media. The course consists of three hours of combined lecture and laboratory.

## FMCT 341/Honors Fashion Buying \& Merchandising Credit 3

This course provides practical application of buying practices and procedures; merchandise planning, controlling, budgeting; merchandise assortment planning; and managing inventory. Prerequisites: FMCT 141, MATH 102 or higher. Co-requisite: MKTG 308. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 342/Honors Advertising and Promotion Credit 3

Advertising \& Promotion introduces students to both the theoretical and practical aspects of the principles and techniques used in promoting fashion goods and services to the consumer. Promotional strategies and creative concepts for promotional campaigns are developed by the students for local businesses. The course consists of three hours of combined lecture and laboratory. Prerequisites: FMCT 141 and junior standing. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 351/Honors Fashion Buying and Merchandising II

## Credit 3

The course provides the fundamentals of fashion buying with instruction in planning, pricing, purchasing, retail fashion inventories, and identifies wholesale merchandise resources. Prerequisites: FMCT 341.

FMCT 361 Apparel Construction/Evaluation

## Credit 3

The main focus of this course is to provide an introduction to various sewing techniques, and to demonstrate the use of commercial patterns. A variety of garment components, including alterations, is identified and classified. An evaluation of ready-to-wear apparel will be fully conducted. One lecture and two laboratories. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 371/Honors International Trade and Retailing Issues Credit 3

The course is an examination of international economic and social conditions influencing apparel trade and retailing consumption; students will explore the role of government, industry and consumers in production, distribution, and consumption of apparel in the global economy. Prerequisites: ECON 200 and junior standing or instructor's permission. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 381 Textiles I

Credit 3
This is a fundamental course that covers information on fibers, yarns, fabric construction, dyeing, printing and finishing of textiles. Two lectures and one laboratory. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 382/Honors Textiles II

Credit 3
This course requires an understanding of basic textiles principles. Students enrolled in this course are required to measure the physical properties of fabrics, compile and analyze data, and relate the results to the performance of fabrics and garments. One lecture and two laboratories. Prerequisite: MATH 102 or higher, FMCT 381. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 422 Apparel Design: Pattern Drafting and Draping

## Credit 3

Apparel Design: Pattern Drafting and draping introduces students to basic principles of flat pattern design and draping through the development of the master pattern and its use in the design and production of marketable apparel. The course consists of one hour of lecture and two hours of laboratory. Prerequisite: FMCT 361.

## FMCT $441 \quad$ Visual Merchandising

## Credit 3

Visual Merchandising is the study of principles and practices of designing and evaluating the various aspects of visual displays. The course involves the creation of window and interior promotional displays and the development of a visual portfolio. The course consists of three hours of combined lecture and laboratory. Prerequisite: FMCT 342. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 460 Clothing for Special Needs

## Credit 3

This course has main emphasis on clothing selection, basic fitting, and sewing techniques to meet needs related to age, figure type, and physical disability. Two lectures and one laboratory. Prerequisite: FMCT 361.

## FMCT 463 Tailoring/Alterations Credit 3

This course is designed to teach the fundamentals of tailoring and alterations. Tailoring techniques include shortcut tailoring methods, as well as samples of custom tailoring techniques. Students learn to apply alteration techniques for various fitting problems. One lecture and two laboratories. OPEN TO MAJORS ONLY. Prerequisite: FMCT 361.

## FMCT 490/Honors Product Development Credit 3

Product Development introduces both theoretical and practical aspects of the principles and techniques used in the creation, production, marketing, and distribution of fashion-related products that meet customer needs in the microeconomic and/or global marketplace. Actual prototypes will be created. The course consists of three hours of combined lecture and laboratory. Prerequisite: MKTG 308 or instructor's permission. OPEN TO MAJORS AND MINORS ONLY.

## FMCT 497A Fashion Merchandising Study Tour Credit 1-3

Fashion Merchandising Study Tour is an organized trip to a designated city or country that allows student to explore the various facets of the fashion industry through visits to manufacturing facilities, designer showrooms, pattern companies, advertising agencies, retailers, colleges, forecasters, publishers, and museums. OPEN TO MAJORS ONLY.

## FMCT 497B Textiles Study Tour <br> Credit 1-3

Textiles Study Tour is an organized trip to a designated city or country that allows student to explore the various facets of the textile manufacturers, converters, testing laboratories, and museums. OPEN TO MAJORS ONLY.

## FMCT 499 Independent Study/Research in Fashion/Clothing <br> Credit 1-3

Independent Study/Research in Fashion allows the student to participate in an intensive study of a specialized topic or existing research project related to fashion or clothing. Permission to take an independent study must be obtained from the instructor. OPEN TO MAJORS AND MINORS ONLY.

## FINANCE

## FINA 340/Hybrid/Honors Financial Management <br> Credit 3

The course is designed to provide a basic understanding of principles and practices in the area of business finance as an integral part of the business enterprise. It deals with sources and allocation of funds, channels and procedures of financing in the capital market, internal and external financing and inter-firm relations, corporate finance and international capital markets, and public regulations by government and non-government agencies. Prerequisites: ACCT 202, ECON 201, and ECON 200.

## Credit 3

The course involves financial analysis of investment alternatives available to individual and institutional investors. Security analysis is employed in the allocation and evaluation of specific investments and in dealing with the problems of changing economic and financial conditions. Prerequisite: FINA 340.

## FINA 440/Hybrid/Honors Advanced Financial Management

## Credit 3

The course is designed to develop analytical and decision-making abilities of students in relation to varied problems that normally confront financial management. Problem areas include financial planning and control of current operations and long-term capital commitments, income management, evaluation of income- producing property, and expansion through merger and consolidation. Prerequisite: FINA 340.

## FINA 441 Insurance and Business Risks <br> Credit 3

The course deals with the study of risks and the methods of meeting them through the insurance mechanism. Basic principles and types of coverage for social business relations, and principles and types of coverage for social business risks are studied. Special emphasis is placed on business risks, coverage, and problems of risk management. Prerequisite: FINA 340

## FINA 442/Hybrid Principles of Real Estate

Credit 3
The course is designed to study the principles, techniques and legal implications of acquiring and selling real estate. Areas covered include the factors influencing real values of residential, commercial and industrial properties, and relevant laws governing contracts, agency, brokerage, listings, agreements, deeds, titles, mortgage instruments, liens, landlord and tenant relationships, settlements, appraisal, real estate financing, real estate licensing laws, and ethics. Prerequisites: ACCT 202, ECON 201, ECON 200 or consent of instructor.

## FINA 443 Futures and Options

## Credit 3

The focus of this course is the understanding of options and futures. Theoretical issues as well as practical matters will be discussed. Emphasis will be on the valuation of derivatives and applications to the management of financial risk. Techniques for managing both individual and corporate investment risk will be examined. Speculation strategies will also be discussed. Prerequisite: FINA 341

## FINA 444 Entrepreneurial and Small Firm Finance Credit 3

The focus of this course is the assessment of the financial needs and sources of funds for new firms based on forecasting cash flows. Topics for discussion will include the value of the endeavor to the entrepreneur, strategic issues such as the tradeoffs between alternative financing choices, and issues of financial flexibility and control. While the primary focus will be new ventures, discussion of the financing of existing small firms will be included. Prerequisite: FINA 340

## FINA 445 Financial Institutions and Markets

## Credit 3

The focus of this course is the role of institutions in the flow of funds in the economy. The banking sector, from the Federal Reserve to local retail banks, will be thoroughly examined. The development and regulatory issues of financial markets will be discussed. The course will include the theoretical underpinnings of financial markets as well as practical issues relating to money. Prerequisites: ECON 200 and 201.

## FINA 446 Personal Finance

## Credit 3

The focus of this course is the management of an individual's money. Topics will include saving, investing, cash management, and credit. Discussion will focus on decision making and the acquisition of relevant information. Prerequisite: Junior standing.

## FINA $490 \quad$ Senior Seminar in Finance <br> Credit 3

This course provides the opportunity for advanced study of topics in finance; offerings to be announced prior to registration. Will satisfy elective requirement in Finance Concentration program. Prerequisite: Senior standing.

## FINA 491/Honors Research Methods in Finance

## Credit 3

The focus of this course is the planning and execution of a research project, including the collection, analysis and interpretation of data on a topic in Finance. A completed research report is required. Prerequisite: Senior standing.

## FINA 498 Independent Study in Finance <br> Credit 3

The hours for this course are by arrangement with designated or individual faculty. Under the guidance of the faculty member, students conduct an intensive investigation of a topic within the field of finance. A written proposal is required for approval. Projects typically include library research, interviews with operating and/or staff managers, and other requirements appropriate to the topic. One of the products of this project is a report. Prerequisites: FINA 340 and permission of instructor.

## FOOD AND BEVERAGE MANAGEMENT

## FMGT 101 Applied Food Service Sanitation

## Credit 2

This course covers, in detail, the principles and practices of sanitation and hygiene as applied to the food service industry. Successful completion of the course qualifies students for a National Restaurant Association Educational Foundation Sanitation Certificate. The emphasis of the course is on the training of supervisory personnel in sanitation procedures.

## FMGT 110 Restaurant and Table Service

Credit 2
In this introductory class to the organization and management of the front of the house, students learn to plan service, write standards, schedule labor, and execute service for up to 50 customers. The course format is a 50 -minute lecture and two three-hour laboratory periods per week. A uniform is required.

## FMGT 211 Food Production I

## Credit 3

This introductory course in food production includes basic foods nutrition, overview of the kitchen brigade, culinary terminologies, products identification, cooking techniques, knives skills, utensils and equipment usage and sanitary care. Also, produce, present and evaluate cooked products. The course format is two 50 - minutes lectures and two - hour laboratory periods per week. Chef knives set and appropriate commercial kitchen uniforms are required. Prerequisite: HMGT 101, except for PGA Golf Management majors.

FMGT 212 Food Production II

## Credit 3

In this course students are introduced to leadership/management, while continuing to advance their culinary and production knowledge by executing upscale luncheons for 50 paying guests. Also students learn to plan and organize commercial kitchen: staffing, menu planning, recipes, and production schedules and communicate using culinary terminologies. One 50 - minute lecture and one 5 hour laboratory per week is class format. Chef knives set and appropriate commercial kitchen uniforms are required. Prerequisite: FMGT 211 with minimum passing grade "C."

## FMGT 301/Online Food \& Beverage Cost Accounting <br> Credit 3

This course emphasizes cost accounting and budget and pricing techniques for the hospitality industry. Recipe costs, portion control, product yields, inventory methods and valuation, and menu engineering are studied. Prerequisites: HRM or PGM Department Major, HMGT 340, Curriculum Area II (ECON 201 or 202), and Curriculum Area IV (Mathematics) requirements must be met.

## FMGT 350 Commercial Food Production

## Credit 3

This upper level production course emphasizes equipment, foods, staffing, schedule, planning, and kitchen brigade organization management. The class also, produces and present 4 gourmet dinners for 50 paying guests; emphasizing Haute Cuisine, Bridging, Foods and Wine Pairing. Other major areas of concentration include cost awareness and control, profitability and staff management. Also, Front of the House - Service Management, Middle of the House - Production and Back of the House - Stewarding/Sanitation Management are highlight. This course
meets two 50 - minute lectures and one 5 hour laboratory per week. Prerequisite: FMGT 212 with minimum passing grade "C."

## FMGT 371 Hybrid Hospitality Purchasing

## Credit 3

This course emphasizes the managerial principles of the purchasing function and covers fundamental concepts, supplier selection, best practices, purchase specifications and purchase orders, product yield, and the receiving, storing, and issuing of hospitality products. An application research project is required. The laboratory component of this course emphasizes the development and use of knowledge related to hospitality supplier selection, purchase specifications and purchase orders, product yield, and best practices. Prerequisites: HRM Department Major, Curriculum Area II (ECON 200 or 201), and Curriculum Area IV (Mathematics) requirements must be met.

## FMGT 499 Independent Studies in Food and Beverage Measurement Credit 3

FMGT 499 is designed to permit the student to obtain directed study in the specialized area of the hospitality industry identified as Food and Beverage Management. The course is structured to meet the needs of the student. The enrolled student is assigned a faculty member with whom he/she will work out a specific plan of study. The course is similar to tutorials in structure. The student has the primary responsibility of completing the assignments. The ultimate objective is to provide the student with a learning opportunity not available in regular scheduled FMGT electives. Prerequisite: Junior or Senior standing; written permission of Department Chair.

## FOOD SCIENCE AND TECHNOLOGY

## FDST 493 Food Chemistry

## Credit 3

This course explores the chemistry of food components including water, carbohydrates, lipids, proteins, vitamins, and minerals, as well as additives, including preservatives, colorants, flavors, antioxidants and sweeteners. Functionality and interaction of components and their importance to quality and wholesomeness of foods will be discussed. Prerequisites: CHEM 212 or permission of instructor.

## FRENCH

## FREN 101/Online Fundamentals of French I Credit 3

This course provides for the acquisition of basic skills in the language through drills in pronunciation, grammar, and translation. Laboratory work is required. It is recommended that students who have two or more years of high school French take an examination for credit.

## FREN 102/Online Fundamentals in French II Credit 3

This course is a continuation of French 101. This course provides for the acquisition of basic skills in the language through drills in pronunciation, grammar and translation. Laboratory work is required. It is recommended that students who have two or more years of high school French take an examination for credit. Prerequisite: C or better in FREN101

FREN 201 Intermediate French I
Credit 3
This course involves a review of grammar and pronunciation and involves graded readings of modern prose. Prerequisite: C or better in FREN 101and FREN 102 or the equivalent.

FREN 202 Intermediate French II
Credit 3
This course provides a review of idiomatic expressions, applications of language skills to reading, composition, and class discussion. Prerequisite: C or better in FREN 201 or equivalent.

## FREN 301

This course focuses on the development of conversational proficiency in French, development of writing skills through written reports on current events and focuses on literary topics. Prerequisites: C or better in FREN 101, 102,201 and 202, or permission of the instructor.

## FREN 302 Translation

Credit 3
This course is designed to develop advanced skills through training in translation and interpretation. Students translate French texts from different fields with emphasis on grammar and literary quality. They also practice translation from English into French. Prerequisites: C or better FREN 101, 102, 201 and 202, or permission of the instructor.

FREN 401 French for the Business World

## Credit 3

This course is an introduction to the study of terminology used in business, and styles used in commercial, private and official formats for correspondence and various common business documents. Prerequisites: C or better in FREN 302 or permission of the instructor.

FREN 402 Writers of French-Speaking Africa and the Caribbean Credit 3
This course involves the study of selected novels expressing the culture and the aspirations of the French speaking people of Africa and the Caribbean. Prerequisites: C or better in FREN 301 and FREN 302 or permission of the instructor.

## GEOGRAPHY

## GEOG 201 The World Geography I

## Credit 3

This class focuses on the imprint of cultural traits, such as religion, language and livelihood systems, on the earth's landscape. The transformation of the earth's surface as a result of cultural diversity, settlement patterns, political organization, cultural evolution, and population growth are the major topic.

GEOG 202 The World Geography II

## Credit 3

This course is an introduction to the geographic characteristics of the development problems and prospects of developing countries. The focuses are spatial distribution of poverty, employment, migration and urban growth, agricultural productivity, rural development, policies and international trade. Portraits of selected developing countries are presented.

## HISTORY

## HIST 101/Honors History of World Civilization I <br> Credit 3

The course examines human endeavors from the earliest civilizations to 1500 . It examines major political and socioeconomic achievements, stressing non-western and Greek, Roman, and Medieval contributions to world civilization.

## HIST 102/Honors History of World Civilization II

## Credit 3

This course is a continuation of HIST 101 from the Reformation to contemporary times. Emphasis is given to the growth of strong nation states, revolutions, liberalism, nationalism and imperialism, and current problems resulting from two global wars and the end of the cold war.

## HIST 150 History of Philosophy

## Credit 3

This is an introductory course in the study of Western philosophy. It uses the prism of history to develop an overview of the seminal philosophers over the past 2500 years. Philosophical study will include the Greek and medieval
periods, the post-renaissance and enlightenment periods along with the Modern and late Twentieth Century periods. Meets CA I requirements.

HIST 200A Introduction to Modern African History
Credit 3
This course is an outline of contemporary African History after 1700. The course will include colonialism the struggle for independence, and the problems of economic and social development in independent Africa.

HIST 201/Online History of American Civilization I Credit 3
This course is a survey of American history from the pre-colonial period to the Civil War. The topics covered include Colonial America, the institution of slavery, the American Revolution, the foundations of American government, and the roots of the Civil War.

## HIST 202/Online History of American Civilization II Credit 3

This course is a continuation of HIST 201 and a survey of basic post -Civil War problems, movements, and trends, including Reconstruction, industrialization, the Great Depression, two world wars, the civil rights movement, and the cold war.

## HIST 221 Historical Research

Credit 3
Techniques and procedures in historical research are critically reviewed. The course provides an examination of the methods and functions of research in historical scholarship and requires preparation of an undergraduate history research paper. Prerequisite: A 100/200 level HIST course and HIST Major only.

## HIST 275 Swahili: History, People, Language Credit 3

This course approaches learning about history and culture of East Africa through learning the Swahili language. Prerequisite: One 100/200 level history course.

## HIST 313/Online Gender Equality in America Credit 3

Women have played an integral role in the development of America. This course will examine the roles and contributions that American women have made beginning with the Colonial period up to the Twenty-First Century. Gender and ethnic differences will be examined within a cultural, political and social context.

## HIST 333 African American History I Credit 3

This course surveys African American History from African roots to the Civil War. Prerequisite: A 100/200 level HIST course.

## HIST 334 African American History II: From1865 to Present Times Credit 3

This is a study of African-American History from the Civil War to the Twentieth Century. Prerequisite: A 100/200 level HIST course.

## HIST 350

Contemporary World Issues

## Credit 3

This will be a discussion-based course prefaced on student presentations in class. Most of the world's developing/developed nations offer an English language newspaper on the World Wide Web which delivers official government positions/spin on issues of interest to American students. These newspapers will form the curriculum for the course as will rejoinders by the "national' newspapers of the United States, i.e., The New York Times and The Washington Post. The course instructor will moderate class discussions.

## HIST 351 Latin America <br> Credit 3

This course surveys the development of Latin America from the pre-colonial period to the colonization of Spain to Portugal, and to independence.

## HIST 360

Ancient African History
Credit 3
This is a study of African History from the beginning of recorded history to 1800. Prerequisite: A 100/200 level HIST course.

## HIST 361 African History After 1800

Credit 3
This is a study of African colonial issues, the struggle for independence, the emergence of nation-states and current issues in Africa. Prerequisite: A 100/200 level HIST course

## HIST 405 The Presidencies of the United States ~ Seminar <br> Credit 3

This course will require students to select a president to research and lead the seminar on the following issues about that president throughout the semester: Pre-presidential biography, congressional relationships, domestic policy, economic strategy, cabinet and court appointments, international relations, and effectiveness as commander-in chief. A major research paper is required. Prerequisite: One 100/200 level history course.

## HIST 414 Cross-Cultural Internship in Africa

Credit 4-12
This course provides an elective opportunity for students to gain cross-cultural exposure and understanding in a grassroots African community. Approved students will spend one to three months at a community educational center in Uganda in East Africa to gain cross-cultural experience living and working under the supervision of Ugandan and American educators. Section 004 (1 month) 4 credits; Section 008 ( 2 months) 8 credits; and Section 012 (three months) 12 credits. Prerequisite: A 100/200 level HIST, registration in HIST 418 course and HIST Major only.

## HIST 418 Cross-Cultural Internship Seminar Credit 3

Simultaneously accompanies HIST 414. Prior to going out and after returning, students will attend a group seminar, and during the internship, interns will produce written reflections on their daily experience. Students will present an extended paper on their internship experience. Prerequisite: A 100/200 level HIST, registration in HIST 414 course and HIST Major only.

HIST 440 East Asia from 1600 to the Present Credit 3
This course will examine the inter-related histories of China, Japan, and Korea. The economic, social, political, religious, and cultural developments of East Asia during major historic periods will be studied. Prerequisite: One 100/200 level history course.

## HIST 450 Southeast Asia: from 1600 to the Present Credit 3

This course will survey the histories of the nations, which comprise Southeast Asia. The economic, social, political, religious, and cultural developments of Southeast Asia during major historic periods will be studied. Prerequisite: One 100/200 level history course.

## HIST 460 Russia: From 1600 to the Present

## Credit 3

This course will examine the transformation of Russia from a feudal civilization to a military superpower. Attention is given to Tsarist Russia, to the Communist Revolution of 1917, Communist Russia, and the post-Communist Russian Federation. The economic, social, political, religious, and cultural developments of Russia during major historic periods will be studied. Prerequisite: One 100/200 level history course.

## HIST 497 Senior Thesis

## Credit 3

The senior thesis is the culmination of student learning, analysis, and research resulting in a major research paper. The paper will involve a thorough critical examination of a significant historical controversy or historiographical issue. Prerequisites: senior history majors only. Approved topic, approved research proposal, approved bibliography, and significant research completed.

This course is an intensive study of special topics in history for advanced students. Prerequisite: Consent of instructor Prerequisite: HIST Major only.

## HIST 499 Independent Study of History <br> Credit 3

This course is an intensive study of special topics in history for advanced students. Prerequisite: Consent of instructor. Prerequisite: HIST Major only.

## HORTICULTURE

## HORT 203 Introduction to Horticultural Science <br> Credit 3

This course is designed to introduce the scientific principles and practices of horticulture as a scientific discipline. Plant relationships, structure, growth and development, as well as the artistic aspects will be discussed. The course is divided into three sections: 1) basic concepts and processes in plant science, 2) general managerial practices of horticultural crops, and 3) discussions of current topics in horticulture.

## HORT 313 Floriculture and Ornamental Horticulture Credit 3

This course is an introduction to the concepts of ornamental plant production and floral design. It includes production, propagation, harvesting and marketing of ornamental plants. Previously listed as HORT 312. Two hours lecture and two hours laboratory per week.

## HORT 333 Landscape Design Theory

## Credit 3

Students learn theory and principles of design, role of the environment in selecting plants and landscape materials, and basic graphic elements. Two hours lecture and two hours laboratory per week.

## HORT 353 Turf Management and Maintenance

Credit 3
This course shows students how to identify, select, establish and manage turf for commercial, recreational and residential use. Management factors such as renovation, drainage, irrigation, fertility, pest and disease control, as well as mowing and other maintenance procedures will be covered. Prerequisites: PLSC 184, PLSC 185 and SOIL 203 or permission of instructor. Two hours lecture and two hours laboratory per week.

HORT 383 Horticultural Therapy

## Credit 3

This course addresses the therapeutic role and application of horticulture to individuals; it includes therapy and rehabilitation of the physically, emotionally and mentally challenged individuals. Prerequisites: PLSC 184 and PLSC 185 or permission of instructor.

## HORT 423 Horticultural Crops

## Credit 3

This course presents the scientific aspects of commercial fruit and vegetable production. Principles of economics and practices in the global marketing of vegetables, fruits and nuts are discussed in relation to the maintenance of a safe food supply. General aspects of regional vegetables and fruits are given special emphasis for the Delmarva Peninsula. Prerequisite: HORT 203 or permission of instructor. Two hours lecture and two hours laboratory per week.

## HORT 463 Plant Tissue Culture <br> Credit 3

This course explores the principles and methods for in vitro culture and propagation of important horticultural and agronomic crops. Prerequisites: PLSC 184 and PLSC 185 or permission of instructor. Two hours lecture and two hours laboratory per week.

## HOSPITALITY AND TOURISM MANAGEMENT

## HMGT 100A/B, 200A/B, 300A/B Professional Development

Credit 1 ²
This course provides students the opportunity to view aspects of the hospitality industry and related areas that are not available in regularly scheduled courses. It includes, but is not limited to, professional conduct, guest speakers, industry visitations, student presentations, and films. It is required of all majors, each semester (A -fall, B -spring) of their freshman, sophomore and junior years. Grading will be satisfactory/ unsatisfactory depending on the student's end-of-semester status in Eta Rho Mu.

## HMGT 101 Introduction to the Hospitality Industry

## Credit 3

The course provides the student with an understanding of the scope and complexity of the hospitality industry. The student is introduced to the opportunities available and the training necessary to achieve a successful hospitality management career. Laboratory sections are scheduled as needed.

## HMGT 102 First Year Experience

## Credit 1

The purpose of the course is to facilitate a seamless transition from high school to college. Essential skills for success are identified and application explored. These include cognitive skills as well as lifestyle patterns critical to immediately adjusting personally and socially to the college environment.

## HMGT 110, 120, 130 Hospitality Experience

Credit 0
Students are required to obtain a total of 1000 hours of acceptable hospitality experience during their freshman (110), sophomore (120) and junior (130) years. It is recommended that the student work a minimum of nine weeks per summer. The 1000 -hour hospitality experience requirement may be obtained prior to enrollment, during studies or after completion of course work, but must be completed before graduation.

## HMGT 220 Technology Management in the Hospitality Industry Credit 4

This course provides an introduction to basic computing concepts and functions and the use of computers and application-specific software in the hospitality industry, including Microsoft Office 2007, point-of-sale, enterprise management, sales and catering, and property management systems. Prerequisite: HRM Department Major or PGA Golf Management Program Major.

## HMGT 301 Front Office Management Credit 3

In this detailed study of the management systems in the hotel front office, students are able to identify and evaluate the information systems used in the hotel to facilitate management decision making. The course includes interdepartmental communications, managerial reporting, computer applications, and a review of future trends. Laboratory sections are scheduled as needed.

## HMGT 302 Managing Housekeeping Operations

## Credit 3

This course examines the role, strategies and methods employed by housekeeping operations management to ensure achieving high standards of cleanliness, safety, security, and service in a cost-effective and environmentally friendly manner.

## HMGT 303 Hospitality Facilities, Operations, and Maintenance Credit 3

This course includes a study of basic engineering, public safety, building codes, equipment selection, and design procedures related to the hospitality industry. In addition, all hotel operating departments are reviewed and discussed.

## HMGT 305 Entrepreneurship

## Credit 3

This course focuses on the development and assessment of the viability of small and micro business ventures. Emphasis is on the business planning process, the management of small enterprises, feasibility studies, and formulation of business plans, risk management and entrepreneurial characteristics. Sources of public and private
start-up incubator funding will be explored, along with franchising opportunities. Major applications and case study material will be drawn from lodging, foodservice, and PGA model golf shop operations.

## HMGT 309 Beer, Wine and Spirits

## Credit 3

This course provides a comprehensive study of alcoholic beverages, with an emphasis on the origin, production, classification, and service of beer, wine, and spirits; bartending basics; alcohol awareness, liability, and the responsible serving of alcoholic beverages. An application research project is required. Prerequisite: HRM Department Major or PGA Golf Management Program Major and students must be 21 years old.

## HMGT 340 Hospitality Industry Accounting

## Credit 3

This course focuses on accounting practices, concepts, principles, and legal and ethical issues in the hospitality industry. The accounting cycle, adjusting entries, corporate transactions, and the preparation and analysis of financial statements are emphasized. Prerequisite: HRM Department Major or Minor, or PGA Golf Management Program Major, Curriculum Area II (ECON 201or202), and Curriculum Area IV (Mathematics) requirements must be met.

## HMGT 350/Online Marketing Hospitality and Leisure Services Credit 3

Focusing on the application of marketing principles and techniques to the hospitality and travel industries, this course examines how the marketing concepts of product, place, price and promotion, can be effectively utilized in the hospitality industry. Practical applications of promotion publicity, public relations, and advertising are demonstrated in case studies and class assignments.

## HMGT 401/Online Law and the Hospitality Industry

## Credit 3

A study of laws applicable to the hospitality industry, this course includes the host's responsibility, negligence, liability, contract, torts, regulations, and insurance.

## HMGT 402/Online Human Resources Management Credit 3

Supervisor and employee relations with emphasis on human relations, organization, and manpower planning and development, are the foci of this course. Also, employee compensation and benefits in the hospitality industry, as well as, ethics and policies, are included. Laboratory sections are scheduled as needed.

## HMGT 404 Hospitality Facilities Design Project

## Credit 3

In this course the student completes a hospitality facilities design project. The project draws on previous work and includes facility design, market analysis, and budgetary control. Prerequisites: Senior status, FMGT 301, HMGT 303 and HMGT 350.

## HMGT 405 Resort \& Convention Management Credit 3

A study of resort and club planning, development, operation, and management, this course includes the planning and servicing of meetings, conventions, and other group business functions.

## HMGT 440 Financial Analysis for the Hospitality Industry

## Credit 3

This course provides a comprehensive study of financial analysis concepts and techniques necessary for managerial decision making. Ratio analysis, operations budgeting, cost approaches to pricing, capital budgeting and investment, managing working capital, and feasibility studies are emphasized. Prerequisites: HRM Department Major or PGA Golf Management Program Major, Curriculum Area II (ECON 201 or 202), Curriculum Area IV (Mathematics), FMGT 301, and HMGT 340 requirements must be met.

HMGT 470, 475, 480 Hospitality Management Internship
Credit 1-6
A fall (spring, summer) based course designed to permit the student to obtain an applied management internship in a specialized area of the hospitality industry, this course is structured to meet the needs of both the student and the hospitality operation offering the management internship. The enrolled student is assigned an HRM faculty member
with whom he/she will work out a specific plan of study. Credit hours vary in accordance with the type and amount of work assigned. Prerequisites: FMGT 301, HMGT 301, HMGT 303, HMGT 340, and written permission of HRM Department Chairperson.

## HMGT 488 Hospitality Co-op

## Credit 3

A summer semester field-based course designed to permit the student to obtain applied experience in a specialized area of the hospitality industry, this course is structured to meet the needs of both the student and the hospitality operation offering the co-op. The enrolled student is assigned an HRM faculty member with whom he/she will work out a specific plan of study. Prerequisites: Written permission of HRM Department Chairperson and BUAD 132, FMGT 101, FMGT 211, FMGT 212, HMGT 101.

## HMGT $490 \quad$ Hospitality Research I

## Credit 3

This first semester of a two-semester senior-level, project-based hospitality course requires departmental approval and close liaison with the course instructor. The students are assigned an approved project designed to synthesize the learning of other departmentally offered classes. Students write term papers, manage hospitality activities, perform accounting and financial analysis, and develop new operating procedures. Prerequisite: Senior level HRM major or written permission of HRM instructor.

## HMGT 491 Hospitality Research II Credit 3

This course is the second semester of the senior-level hospitality projects-based class (see HMGT 490). Prerequisite: HMGT 490 or written permission of HRM instructor.

## HMGT 497 Professional Development

## Credit 1

This course is an extension of HMGT 100A, 200A, and 300A- Professional Development. In addition, each student is expected to organize, chair, and successfully accomplish the objectives of one Eta Rho Mu committee. Prerequisite: Senior-level HRM major or written permission of HRM Department Chairperson.

## HMGT 498 Professional Development

## Credit 1

This course is an extension of HMGT 100B, 200B, and 300B- Professional Development. In addition, each student is expected to organize, chair, and successfully accomplish the objectives of one Eta Rho Mu committee. Prerequisite: Senior-level HRM major or written permission of HRM Department Chairperson.

## HMGT 499 Independent Study in Hotel and Restaurant Management Credit 1-3

The course is designed to permit the student to obtain directed study in a specialized area of the hospitality industry. The course is structured to meet the needs of the student. The enrolled student is assigned a faculty member with whom he will work out a specific plan of study. The course is similar to tutorials in structure. The student has the primary responsibility of completing the assignments. Credit hours may vary in accordance with the need and amount of work assigned. Prerequisite: Written permission of HRM Department Chairperson, 3.0 GPA, and Junior/Senior status.

## HUMAN ECOLOGY

## HUEC 100 First Year Experience Seminar

## Credit 1

This course provides an opportunity for students to make a seamless transition from high school to college. Essential skills for transition will be explored and discussed. This course assists students in developing cognitive skills and in adjusting personally and socially to the college environment. Additionally this course facilitates self-awareness and interpersonal communication. Requirement for all first year students. This course is taken by HUMAN ECOLOGY MAJORS in lieu of GNST 101. One lecture.

## HUEC 101 Principles of Art and Design/Laboratory

## Credit 3

Principles of Art and Design/Laboratory is designed to introduce students to the basic principles and elements of art and design through a variety of studio projects. The course consists of two lecture hours and one laboratory hour. OPEN TO MAJORS AND MINORS ONLY.

## HUEC 203/Online Human Development: A Lifespan Perspective Credit 3

This course is a study of human development from conception to death. It examines the interactions within the family system from a lifespan perspective. MAY NOT RECEIVE CREDIT FOR PSYC 305. Satisfies Gen. Ed. Requirement Area II.

## HUEC 220 Perspectives on Aging

## Credit 3

This is an interdisciplinary course that examines the phenomenon of aging and its consequences for society from a variety of perspectives. The course is designed to give students a broad overview of the field of gerontology. Satisfies GEN ED CURR AREA II.

HUEC 230/Online Multicultural Perspectives on Families in the U.S. Credit 3
This course is an interdisciplinary introduction to the concepts central to multiculturalism and diversity as they apply to the study of contemporary families in the U.S. Satisfies GEN ED CURR AREA VI.

## HUEC 242 Foundations of Family and Consumer Science <br> Credit 3

This course is designed to give students an introduction to the field of family and consumer science. The Human Eco-Systems perspective is emphasized in examining daily life issues for families and consumers. Foundations of the discipline of family and consumer sciences are incorporated to include the history and mission of FCS; roles in meeting the needs of individuals, families, and communities; the integrative nature of the profession; trends in the field; and career opportunities. Prerequisite: HUEC 100.

## HUEC 243 Housing Design

## Credit 3

This course is a study of the interaction of people and the built environment. It examines ergonomics, anthropometrics, and proxemics in human factors and lifespan issues as they relate to the design of interiors. Prerequisites: PSYC 100, SOCI 101.

## HUEC 301 Online Fundamentals of Family Financial Planning Credit 3

The course introduces students to the various financial planning topics that face families such as the financial planning process, family/planner interactions, time value of money applications, personal financial statements, cash flow and debt management, asset acquisition, and education planning. Risk management, investment planning, retirement planning, plan integration, and ethics are also discussed.

## HUEC 305 Online Insurance Planning for Families Credit 3

The course introduces students to risk management and insurance decisions in family financial planning. Topics include insurance for life, health, disability, property and liability risks, as well as annuities, group insurance, and long term care.

## HUEC 310/Honors Resource Management Credit 3

This course focuses on the allocation and management of resources, personal and family financial decision making, and wise selection and purchase of consumer goods and services. Prerequisites: MATH 102 or MATH 109, SOCI 101, PSYC 100. OPEN TO MAJORS AND MINORS ONLY.

HUEC 315 Online Income Tax Planning for Families Credit 3
The course is an overview of current tax laws, income tax principles, and taxation terminology. It focuses on tax planning considerations, computations, and tax planning strategies including tax pitfalls that impact families' financial planning.

## HUEC 343 Dwelling

## Credit 3

This course is an examination of contemporary housing issues within the context of the socio-economic, political, and psychological factors that impact the process of housing. Major theories and policies will be discussed.

## HUEC 361/Online Contemporary Family Issues Credit 3

This course is a study of contemporary issues affecting the family system, such as parenting, divorce, death, drug dependence, non-traditional life styles, mobility, and chronic illness. Prerequisites: SOCI 101, PSYC 100. Satisfies GEN ED AREA II. OPEN TO MAJORS AND MINORS ONLY.

HUEC 370 Professional Development
Credit 2
This course is designed to prepare students for a professional career in various divisions of Human Ecology. Emphasis is placed on resume writing, interviewing skills, dressing for success, developing a professional image, presentational and oral communication skills, and planning and organizing presentations before small and large audiences. Pre-requisite: junior level standing. OPEN TO MAJORS ONLY.

## HUEC 399 Pre-Internship Seminar

## Credit 1

Pre-internship Seminar is designed to prepare students for internships in the field of family and consumer sciences/human ecology. This course consists of one lecture hour. Prerequisite: Junior Level Standing. OPEN TO MAJORS ONLY.

## HUEC 400 Internship

## Credit 3

Internship is a supervised work experience in an approved work setting planned cooperatively with business establishments, agencies, or centers. Two hundred clock hours of field experience are required. Prerequisite: HUEC 399. OPEN TO MAJORS ONLY.

## HUEC 403 Online Investment Planning for Families Credit 3

The course provides the student with an understanding of the various types of securities traded in financial markets, investment theory and practice, portfolio construction and management, and investment strategies and tactics to meet a family's investment goals.

## HUEC 404 Online Retirement Planning for Families Credit 3

The intent of the retirement planning course is to provide individuals with knowledge of both public and private retirement plans. The public plans include Social Security, Medicare, and Medicaid. The private plans include defined benefit and defined contribution plans and their regulatory provisions. The specifics of the various plans are analyzed, as well as non-qualified deferred compensation plans. Finally, issues that individuals face in retirement, such as lifestyle choices and medical issues are discussed.

## HUEC 408 Online Estate Planning for Families Credit 3

The course focuses on the efficient conservation and transfer of wealth, consistent with the family's goals. It is a study of the legal, tax, financial and non-financial aspects of this process, covering topics such as trusts, wills, probate, advanced directives, charitable giving, family wealth transfers, and related taxes.

## HUEC 409 Post-Internship Seminar

## Credit 1

Post-Internship Seminar provides the opportunity for students to reflect upon and present an overview of their work experience in their discipline. The course is one hour. Prerequisites: Senior Level Standing, HUEC 400, or permission of the instructor. OPEN TO MAJORS ONLY.

## HUEC 450 Practicum-Human Development

## Credit 1-5

This course is a concentrated, continuous, on the job experience in various aspects of human services under the supervision and guidance of trained personnel. Students with a Child Development concentration will observe and participate with groups of young children in Day Care/Headstart Centers or with older children in shelters and youth
programs. Students taking this course for a minor in gerontology will be assigned to an agency/organization or institution that serves the elderly. Students have to have 40 clock hours for each credit hour. OPEN TO MAJORS AND MINORS ONLY.

## HUEC 451 Post Practicum

## Credit 1

This course is a seminar course. Reflections of practicum experience and guidance for topics occurring in HUEC 450 will be discussed. Discussions centering on current MSDE guidelines and current child care regulations will be discussed along with preparation for future employment in a child care setting. Concurrent registration with HUEC 450 is required. Pre-requisite: HUEC 399; Co-requisite: HUEC 450. OPEN TO MAJORS ONLY.

## HUEC 460 The Family and Aging <br> Credit 3

This course examines the aging process and its impact on the family and explores the characteristics, attitudes, behaviors, and concerns of older people, including their physical, psychological, social, and economic needs. Related legislative and community resources are also examined.

## HUEC 463 Food, Clothing and Culture Credit 3

This course includes interdisciplinary examination of the socio-cultural and economic dimensions of choices related to food and clothing in multicultural family and community environments. Prerequisites: SOCI 101, PSYC 100, Junior or Senior standing.

## HUEC 464 Social Psychology of Food, Clothing and Shelter Credit 3

This course includes interdisciplinary examination of the socio-psychological and economic dimensions of choices related to food, clothing, and shelter in multicultural family and community environments. OPEN TO MAJORS AND MINORS ONLY.

## HUEC 474/Honors Research Methodology Credit 2

This course covers an overview of research methods commonly used in human ecology related disciplines. Upon completion of the course, the students should be able to read and critique studies. They should also be able to design and conduct experiments related to their field of study. Students should also be able to design and carry out their own research studies. Prerequisite: Senior Level Status. OPEN TO MAJORS ONLY.

## HUEC 487/Honors Supervisory Management Credit 3

This course is the study of principles and applications of managerial skills required for first-line supervisors. Emphasis is on supervisory functions, decision-making, delegation, motivation is leadership styles, communication, and conflict-resolution. Open to all students. Prerequisite: Senior Standing. OPEN TO MAJORS AND MINORS ONLY.

## HUEC 490/Honors Consumer Motivation Credit 3

This course offers an interdisciplinary approach to the study of consumer motivation and behavior in the marketplace with emphasis on functioning of the market system and models of consumer behavior. Prerequisites: SOCI 101, PSYC 100. OPEN TO MAJORS AND MINORS ONLY.

## HUEC 495 Senior Seminar in Human Ecology

## Credit 1

This is a capstone course for Human Ecology majors. It is designed to evaluate the proficiency of senior level students in their major coursework. This course provides students with the opportunity to demonstrate their mastery of basic concepts, theories, and bodies of knowledge in their respective area of concentration. Pre-requisites: HUEC 100 or permission of instructor, HUEC 370, Senior status. OPEN TO MAJORS ONLY.

## HUEC 499 Independent Study/Undergraduate Research

## Credit 1-3

Students who wish to get advanced experience in a particular area of their discipline and an opportunity to do supervised and individualized studies may enroll in this course. The maximum number of undergraduate special
topics or independent study credits that may be taken with the same prefix and number are determined by the student's major department. Department chair's approval is required. OPEN TO MAJORS ONLY.

## MARKETING

## MKTG 308/Hybrid Principles of Marketing

## Credit 3

The focus is on introducing the nature and fundamentals of marketing activities in the modern industrial economy. This course deals with the analysis of the socio-economic and psychological factors, influencing consumer behavior, market measurement and forecasting methods, development of marketing programs in the areas of product-line, price, promotion and channels of distribution, procedures for planning and controlling marketing operations and the legal aspects of marketing. Prerequisites: ECON 200, ECON 201, ACCT 202 and junior standing. (Fashion Merchandising Majors only. ECON 200 and permission of the respective Department Chairs).

## MKTG 312 Sales Management <br> Credit 3

The course involves a study of the techniques and policies in the administration of the sales organization with respect to the market strategies. Managerial functions, such as selecting, training, compensating, and supervising field sales personnel, are also dealt with. The course also includes planning, implementing, and coordinating the sales program with the total marketing effort of the firm. Prerequisite: MKTG 308.

## MKTG 314 Retail Management

## Credit 3

The course involves a study of retailing as a marketing institution from the standpoint of management. Topics covered include the store location, layout and facilities, policy formulation in the areas of buying, merchandising, pricing, inventory planning and controlling, sales promotion, customer service, and general management problems. Prerequisite: MKTG 308.

MKTG 315 E-Commerce

## Credit 3

This course is designed to familiarize students with the emergence and importance of electronic commerce. The course examines the exchange of business information, products, services and payments over the Internet and World Wide Web. Students will understand the field of electronic commerce and its basic vocabulary, as well as learn the skills to develop electronic commerce applications (on the web). Prerequisite: MKTG 308.

## MKTG 401 Advertising Management <br> Credit 3

Emphasis is on an analysis of advertising problems from the points of view of the general administrator and marketing manager. The major topics covered are determining the role of advertising in an organization's total set of strategies, coordinating and integrating advertising with the total marketing effort, and developing of appropriate copy, media selection, client-agency relationships, and available techniques to measure the effectiveness of advertising expenditures. Prerequisite: MKTG 308

## MKTG 404 Consumer Behavior and Theory <br> Credit 3

This course examines motivation, cognition, and learning of preferences and tastes from the interdisciplinary perspective of the social sciences. Dynamics of consumer demand and behavior are emphasized. Prerequisite: MKTG 308.

## MKTG 406 Purchasing Management

## Credit 3

The course involves a study of the problems in industrial, institutional, and government purchasing, such as the purchasing of raw material, supplies, and equipment. Procedures for procurement, value analysis, quality control, and inventory control are covered. Factors in determining suitability of product, preparation of specifications, and legal aspects are also dealt with. Prerequisite: MKTG 308.

## MKTG 409 Marketing Research

## Credit 3

The focus is on the process of acquiring, classifying and interpreting primary and secondary marketing data at the macro and micro level needed for profitable marketing decisions. Skills in evaluating the appropriateness of inductive, deductive, survey, observational, and experimental methodologies are developed. Recent developments in the systematic recording and use of internal and external data needed for marketing decisions are evaluated. The course focuses on integrating problem formulation, research design, questionnaire construction, sampling, data collection and data analysis to yield valuable marketing information. The course also examines the proper use of statistical applications such as time series analysis as well as qualitative methods, with an emphasis on the interpretation and use of results. Prerequisite: MKTG 308

## MKTG 410 Marketing Strategy and Policy

## Credit 3

This course emphasizes the managerial aspects of marketing and distribution problems. The course specifically deals with the factors affecting consumer demand, methods of satisfying it, the structure of the market, marketing methods, and the problems of various agencies, competitive practices, and management of the selling activities of a business, including distribution policies, pricing, and organizing and planning of market operations. Prerequisite: MKTG 308.

## MKTG 421 International Marketing

## Credit 3

The focus is on company survival and growth in developed and emerging markets. This course examines the challenge of entering and operating effectively in foreign markets. Decisions must be made regarding international marketing objectives, strategies and policies, foreign market selection and entry, adaptation and customization of products, distribution channel design and communication programs to fit each foreign market. International marketing organization, international marketing research, planning and control are discussed. Student projects will explore and demonstrate understanding of cultural and language issues through readings, case discussion, class presentations and a term project. Techniques for communicating and marketing products and services in a specific country that accommodate cultural differences are emphasized. Prerequisite: MKTG 308.

## MKTG 498 Independent Study in Marketing Credit 3

The hours for this course are by arrangement with designated or individual faculty. Under the guidance of the faculty member, students conduct an intensive investigation of a topic within the field of marketing. A written proposal is required for approval. Projects typically include library research, interviews with operating and/or staff managers, and other requirements appropriate to the topic. One of the products of this project is a report. Prerequisites: MKTG 308 and consent of instructor.

## MATHEMATICS

The Department of Mathematics and Computer Science requires that, prior to enrolling in any departmental course, students should earn a grade of " C " or better in all course prerequisites.

## MATH 101 Intermediate Algebra

## Credit 3

Topics in this intermediate algebra course include the algebra of signed numbers, solving linear equations and inequalities, quadratic equations, operations on algebraic expressions, and graphing. This course requires the successful completion of the Arithmetic Basic Skills Test administered by the Department. Students not receiving a satisfactory grade on this examination at entrance are required to attend special arithmetic skills laboratory sessions, in addition to their regular class work, until they do pass this test with a satisfactory score. This course does not satisfy the General Education Requirement in Mathematics and does not count towards graduation requirements.

MATH 102 Applications of College Mathematics

## Credit 3

This course reviews sets and logic, functions and graphing, and solution of sets of linear equalities and inequalities. It includes an introduction to linear programming, combinatorial principles, and counting, with applications in the
development of probability theory and statistics, numeration systems, and computer mathematics. All topics are covered making use of current educational technology, both from the point of view of their significance within mathematics and of their applicability in modeling the world using mathematics. In addition to regular class work, this course requires the successful completion of the Arithmetic Basic Skills Test administered by the Department. Students not receiving a satisfactory grade on this examination at entrance are required to attend special arithmetic skills laboratory sessions, in addition to their regular class work, until they do pass this test with a satisfactory score. Prerequisites: MATH 101 with a grade of at least "C" or two years of high school mathematics (Algebra I or higher) plus permission of the Department (obtained by receiving a satisfactory score on the placement test).

## MATH 109 College Algebra

Credit 3
The purpose of this course is twofold: for students requiring quantitative mathematical skills but not trigonometry or calculus, it may be viewed as a terminal course; it also provides the algebraic and graphing skills necessary for satisfactory performance involving relations and functions, graphing, solving systems of linear equations, and the logarithmic and exponential functions. Prerequisites: MATH 101 with a grade of at least "C"; or two years of high school algebra, plus permission of the Department (obtained by receiving a satisfactory score on the placement test).

## MATH 110 Trigonometry and Analytic Geometry

## Credit 3

This course is intended for students majoring in mathematics, computer science, science, technology, or engineering, or for students preparing to take calculus. Topics covered include the unit circle and graphs of the trigonometric functions, trigonometric identities, trigonometric equations, inverse trigonometric functions, complex numbers, and polar coordinates. Prerequisites: MATH 109 with a grade of at least C", or three years of high school mathematics (Algebra I or higher) plus permission of the Department (obtained by receiving a satisfactory score on the placement test).

## MATH 111H Honors Elementary - Mathematical Analysis

Credit 4
This course covers the content of both MATH 109 and MATH 110 in one semester. As such, it is limited to those students with three (3) years of secondary school mathematics (including Trigonometry).

## MATH 112 Calculus I

Credit 4
This course covers differential calculus of functions of one variable, graphing, and differentiating algebraic and transcendental functions. It also covers limits, continuity, and Mean Value Theorem and applications, as well as maximizing and minimizing functions, related rate, and approximation applications. An introduction to integration is also included. Prerequisites: MATH 110 or MATH 111 H with a grade of a least " C " or better.

## MATH 210 Elementary Statistics

## Credit 3

The course covers frequency and graphs of distributions; calculation of averages from raw data and grouped data; the standard deviation; the Binomial, Poisson, and normal distribution and their properties; Bayes Theorem and Bayesian inference; Regression and correlation in two variables; and Times Series Analysis and applications. Prerequisite: MATH 102 or MATH 109 or MATH 110 or MATH 111H.

## MATH 211 Calculus II

## Credit 4

This course covers Integral calculus of functions of one variable; techniques and theory of the Riemann integral, including the fundamental theorem and its application; applications to area, volume, surface area work, centroids, arc length, and polar coordinates; advanced work with transcendental functions; and an introduction to series and sequences. Prerequisite: MATH 112.

MATH 212 Calculus III

## Credit 4

This course covers multivariable differential and integral calculus, which includes the chain rule and inverse function theorems for several variables, with applications to maxima and minima; integration in polar, cylindrical,
and spherical coordinate systems; Taylor's Theorem, infinite series; convergence tests; and applications. Prerequisite: MATH 211.

## MATH 232 Introduction to Linear Algebra

## Credit 3

This course covers vector spaces, matrices, and their algebra; linear transformations; and normal forms. Also, systems of linear equations using the Gaussian Elimination method, Cramer's rule, LU decomposition, and the inverse matrix are studied. The reduction of a matrix to row-echelon form and the use of the reduced matrix to calculate the rank of the matrix, determine the solvability of a system of linear equations and the dependence and independence of rows and/or columns of the original matrix are also included. Prerequisite: MATH 112.

## MATH 241 Elements of Differential Equations for Engineers <br> Credit 3

This course is an introduction to ordinary differential equations which presents basic techniques for solving first and second order differential equations, both linear and non-linear, and systems of differential equations. Emphasis is placed on qualitative and numerical methods, as well as on formula solutions. Prerequisite: MATH 211.

MATH 300 Foundations of Mathematics
Credit 3
This course covers sets, relations, prepositional calculus, first order theory and its model theory, completeness, incompleteness and independence theorems. Also, applications to axiomatic systems, number theory, geometry, set theory or computer science are included. Prerequisite: MATH 211.

MATH 301 College Geometry
Credit 3
This course covers basic concepts of Euclidean geometry, such as distance congruence, similarity, triangles, parallelism, Pythagorean Theorem, axiomatic geometry, Non-Euclidean geometry, and comparison with Euclidean geometry. This course is also essential as a part of the training of prospective teachers of secondary school mathematics. Prerequisite: MATH 110 or MATH 111H and MATH 300.

## MATH 302 Number Theory

## Credit 3

This course covers integers, divisibility, the Euclidean algorithm and its application, solution of Diophantine equations, prime numbers, congruencies, quadratic residues, number theoretic functions, and Mobius inversion and its applications. Prerequisite: MATH 110 or MATH 111H and MATH 300.

## MATH 304 History of Mathematics and Computer Science Credit 3

This course covers the historical and cultural development of mathematics and computer science from ancient times to the present. Emphasis is placed on the development of mathematical reasoning, style, philosophy, and techniques within cultural settings, growth of computer hardware and software; and developmental styles of applications. Prerequisite: MATH 109 or MATH 110 or MATH 111H.

## MATH 309 Introduction to Probability

## Credit 3

This course covers sample spaces, axioms, and elementary theorems of probability; it also covers combinatorics, dependence, conditional probability, random variables, probability distributions which include the Binomial, Geometric, Poisson, Negative Binomial, Hypogeometric, Uniform, Normal, Gamma, and Chi-Square, expectation, mean variance, and moment generating functions, Chebychev's inequality; examples of stochastic processes are also studied. Prerequisite: MATH 211.

## MATH 310 Mathematical Statistics I

## Credit 3

This course covers bivariate and multi-variate distributions of random variables and their properties, limit theorems (law of large numbers and the central limit theorem) transformation of variables for the discrete and continuous types, and T and F distributions; point and interval estimation; the maximum likelihood; unbiasedness; efficiency; sufficiency; MVU of estimators and other characteristics of point estimators; Cramer and Rao Blackwell Theorems, testing of hypotheses, and Neyman Pearson Lemma. Prerequisite: MATH 309.

MATH 321 Differential Equations

## Credit 4

This course covers first-order equations for which exact solutions are obtainable with applications. Higher order linear differential equations, systems of linear differential equations, Laplace transforms, non-linear differential equations, and numerical applications are also included. Prerequisite: MATH 211.

## MATH 323 Introduction to Discrete Structures

## Credit 3

Topics covered in this course include group, graph, Boolean, prepositional, and other algebraic structures through detailed study of automata and their relationship to formal languages. This course requires teams creating relatively large application programs. Prerequisites: CSDP 222.

MATH 342 Advanced Calculus

## Credit 3

This course includes a review of the real numbers, topology of Cartesian spaces, limits, convergence, continuity, differentiability, integration, infinite series and products, Fourier series, and Laplace transforms. Prerequisite: MATH 212 and MATH 300.

## MATH 350 Linear Programming

## Credit 3

This course introduces the concepts of Models, model-building and operations research methods. It includes a review of linear algebra and convexity, mathematical background; graphic method, simplex computation procedures, special cases, degeneracy, duality and its applications; transportation, production, scheduling and inventory control problems; PERT Network Analysis Techniques and game theory and software application to the solution of linear programming problems. (LINDO and MATHLAB). Prerequisites: MATH 232

## MATH 360 Statistics for Scientists

Credit 3
This course, available for departmental majors and intermediate between MATH 210 and the three-semester probability and statistics sequence, is a one-semester introduction to the methodology and application of statistics. Emphasis is placed on statistical methods commonly used in scientific and technical applications and their theoretical justification and limitations. Prerequisite: MATH 309.

## MATH 410 Mathematical Statistics II

## Credit 3

Correlation, linear and multiple regression techniques are covered mathematically as well as using available statistical software. In addition, design of experiments, analysis of covariance techniques; analysis of categorical data including the chi-square and goodness-of-fit tests, contingency tables and non-parametric statistics are covered. Prerequisites: MATH 212, MATH 232 and MATH 310.

## MATH 411 Modern Algebra I

## Credit 3

This course takes an axiomatic approach to studying the structures: groups, rings, and fields. Quotient structures, sub-structures, homomorphism and isomorphism are also included. In addition to abstract structures, numerous examples of well-known structures are investigated from the axiomatic point of view. Prerequisite: MATH 211 and MATH 300.

## MATH 412 Linear Algebra

## Credit 3

This course covers matrix algebra and determinants, vector spaces, subspaces, basis and dimension, inner product, orthogonal and orthonormal vectors and sets, Gram-Schmidt orthogonalization process, linear transformations, eigenvalues and eigenvectors, kernel and range, diagonalization of matrices, and quadratic forms. Also, application of linear algebra to Error-Correcting Codes and linear programming are covered. Prerequisites: MATH 211, MATH 232, and MATH 411.

## MATH 413 Modern Algebra II

## Credit 3

This course is a continuation of Math 411. Specific topics include Sylow's Theorems and Free Abelian Groups from Group Theory; Fundamental Homomorphisms/Isomorphisms Theorems and Ideals (Maximal) from Ring Theory; and Extension Fields leading to the study of Galois Theory. Prerequisite: Math 411.

MATH 440 Topology

## Credit 3

This is a beginning course in topology with emphasis on the development of mathematical maturity in the area. Open and closed sets, connectedness, compactness, continuous functions and homomorphisms, separation properties, and pathologies are included. Prerequisite: MATH 300 and either MATH 212 or MATH 411 or permission of instructor.

## MATH 442 Complex Analysis

## Credit 3

This course extracts numerical solutions of systems of equation by direct and iterative methods, ordinary differential equations, optimization, evaluate of determinants, matrix inversions, and calculation of eigenvalues and eigenvectors, and partial differential equations. This course makes use of the powerful MATLAB software utilizing a more practical approach and links every method to real engineering and/or science problems without deriving theoretical concepts. Prerequisites: Math 212 and MATH 300.

## MATH 443 Real Analysis I

## Credit 3

This course covers the analysis on the real line and n-space from the abstract point of view. Point sets, completeness, convergence, differentiability, Riemann integration, measurable sets and functions, Lebesque integration, differentiation vs. integration, interchange of order, Lebesque-Stieltjes integrals, dominated and other convergence theorems are included. Prerequisites: MATH 300 and either MATH 212 or permission of instructor.

MATH 444 Real Analysis II
Credit 3
This course is a continuation of MATH 443. Emphasis is placed on uniform convergence of sequences and series of functions, improper integrals, differentiation and integration in higher dimensions, inverse and implicit function theorems, introductory metric spaces, and metric space topologies. Prerequisite: MATH 443.

MATH 455 Mathematical Models
Credit 3
This course covers construction, development, and study of mathematical models for real applications; Markov chain models; models for linear optimization; and selected case studies. Prerequisites: MATH 212 and MATH 443.

MATH 490 Senior Seminar Credit 1
This course is designed for graduating seniors to acquaint them with research information and sources in the field of mathematics. The student develops and presents reports on current research problems from various fields of mathematics.

## MATH 498 Selected Topics in Mathematics Credit 3

This is a reading course recommended for all mathematics majors. The grade for this course is based primarily on a research project in an area of mathematics chosen by the student and the instructor. This course may be repeated (with different topics) for a maximum of 12 credits.

## MATH 499 Selected Topics in Mathematics Credit 3

This is a reading course recommended for all mathematics majors. The grade for this course is based primarily on a research project in an area of mathematics chosen together by the student and the instructor. This course may be repeated (with different topics) for a maximum of 12 credits.

## MECHANICAL ENGINEERING TECHNOLOGY

ETME 299 Undergraduate Research in Mechanical Engineering Technology

## Credit 1-6

This course is designed for the sophomore-senior undergraduate student who has an interest in pursuing a special problem as an independent research project. An Independent Study Contract must be prepared and submitted to the faculty adviser for the Department Chair's approval within the add period of the semester. Student cannot take more than two 299/399/499 courses for a total of 6 credits. Prerequisites: Permission of Instructor.

ETME 301 Thermodynamics and Heat Power
Credit 3
This course covers the basic laws of thermodynamics and properties of fluids. Applications of the first and second laws of thermodynamics in the analysis of basic heat engines and their cycles used in power generation will also be covered. Lecture three hours. Prerequisites: CHEM 111, MATH 211 and PHYS 122.

## ETME 303 Machine Design I

## Credit 3

This course covers design and selection of machine elements, power transmissions, shafts, couplings, keys, threaded fasteners, belts, rivets, welding, lubrication, and sleeve bearings with roller bearings. Lecture three hours. Prerequisites: CMTE 314, MATH 112 and permission of instructor.

## ETME 304 Machine Design II

Credit 3
This course covers the design and selection of machine elements, including chain drives, hoists and conveyors, brakes, clutches, power screws, gears, cams, springs, and fly wheels. Lecture three hours. Prerequisite: ETME 303.

## ETME 318 Applied Dynamics

Credit 3
This course covers systems of heavy particles and rigid bodies at rest and in motion, rectilinear motion, curvilinear motion, rotation, plane motion, work, energy, power, impulse, and momentum. Lecture three hours. Prerequisites: CMTE 313 and MATH 211.

## ETME 325 Engineering Materials

## Credit 3

This course covers the nature, properties, and behavior of materials used in engineering applications. Materials studied include metals, plastics, polymers, and composites. The production of metals, heat treatment, and powder metallurgy will also be covered. Lecture three hours. Prerequisites: CHEM 111, MATH 112, and PHYS 122.

## ETME 342 Fluid Mechanics

## Credit 3

This course covers fluid flow concepts and basic equations, laminar and turbulent flow, flow in pipes and open channels, energy and momentum equations, Bernoulli's equation, principles of flow measurements and instrumentation, fluid power, and machinery. Lecture two hours; laboratory two hours. Prerequisites: CMTE 313 and MATH 211.

## ETME 356 Manufacturing Processes Credit 3

This course covers modern industrial metal working and fabrication processes. Machines and tools used in these processes are also covered. Additionally, study includes casting, welding, cold and hot working, metal cutting processes, and quality control. Lecture two hours; laboratory two hours. Prerequisites: MATH 110 and PHYS 122.

## ETME 360 CNC Machines and Programming Credit 3

This course covers principles of numerical control, Computer Numerically Controlled (CNC) machines used in production, CNC machine capabilities, and point to point programming using G-codes and auxiliary machine control functions. Computer assisted design and computer assisted CNC machine programming are also studied. Lecture two hours; laboratory two hours. Prerequisites: CSDP 220, ETME 356 and MATH 110.

## ETME 381 Instrumentation and Measurements <br> Credit 4

This course covers the fundamental concepts of mechanical and electronic measurements of distance, velocity, acceleration, time, pressure, temperature, force, strain, and flow. Measurement systems, and application of selected instruments, with emphasis on interpretation of results are also studied. Lecture three hours; laboratory two hours. Prerequisites: CSDP 221, EDTE 212 and MATH 112.

## ETME 395 Industrial Practice

## Credit 3

This course requires work experience practice in a Mechanical Engineering Technology related field. A minimum of 10 weeks of employment is required. The supervisor of the student must submit a confidential performance evaluation
letter for the work done by the student to the faculty advisor. Students must register for the course before commencement of industrial practice for proper credit. Prerequisite: Prior approval of the faculty advisor.

## ETME 399 Undergraduate Research in Mechanical Engineering Technology

Credit 1-6
This course is designed for the sophomore-senior undergraduate student who has an interest in pursuing a special problem as an independent research project. An Independent Study Contract must be prepared and submitted to the faculty adviser for the Department Chair's approval within the add period of the semester. Student cannot take more than two 299/399/499 course for a total of 6 credits. Prerequisites: Permission of Instructor.

## ETME 423 Heating, Ventilating, and Air Conditioning

Credit 3
This course covers heat loss, heat gain, the control of temperature and humidity in buildings, and the basics of designing heating, ventilating and air conditioning systems, including sizing of pipes and ducts. Selection of HVAC equipment is also covered. Lecture two hours; laboratory two hours. Prerequisites: EDTE 132, ENGL 305, MATH 112 and PHYS 122.

## ETME 445 Computer Integrated Manufacturing

## Credit 3

This course covers principles of computer integrated manufacturing, system integration and architecture, data base development, interfaces, hardware and software requirements, communication protocols and programming. Lecture three hours. Prerequisites: CSDP 221 and ETME 356.

## ETME 475 Mechanical Systems Design I

## Credit 3

This course covers the design process; creativity, analysis, synthesis, and decision making, applications of analytical techniques and experimental results, and individual or group projects emphasizing the synthesis of a design solution to meet performance specifications. Use of computers in design and drafting will be required. Lecture two hours. Laboratory two hours. Prerequisites: CSDP 221, ETME 303 and MATH 211.

## ETME 476 Mechanical Systems Design II Credit 3

This course covers advanced individual or group design projects requiring the synthesis of analytical, experimental, and manufacturer's data for development of the design in sufficient detail to permit construction and testing or evaluation of prototype, model, or mock-up. Consideration of reliability, safety, human factors, and economics of construction are also covered. Use of computers in design and drafting will be required. Lecture two hours. Laboratory two hours. Prerequisite: ETME 475.

## ETME 499 Undergraduate Research in Mechanical Engineering Technology

Credit 1-6
This course is designed for the junior-senior undergraduate student who has an interest in pursuing a special problem as an independent research project. An Independent Study Contract must be prepared and submitted for the Department Chair's approval within the first week of the semester. Student cannot take more than two 499 courses for a total of 6 credits. Prerequisite: Consent of the instructor and approval of the Department Chair.

## MUSIC

MUSI 100 Rudiments of Music

## Credit 3

This course is a study of the basic fundamentals of music with emphasis on note-reading, musical notation, keys and key signatures, musical terms, and major and minor scale formations. An introduction to sight-singing, melodic dictation, and ear training may be included. This course may not be applied toward the music core requirement. OPEN TO ALL STUDENTS. Three hours lecture per week.

MUSI 101 Introduction to Music

## Credit 3

An introductory course in which the acquisition of designated skills and knowledge serves as a means of musical enjoyment. Basic music repertoire is included. OPEN TO ALL STUDENTS; however, music majors can receive credit towards general education requirements only. Three hours lecture per week.

## MUSI 101 Honors

## Introduction to Music-Honors

## Credit 3

An introductory course in which the acquisition of designated skills and knowledge serves as a means of musical enjoyment. Basic music repertoire is included. Round-table discussions and background research enhance the course for honors students. Three hours lecture per week. OPEN TO HONORS STUDENTS ONLY. Consent required.

MUSI 102 Music Theory and Application I

## Credit 4

This course is a study of the materials and basic stylistic elements of music. Skills in ear-training, sight-singing, melodic dictation, and intervallic and triadic recognition are developed. Through original composition and analysis of music literature, students are introduced to basic techniques of melody-writing, counterpoint, harmony, form, and orchestration. Courses must be taken sequentially. Three hours lecture and two hours laboratory per week. Prerequisite: MUSI 189 with a minimum grade of C, or consent of the instructor.

## MUSI 103 Music Theory and Application II Credit 4

This course is a continuation of the study of the materials and basic stylistic elements of music. Skills in ear-training, sight-singing, melodic dictation, and intervallic and triadic recognition are developed. Through original composition and analysis of music literature, students are introduced to basic techniques of melody-writing, counterpoint, harmony, form, and orchestrations. Three hours lecture and two hours laboratory per week. Prerequisite: MUSI 102 with minimum grade of C , or consent of the instructor.

## MUSI 104 Woodwind Methods

## Credit 1

This course explores exploration of the fundamentals of performance on selected woodwind instruments. Fundamentals of breath control, characteristic tone, attack and the development of a good embouchure are applied. The student develops sufficient ability to perform on two instruments and gain pedagogical principles of the others.

MUSI 105 Percussion Methods
Credit 1
This course the fundamentals of performance on selected instruments of the percussion family. The student will develop ability to perform on two percussion instruments, and gain pedagogical principles of the others. Instruction in the class also includes methods and materials, care and maintenance, and the role of the percussion section in a school band or orchestra. Two hours laboratory hours per week.

## MUSI 106 String Methods

## Credit 1

This course is an exploration of the fundamentals of performance on instruments of the string family. The student develops basic ability to perform on two string instruments and gain pedagogical principles on the others. Instruction in the class also includes performance methods and materials, care and maintenance of instruments, and the role of the string section in an orchestra. Two laboratory hours per week. Prerequisites: Music majors only, or with consent of instructor

MUSI 107 Brass Methods

## Credit 1

This course is an exploration of the fundamentals of performance on selected instruments of the brass family. Fundamentals of breath control, characteristic tone, attack and the development of good embouchure are studied. The student develops basic ability to perform on two instruments and gain pedagogical principles of the others. Performance methods and materials, care and maintenance, and the role of the brass instruments in school bands and orchestras are studied. Two laboratory hours per week. Prerequisites: Music majors only, or with consent of instructor.

MUSI 108 Voice Methods

## Credit 1

This is a course in which voice classification, general vocal problems, and solutions to these problems are studied. Correct breathing, tone reproduction, and diction are applied and functional repertoire initiated. A proficiency examination is given at the end of the course. Two laboratory hours per week. Prerequisites: Music majors only, or with consent of instructor.

## Credit 3

This course explores the styles and researches historical events which contributed to the evolution of the types of music called jazz. The philosophical and sociological relationships to the development of jazz from the late 1800's to the present are the primary focus of the course. The basic elements of music and performance practices are studied. OPEN TO ALL STUDENTS. Lecture, three hours.

## MUSI 110A Preparatory Piano Class

## Credit 1

This is a study of elementary piano skills designed for students with limited or no previous training. The course may be repeated for credit; however, no credit toward the Music Education degree is granted. Required of Music Education majors who do not qualify for MUSI 205 or MUSI 111, and must be repeated until performance competencies at these levels are met. A proficiency examination is administered. A grade of C or better must be earned before continuation to MUSI 110B. OPEN TO MUSIC MAJORS ONLY.

## MUSI 110B Preparatory Piano Class

## Credit 1

This is a continuation of MUSI 110A. The course may be repeated for credit; however, no credit toward the Music Education Degree is granted. Required of Music Education majors who do not qualify for MUSI 205 or MUSI 111 and must be repeated until performance competencies at these levels are met. A proficiency examination is administered. A grade of C or better must be earned before registration for MUSI 205 or MUSI 111. OPEN TO MUSIC MAJORS ONLY.

## MUSI 111 Major Applied with Selected Topics

Credit 1-2
In this course, directed sequential instruction is provided with emphasis on technique development and literature studies. One 50 -minute lesson per week; a minimum of six practice hours per week is recommended. A proficiency examination is required of Music majors with a faculty jury at the end of the semester. Repeatable for credit with a different topic. Prerequisite: Consent of the instructor.

## MUSI 112 Major Applied with Selected Topics Credit 1-2

In this course, directed sequential instruction is provided with emphasis on technique development and literature studies. One 50 -minute lesson per week; a minimum of six practice hours per week is recommended. A proficiency examination is required of Music majors with a faculty jury at the end of the semester. Repeatable for credit with a different topic. Prerequisite: MUSI 111 or consent of the instructor.

## MUSI 113 Concert Band Credit 1

In this course, the rehearsal, study, and performance of standard and non-standard concert band literature will be explored. OPEN TO ALL STUDENTS WHO QUALIFY. Course is repeatable for credit a maximum of ten times at 1 credit each for a total of 10 credits. Prerequisite: Audition or consent of instructor.

## MUSI 114 Jazz Band

## Credit 1

In this course, the rehearsal, study, and performance of standard and non-standard jazz band literature will be explored. OPEN TO ALL STUDENTS WHO QUALIFY. Course is repeatable for credit a maximum of ten times at 1 credit each for a total of 10 credits. Prerequisite: Audition or consent of instructor.

MUSI 116 Concert Choir

## Credit 1

In this course, the rehearsal, study, and performance of standard and non-standard choral literature will be explored. OPEN TO ALL STUDENTS WHO QUALIFY. Course is repeatable for credit a maximum of ten times at 1 credit each for a total of 10 credits. Prerequisite: Audition or consent of instructor.

MUSI 117 Gospel Choir

## Credit 1

In this course, the rehearsal, study, and performance of standard and non-standard gospel music literature will be explored. OPEN TO ALL STUDENTS WHO QUALIFY. Course is repeatable for credit a maximum of ten times
at 1 credit each for a total of 10 credits. Prerequisite: Audition or consent of instructor. Does not fulfill Music major ensemble requirements.

MUSI 121 First Year Experience

## Credit 1

This course is designed to promote the development of skills for student success, such as reading, writing and speaking. The course will familiarize students with the resources available to them at UMES and help students in making the transition to university life. FOR JAZZ/POPULAR MUSIC MAJORS ONLY. Music Education majors should register for First Year Experience through the Education Department (EDCI 100).

## MUSI 131 Introduction to Music Theory I <br> Credit 2

This is the first part of an intense, detailed study of fundamental music theory skills designed for students with limited or no previous training, as a preparation for MUSI 102. Emphasis in this course is on rhythmic and notation skills, both aural and written. These credits do not count toward the Music Education or Jazz and Popular music degree. Required of Music majors who do not qualify for MUSI 102. A proficiency examination is administered. Two hours lecture-laboratory per week. A grade of C or better must be earned before continuation to MUSI 132. Prerequisites: OPEN TO MUSIC MAJORS AND MINORS ONLY.

## MUSI 132 Introduction to Music Theory II

## Credit 3

This is the second part of an intense, detailed study of fundamental music theory skills designed for students with limited or no previous training, as a preparation for MUSI 102. Emphasis in this course is on scales, key signatures, intervals, and basic harmonic functions. These credits do not count toward the Music Education or Jazz and Popular music degree. Required of Music majors who do not qualify for MUSI 102. A proficiency examination is administered. Three hours lecture-laboratory per week. Prerequisites: MUSI 131 with a grade of C or better. OPEN TO MUSIC MAJORS AND MINORS ONLY.

## MUSI 141 Small Ensemble: Jazz Combo

## Credit 1

Study, rehearsal, and performance of jazz literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credits a maximum of ten times. Prerequisites: audition and consent of instructor. MUSI 102 and one year of applied lesson is recommended.

## MUSI 142 Small Ensemble: Saxophone Ensemble

## Credit 1

Study, rehearsal, and performance of saxophone literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

## MUSI 143 Small Ensemble: Woodwind Ensemble Credit 1

Study, rehearsal, and performance of woodwind literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

MUSI 144 Small Ensemble: Brass Ensemble

## Credit 1

Study, rehearsal, and performance of brass literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

MUSI 145 Small Ensemble: String Ensemble

## Credit 1

Study, rehearsal, and performance of string literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

MUSI 146 Small Ensemble: Vocal Ensemble - Jazz/Pop

## Credit 1

Study, rehearsal, and performance of vocal jazz literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

MUSI 147 Small Ensemble: Vocal Ensemble - Traditional Credit 1
Study, rehearsal, and performance of vocal literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

## MUSI 148 Small Ensemble: World Drumming Credit 1

Study, rehearsal, and performance of world drumming music, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

## MUSI 149 Small Ensemble: Percussion Ensemble Credit 1

Study, rehearsal, and performance of percussion literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

## MUSI 150 Small Ensemble: Piano Ensemble Credit 1

Study, rehearsal, and performance of piano literature of various time periods and styles, specifically for small ensembles. Minimum two hours per week. Course is repeatable for credit a maximum of ten times. Prerequisites: Audition and consent of instructor, MUSI 102 and one year of applied lessons is recommended.

## MUSI 161 Survey of World Music

Credit 3
This course is a survey of world music, forms, styles, social and political influences and the variety of musical instruments. This course may not be applied toward the music core requirement. OPEN TO ALL STUDENTS. Three hours lecture per week.

MUSI 201 Harmony

## Credit 3

This course is a continuation of harmonic principles introduced in MUSI 102 and MUSI 103, with emphasis placed upon the study of harmonic progressions, figured bass realization, modulation, and altered chords, as practiced in the eighteenth century. Some composition in small forms is required. Analysis of eighteenth and nineteenth century literature is included, with an introduction to twentieth century harmonic practices. Three hours lecture-laboratory per week. Prerequisite: MUSI 103 with minimum grade of C or consent of Instructor.

MUSI 203 Form and Analysis

## Credit 3

This course is a study of motive, phrase, sentence structure, song forms, sonata, rondo, and other primary musical forms. Harmonic and structural analysis of selected 17th through 21st century compositions are explored. Aural and written experiences are undertaken. Three one-hour lectures per week. Prerequisite: MUSI 201 with a minimum grade of C or consent of instructor.

## MUSI 205 Piano Class I

## Credit 1

This course is a study of piano techniques useful for school and community playing. Scales, arpeggios, chordal techniques, melody and accompaniment playing, transposition, sight-reading, and improvisation are included. A proficiency examination is administered at the end of the semester with evaluation made by a faculty jury. Two laboratory hours per week. Prerequisite: MUSI 110B with a minimum grade of C , or an audition. OPEN TO MUSIC MAJORS ONLY.

## Credit 1

This course is a continuation of MUSI 205, and includes study of piano techniques useful for school and community playing. Scales, arpeggios, choral techniques, melody and accompaniment playing, transposition, sight-reading, and improvisation are included. A proficiency examination is administered at the end of the semester with evaluation made by a faculty jury. Two laboratory hours per week. Prerequisite: MUSI 205 with a minimum grade of C, or an audition. OPEN TO MUSIC MAJORS ONLY.

## MUSI 211 Major Applied with Selected Topics

## Credit 1-2

In this course, directed sequential instruction is provided with emphasis on technique development and literature studies. One 50 -minute lesson per week; a minimum of six practice hours per week is recommended. A proficiency examination is required of Music majors with a faculty jury at the end of the semester. Repeatable with credit for a different topic. Prerequisite: MUSI 112 with a minimum grade of C , or consent of the instructor.

## MUSI 212 Major Applied with Selected Topics

Credit 1-2
In this course, directed sequential instruction is provided with emphasis on technique development and literature studies. One 50 -minute lesson per week; a minimum of six practice hours per week is recommended. A proficiency examination is required of Music majors with a faculty jury at the end of the semester. Repeatable for credit with a different topic. Prerequisite: MUSI 211with a minimum grade of C , or consent of the instructor.

## MUSI 231 Improvisation I

Credit 2
This course covers the basic mechanics of improvising within the jazz idiom. Rudimentary harmonic and melodic material of master jazz improvisers from the swing through post-bop era will be examined. Modal compositions and blues progressions will be studied for chord/scale relationships. Two one-hour lectures per week. Prerequisite: MUSI 103 or permission of instructor.

MUSI 232 Improvisation II
Credit 2
This course covers intermediate mechanics of improvising within the jazz idiom. More complex harmonic and melodic material of master jazz improvisers from the swing through post-bop era will be examined. Jazz standards as well as more modern compositions will be studied for chord/scale relationships. Two one-hour lectures per week. Prerequisite: MUSI 103 and MUSI 231 or permission of instructor.

## MUSI 302 Junior Recital <br> Credit 2

This course will serve as a culmination of the students' work at this point in their program of study. Students will present a full 60 minute recital of works selected in collaboration with their instructor. This recital will give the student the experience of preparing a recital and presenting it to the public. Prerequisite: Approval of instructor.

## MUSI 306 Instrumentation and Arranging Credit 3

This course is a study of instrumental and vocal colors, sounds, and technical capabilities of orchestral instruments and voices. Students acquire practical skills in functional arranging of various types of music. Three lecturelaboratory hours per week. Prerequisite: MUSI 203 with a minimum grade of C , or consent of the instructor.

MUSI 307 Jazz and Popular Music Arranging

## Credit 2

This course will provide students with the ability to arrange music for ensembles. Students will study melodic harmonization techniques of jazz and popular arrangers. Students will study voicing, coupling, transposition and other aspects of the arranging process. Two lecture-lab hours per week. Prerequisite: MUSI 201 and 306 with a grade of C or better, or consent of instructor.

MUSI 308 Conducting

## Credit 2

This is a laboratory course in conducting through score-reading. Baton and hand techniques, conducting patterns, rehearsal techniques, and communicative gestures for vocal and instrumental literature of various periods will be
included. Two hours lecture-laboratory per week. Prerequisites: MUSI 203 and MUSI 306 with a grade of C or better, or consent of the instructor.

MUSI 309 Piano Class III

## Credit 1

This course is a continuation of technical skills introduced in MUSI 205 and 206, with additional emphasis on accompanying vocal and instrumental literature, improvisation in classical and popular styles, chordal progressions, modulation, reduction of four-part open score, and weekly ensemble playing. Two laboratory hours per week. Prerequisites: MUSI 206 with a minimum grade of C , or consent of the instructor.

## MUSI 310 Piano Class IV

## Credit 1

This course is a continuation MUSI 309, with additional emphasis on accompanying more advanced vocal and instrumental literature, improvisation in classical and popular styles, chordal progressions, modulation, reduction of four-part open score and ensemble playing. Two laboratory hours per week. Prerequisites: MUSI 309 with a minimum grade of C , or consent of the instructor.

## MUSI 311 Major Applied with Selected Topics

## Credits 1-3

In this course, directed sequential instruction is provided, with emphasis on technique development and literature studies. One 50 -minute lesson per week; a minimum of six practice hours per week is recommended. A proficiency examination is required of Music majors with a faculty jury at the end of the semester. Repeatable for credit with a different topic. Prerequisite: MUSI 212 with a grade of C or better, or consent of instructor.

## MUSI 312 Major Applied with Selected Topics

Credits 1-3
In this course, directed sequential instruction is provided with emphasis on technique development and literature studies. One 50 -minute lesson per week; a minimum of six practice hours per week is recommended. A proficiency examination is required of Music majors with a faculty jury at the end of the semester. Repeatable for credit with a different topic. Prerequisite: MUSI 311 with a grade of C or better, or consent of instructor.

## MUSI 313 Music History and Literature I Credit 2

This is a survey course designed to explore the evolution of music in Western Civilization. Musical forms, styles, social and political influences on music, periods of major importance, and characteristic elements associated with instrumental, vocal, and theoretical contributions are stressed. Selected recordings, scores, and elements of research in music history are included. This course covers the Grecian Era to the seventeenth century. Three lecture hours per week. Prerequisites: MUSI 201 and MUSI 203 with a minimum grade of C, or consent of the instructor.

## MUSI 314 Music History and Literature II Credit 2

This course is a continuation of MUSI 313. This course covers the seventeenth century to the present. Three lecture hours per week. Prerequisite: MUSI 313 with a minimum grade of C , or consent of the instructor.

## MUSI 321 American Music

## Credit 3

The broad range of musical influences on Americans since the 16th Century is a strong reflection of our everbroadening and diverse cultural influences. This course seeks to delineate the specific cultural influences from outside the continent, and to show how those influences evolved into a unique American music. The course will also familiarize students with the origins and evolutions of the "melting-pot" that is America through the examination of its music and the music of the cultures that make up that "melting-pot." Through extensive listening examples, readings, and lectures, the students will be guided through the panorama of America's musical landscape. Prerequisites: MUSI 109; MUSI 103; junior standing.

MUSI 402 Senior Recital
Credit 2-3
This course is preparation of a full or half recital in the major applied area. At the conclusion of the course, the student will give a public performance of approved prepared materials. Prerequisite: Consent of instructor. *Not for Jazz/Popular Music Majors

## MUSI 403 Senior Project

Credit 3
Senior Project will serve as the capstone course to the BA in Jazz and Popular Music degree. The senior project may consist of the following:

1. Full recital with analysis and extensive program notes. OR
2. Half recital accompanied by a senior thesis related to the recital material. OR
3. Half recital accompanied by supervised internship in the field of music.

Prerequisite: MUSI 302; senior standing; and instructor's consent.
MUSI 405 Special Topics in Music - Variable Topics

## Credit 3

This course is an upper level course focused on specific topics chosen by music faculty. Topics and faculty will rotate each semester. Course may be repeated for credit with different topics. Prerequisites: MUSI 201; MUSI 313; consent of the instructor.

## MUSI 407 Advanced Jazz and Popular Arranging Credit 3

This course will provide students with the skills to arrange music for large ensembles. Students will study advanced melodic harmonization techniques of jazz and popular arrangers. Students will study voicing, coupling, transposition and other aspects of the arranging process. Can be used to substitute for one semester of MUSI 405 Special Topics. Prerequisites: MUSI 103; MUSI 306; MUSI 307; consent of the instructor.

MUSI 411 Major Applied with Selected Topics
Credits 1-3
In this course, directed sequential instruction is provided with emphasis on technique development and literature studies. One 50 -minute lesson per week; a minimum of six practice hours per week is recommended. A proficiency examination is required of Music majors with a faculty jury at the end of the semester. Repeatable for credit with a different topic. Prerequisite: MUSI 312 with a grade of C or better, or consent of instructor.

MUSI 412 Major Applied with Selected Topics
Credits 1-3
In this course, directed sequential instruction is provided with emphasis on technique development and literature studies. One 50 -minute lesson per week; a minimum of six practice hours per week is recommended. A proficiency examination is required of Music majors with a faculty jury at the end of the semester. Repeatable for credit with a different topic. Prerequisite: MUSI 411with a grade of C or better, or consent of the instructor.

## NATURAL RESOURCES

## NRES 151 Introduction to Urban Forestry <br> Credit 3

This course involves learning about the care and management of tree populations in urban settings for the purpose of improving the urban environment. Lecture 2 hours, laboratory 2 hours. Prerequisites: PLSC 184 and PLSC 185.

## NRES 201 Dendrology

## Credit 4

This course involves the identification of selected woody plants, including trees, shrubs and woody vines. Emphasis is on species of the northeastern United States. Lecture 3 hours, laboratory 2 hours. Prerequisites: PLSC 184 and PLSC 185.

NRES 333 Silviculture

## Credit 3

This course involves understanding the science, and learning how to manage and handle forest trees with respect to human objectives. Lecture 2 hours, laboratory 2 hours. Prerequisites: NRES 151.

NRES 403 Advanced Aquaculture
Credit 3
This course covers the fundamentals of commercial fish and other marine animal production, including basic principles of pond and tank production, management, nutrition and disease control. Also listed as ANPT 403.

## NRES 404 Conservation Biology

## Credit 3

The course is an introduction to the principles of conservation biology, with an emphasis on application of ecological principles, management tools and case history studies related to conservation issues. Prerequisite: BIOL 402 or equivalent. This course is cross-listed with BIOL 404.

NRES 433 Forest Ecology

## Credit 3

This course is a comprehensive analysis of the distribution, structure, and dynamics of forest ecosystems. Topics include paleoecology of forests, ecophysiology of forest trees, disturbance, succession and community analysis, primary productivity, and nutrient cycling. Lecture 2 hours, laboratory 2 hours. Prerequisites: PLSC 184 and PLSC 185, NRES 151.

## NRES 473 Ornithology

## Credit 3

This course covers general biology, taxonomy, and natural history of birds, with an emphasis on North American families. This course is cross-listed with NRES 673. Prerequisites: BIOL 111, BIOL 113, BIOL 112, BIOL 114 or permission of instructor.

NRES 474 Forest Mensuration
Credit 3
This course is to develop basic knowledge and skills in urban forest resource inventory topics including tree content estimation, forest sampling, and stand yield prediction. Lecture 2 hours, laboratory 2 hours. Prerequisites: NRES 151.

NRES 475 Urban Affairs and Planning
Credit 3
This course is to develop basic knowledge and understanding of the complexity and diversity of the urban environment, and the policy and management processes that affect it. Lecture 3 hours.

## DEPARTMENT OF NATURAL SCIENCES

DNSC 100 Freshman Seminar

## Credit 1

This course is designed to facilitate the adjustment of freshman science majors to college life. Aspects of preparing students for career opportunities, professional development, adjustments needed to succeed in college, study and test taking skills, crisis or stress management, and understanding the significance of the land-grant system will be discussed. Other topics include note taking, time management, conflict resolution, proper use of a science textbook, analyzing graphs and figures, test taking skills, preparing laboratory reports, and adapting to instructor style.

DNSC 400 Senior Proficiency Seminar

## Credit 1

DNSC 400 is a one credit-hour core requirement for biology, chemistry, and environmental science majors, designed to evaluate the proficiency of senior level students in their major coursework. It is a capstone course which provides students with the opportunity for the comprehensive review of the basic concepts of their major courses. Prerequisite: Students must have completed 84 credit hours or above with a cumulative GPA of 2.0 or higher.

## NUTRITION AND DIETETICS

## NUDT 210/Online Elements of Nutrition

## Credit 3

This is an introductory level nutrition course, which covers the fundamental concepts, nutrient functions, and human nutritional requirements.

## NUDT 211 Scientific Principles of Food I

Credit 3
This is a fundamental course in food preparation based on physical, chemical, and nutritional changes occurring in food. Government regulations governing food and food safety are also covered. Product evaluation using sensory techniques is emphasized. One lecture and two laboratories. OPEN TO MAJORS AND MINORS ONLY.

This is a continuation of NUDT 211. Students are required to carry out individual and group projects to further their understanding of the principles covered. Prerequisite: NUDT 211. One lecture and two laboratories. OPEN TO MAJORS AND MINORS ONLY.

## NUDT 214 Infant and Child Nutrition

## Credit 3

The course is the study of nutrition from conception through adolescence, including factors affecting nutrient requirements, food choices, and nutritional problems. Special emphasis is placed on managing feeding problems and the relationship between nutrition, and physical and mental development.

## NUDT 300 Essentials of Nutrition Practice <br> Credit 1

This course introduces the student to nutrition/dietetics practice. It includes a review of the history of the profession as well as the educational and experiential requirements for the nutrition practice. Course content includes legislation, standards, and regulations affecting practice; professional and bioethics; career opportunities; and factors which affect the delivery of nutrition services. The course is open to junior or senior level nutrition/dietetics majors.

## NUDT 305 Nutrition in the Life Cycle

Credit 3
This course will provide students with an understanding of the nutritional requirements and related health concerns occurring throughout the life cycle. Course covers relevant topics including growth and development, nutrient needs, assessment of nutritional status and special problems associated with stages of the life cycle starting from conception through adulthood and aging. Prerequisite: NUDT 210, or permission of the instructor. OPEN TO MAJORS AND MINORS ONLY.

## NUDT 310 Nutrition Education and Counseling

Credit 3
This course includes a study of nutrition education and counseling principles and techniques; students explore counseling strategies used to assess and modify nutrition behaviors. Prerequisite: PSYC 100. This course is crosslisted with NUDT 499F. OPEN TO MAJORS AND MINORS ONLY.

## NUDT 391 Nutritional Sciences I <br> Credit 3

This course examines the biochemical and physical bases of human nutritional requirements. It covers the digestion and metabolism of carbohydrates, proteins, fats, minerals and vitamins. Prerequisites: CHEM 211+213 and $212+214$. This course is cross-listed with NUDT 499C. OPEN TO MAJORS AND MINORS ONLY.

## NUDT 392 Nutritional Sciences II Credit 3

This course is a continuation of NUDT 391. Survey of current literature and research in nutrition is also included. Prerequisites: NUDT 391 and CHEM 341+343. This course is cross-listed with NUDT 499A. OPEN TO MAJORS AND MINORS ONLY.

## NUDT 401 Clinical Nutrition I Credit 4

This course involves the application of nutritional concepts to the treatment of disease states. Concepts and/or skills acquired include nutrition screening/assessment, food/drug/herbal interaction, and principles of nutrition care management including nutrition support. Prerequisite: NUDT 392. This course is cross-listed with NUDT 499I. OPEN TO MAJORS AND MINORS ONLY.

## NUDT 402 Clinical Nutrition II

## Credit 4

This course is a continuation of NUDT 401; concepts and skills acquired in NUDT 401 are expanded to include nutrition management of diseases affecting organ systems and in-born errors of metabolism. Prerequisite: NUDT 401. This course is cross-listed with NUDT 499D. OPEN TO MAJORS AND MINORS ONLY.

## Credit 3

This course focuses on foodservice systems organization and management. Students explore concepts and applications of food safety principles, menu planning, purchasing, production, service, and resource management. Content also includes marketing strategies and use of computer technology in foodservice operations. Course combines didactic and laboratory offerings. Open to Juniors and Seniors. Prerequisites: NUDT 211 and NUDT 212. This course is cross-listed with NUDT 499H.

## NUDT 472 Foodservice Management Practicum

## Credit 2

This course focuses on the application of foodservice systems management strategies. Students explore applications of food safety principles, menu planning, purchasing, production, service, and resource management in an institutional foodservice setting. Senior level dietetics majors or permission of instructor is required. Students must have 40 clock hours for each credit hour of practicum field experience. Co-requisite: NUDT 471 (cross-listed with NUDT 499J).

## NUDT 473 Community Nutrition Credit 3

This course involves a study of planning, implementation and evaluation of nutrition programs. Strategies and resources for community needs assessment, health promotion and disease prevention; programming and funding are also included. Prerequisites: NUDT 310 or permission of the instructor. This course is cross-listed with NUDT 499E.

## NUDT 475 Senior Practicum

Credit 3
This course involves experiential learning designed to allow students to observe and practice the role of a nutrition practitioner in a health care setting. Students will have experiences in community and clinical domains. Students must complete 40 clock hours for each credit hour. Prerequisite: Senior level status. OPEN TO MAJORS ONLY.

NUDT 484 Nutrition Research
Credit 3-5
This course requires students to understand the principles of basic experimental design and plan and carry out a specific project in their area of interest. Prerequisites: Senior level status and permission of the instructor. This course is cross-listed with 499G.

## NUDT 485 International Nutrition <br> Credit 3

This course will explore international aspects of nutrition, including global nutrition concerns, world hunger and malnutrition. Local, national, and international programs involved in program planning and improvement will be investigated.

## NUDT 499 Independent Study/Undergraduate Research Credit 1-5

This course is designed for nutrition and dietetics majors wishing to explore topics of special interest through an independent study. Students must obtain prior approval of the independent project from the course instructor, and permission of the department chair. OPEN TO MAJORS AND MINORS ONLY.

| NUDT 499A | Nutritional Science II | Credit 3 |
| :--- | :--- | :--- |
| NUDT 499B | Senior Practicum | Credit 4 |
| NUDT 499C | Nutritional Science I | Credit 3 |
| NUDT 499D | Clinical Nutritional II | Credit 3 |
| NUDT499E | Community Nutrition | Credit 3 |
| NUDT 499F | Nutrition Education \& Counseling | Credit 3 |
| NUDT499G | Nutrition Research | Credit 3-5 |
| NUDT499H | Foodservice Systems Management | Credit 3 |
| NUDT499I | Clinical Nutrition I | Credit 3 |

## PHILOSOPHY

## PHIL 201 Introduction to Logic

## Credit 3

This course will be concerned with propositional logic, a major deductive system of symbolic logic. Attention will be paid to the uses of symbolic logic in identifying and evaluating reasoning in ordinary language arguments. Both traditional and symbolic logic will be studied. CA I requirements.

## PHIL 202 Ethics <br> Credit 3

This course involves the study of the major philosophers (i.e., Aristotle, Hobbes, Hume, Mill, Kant, etc.). Their distinctive approaches to ethics are presented. Also explored will be the relevance of their views to current debates in moral philosophy. Fundamental questions will be used that reflect on ethical issues. Meets GEN ED CURR AREA I requirements.

## PHYSICS

## PHYS 101 Theories and Applications of Physical Science Credit 3

Physical Science is about the rules of the physical world-physics, chemistry, astronomy, geology and meteorology. This is a one-semester course intended for the non-science major. Because of the scope of these sciences, Physical Science is usually team taught whenever resources permit. Until team teaching becomes possible, choice of subject has been limited to Physics. As we assume little or no preparation on the part of the student, our choice of topics and how far to develop them is limited to emphasis on the basic concepts of each subject. This course satisfies the UMES general education requirement curriculum area III. There are three one-hour lectures per week. Prerequisites: High School Algebra or MATH 101.

## PHYS 103 Physical Science Laboratory Credit 1

This course consists of two hours laboratory work per week. Selected fundamental experiments basic to physical science are designed to provide the student opportunities to learn practical knowledge necessary for a well-rounded understanding of physical science. Laboratory fee required.

## PHYS 121 General College Physics I

## Credit 3

This is the first semester of the two-semester course designed to provide the student with an overall view of the concepts, together with the ability to set-up and solve simple problems in physics. Areas covered include particle mechanics, heat, thermodynamics, and sound. This is a non-calculus based physics course. The course consists of three hours lecture per week. Prerequisite: MATH 109. Co-requisite: PHYS 123.

## PHYS 122 General College Physics II

## Credit 3

This is the second semester of the two-semester course in non-calculus based physics. Areas covered include: electricity, magnetism, light, and selected topics in modern physics. The course consists of three hours lecture per week. Prerequisite: PHYS 121. Co-requisite: PHYS 124.

## PHYS 123 General College Physics I Laboratory Credit 1

This course consists of two hours laboratory work per week. Standard laboratory experiments are selected to provide the student with practical knowledge of Physics and to enhance knowledge gained in the classroom. This course should be taken in concurrence with PHYS 121. Laboratory fee required.

## PHYS 124 General College Physics II Laboratory Credit 1

This course consists of two hours laboratory work per week. Standard laboratory experiments are selected to provide the student with practical knowledge of Physics and to enhance knowledge gained in the classroom. This course should be taken in concurrence with PHYS 122. Laboratory fee required.

## PHYS 161 General Physics I Mechanics and Particle Dynamics Credit 3

This is the first semester of a three-semester calculus based course in general physics (see PHYS 262, PHYS 263). Areas covered include laws of motion, energy conservation, linear momentum, collisions, rotation and angular momentum, universal gravitation and fluid mechanics. Registration in the laboratory part of the course is required. Three lectures per week. Prerequisites: High School Physics and MATH 112. Co-requisite: PHYS 163. Concurrent registration in MATH 211 is recommended.

PHYS 163 General Physics Laboratory I

## Credit 1

This is a three-hour per week laboratory course associated with General Physics I. Laboratory exercises relate to the material covered in the lectures. The course introduces students to the modern tools of collecting and analyzing data. Labs are computer based, and extensive use of a spreadsheet program is made to analyze, plot, and interpret data. Pre-requisites: High school physics and basic knowledge of using a computer and a spreadsheet program. Corequisite: PHYS161. Laboratory fee required.

## PHYS 181/Honors Introductory Physics I Credit 3

This is the first semester of a two-semester calculus-based sequence in introductory physics. Topics include Newtonian mechanics, hydrostatics, thermal physics, and mechanical waves. The detailed subject matter for the course is chosen to emphasize physical principles and their applications, which are essential to an understanding of contemporary physics. Registration in the laboratory part of the course is required. Three lectures and one-hour discussion session per week. Prerequisites: High School Physics and MATH 112. Co-requisite: PHYS 183H. Concurrent enrollment in MATH 211 is recommended.

## PHYS 182/Honors Introductory Physics II Credit 3

This is the second half of the two-semester course in calculus-based introductory physics. Areas covered include electrostatics, electrodynamics, geometrical and physical optics, and selected topics in modern physics. Three lectures and one-hour discussion session per week. Registration in the laboratory part of the course is required. Prerequisites: PHYS 181H and PHYS 183H. Co-requisite: PHYS 184H.

## PHYS 183//Honors Introductory Physics Laboratory I

## Credit 1

The course consists of one three-hour laboratory session per week to accompany PHYS181H. Laboratory exercises are designed to relate to the material covered in the accompanying course. Experiments are computer based, and a spreadsheet program is used to analyze, plot, and interpret data. Pre-requisites: High school physics and basic knowledge of using a computer and a spreadsheet program. Co-requisite: PHYS181H. Laboratory fee required.

## PHYS 184/Honors Introductory Physics Laboratory II Credit 1

The course consists of one three-hour laboratory session to accompany PHYS182H. Laboratory exercises are designed to reinforce the material covered in the accompanying course. Most experiments are computer based. Prerequisites: PHYS181H and PHYS 183H. Co-requisite: PHYS182H. Laboratory fee required.

## PHYS 262 General Physics II Waves, Heat, Electricity Credit 3

This course consists of three lecture sessions per week. This is a second semester of a calculus based, three-semester course in general physics. Areas covered include: vibrations, waves, heat kinetic theory, thermodynamics, electrostatics, and DC circuits. Registration in the laboratory part of the course is required. Prerequisites: PHYS 161 and PHYS 163. Co-requisite PHYS 264.

## PHYS 263 General Physics III: Magnetism, Electrodynamics, Optics and Modern Physics Credit 3

This is the third semester of a calculus-based general physics course. Areas covered include: Magnetism, electrodynamics, geometrical and physical optics, and selected topics in modern physics. Registration in the laboratory part of the course is required. Three lectures per week. Prerequisites: PHYS 262 and PHYS 264, or PHYS 182H and PHYS 184H. Co-requisite: PHYS 265.

Credit 1
This is a three-hour per week laboratory session associated with General Physics II. Several of the laboratory exercises are computer based and focus on reinforcing the material covered in the accompanying course. Prerequisites: PHYS161 and PHYS163. Co-requisite: PHYS262. Laboratory fee required.

## PHYS 265 General Physics Laboratory III <br> Credit 1

This is a three-hour per week laboratory course intended for students enrolled in General Physics III. Experiments are designed to reinforce the material covered in the accompanying course. Modern tools are used to gather, analyze and plot data. Pre-requisites: PHYS262 and PHYS264; or PHYS 182H and PHYS 184H. Co-requisite: PHYS263. Laboratory fee required.

## PHYS 283 Modern Optics

## Credit 3

This course presents an in-depth discussion of the principles of geometrical and physical optics. Approximately one-fourth of the course is devoted to geometrical optics and one-half to wave optics, including wave motion and interference, diffraction, polarization, and dispersion, etc. The remaining one-fourth of the semester is devoted to quantum optics which includes recent developments in the fields of lasers. Prerequisites: PHYS 182H and PHYS 184H; or PHYS 263 and PHYS 265.

## PHYS 423 Modern Physics

Credit 3
This course is a survey of atomic and nuclear phenomena, special relativity, origin of quantum theory. Bohr atom, wave mechanics, atomic structure and optical spectra. This course consists of three one- hours lecture per week. Prerequisites: PHYS 182H and PHYS 184H; or PHYS 263 and PHYS 265.

## PHYS 497 Physics Seminar <br> Credit 1

This course will discuss various current topics in physics. Prerequisite: One year of physics with " $B$ " or better grade. It is open only with consent of instructor. Designed for juniors or seniors who have an interest in pursuing a special problem as a research project.

## PHYS 498 Independent Study Credit 1-3

This course is designed to enhance student comprehension of specific physics subject area. It is open to juniors and seniors with consent of instructor only. Student may register for $1,2,3$ or 4 cr. but should repeat the course to accumulate the number of credits required in the core program.

## PHYS 499 Undergraduate Research Credit 1-4

This course is designed for juniors or seniors who have an interest in pursuing a special problem as a research project. It is open only with the consent of instructor. Student may register for $1,2,3$ or 4 cr . but should repeat the course to accumulate the number of credits required in the core program. Prerequisite: One year of Physics with " $B$ " or better grade.

## PLANT AND SOIL SCIENCE

PLSC 184/Honors Introduction to Plant Science

## Credit 3

This course provides an introduction to fundamental biological principles as they relate to plant growth, reproduction and development, interaction of plants with their environment, and importance of plants to society, with specific reference to the role of plants in Maryland's economy. Impact of crop production practices on other natural resources will also be discussed.

## PLSC 185/Honors Introduction to Plant Science Laboratory Credit 1

This course deals with laboratory and field studies of plants and related processes including classification, reproduction, genetic variability, photosynthesis, nitrogen fixation, and plant protection. For Honors credit, case analyses of a current agricultural issue from a field trip are included. Co-requisite: PLSC 184/H.

PLSC 283 Agriculture and the Environment
Credit 3
This course examines the impact of agricultural practices on humans and our natural resources. Emphasis is placed on providing and maintaining an adequate food supply while protecting the environment.

PLSC 321 Integrated Pest Management
Credit 3
This course is designed as an introduction to insect pests, disease causing organisms, weeds, and their management in crop plants using integrated practices. Topics will include classification, identification, biology, ecology, sampling methods, IPM development, management tactics, use of conventional pesticides, biological control, host plant resistance and legislative methods. It will also include biology and management of important insects, diseases and weeds in selected crops. The course meets for two lectures and for a two hour laboratory per week. Prerequisites: PLSC 184 and PLSC 185.

## PLSC 333 Plant Anatomy

## Credit 3

This course involves the use of preparation and viewing methods for studying plant anatomy. It involves understanding the complexity of tissue organization that exists within plant bodies to allow plants to develop and live as integrated organisms in diverse environments. Lecture 2 hours, laboratory 2 hours. Prerequisites: PLSC 184 and PLSC 185.

PLSC 406 Crop Physiology and Ecology
Credit 3
This course involves in-depth discussion of ecological factors affecting crop growth, development, and productivity. Prerequisites: PLSC 184 and PLSC 185, or permission of instructor.

PLSC 474/Honors Plant Pathology
Credit 4
This course examines causes of diseases in agronomic and horticultural crops, to include symptom recognition, isolation and enumeration, and management of diseases in landscape and field crops. Laboratory exercises include preparation of a journal-type manuscript based on an individual research project. Prerequisites: PLSC 184 and PLSC 185 or permission of instructor. This course is cross-listed with PLSC 674. Three hours lecture and three hours laboratory per week.

## PLSC 476 Plant Propagation Credit 3

The course emphasizes the principles and current techniques involved in propagating different types of plants using seeds and various vegetative structures. Students will gain practical experience in propagating plants. Prerequisites: PLSC 184 and PLSC 185, or permission of instructor.

## PLSC 484 Internship in Agriculture and Natural Resources Credit 3-6

This course involves supervised work experience in an approved setting that is planned with a business, university, or government agency. A faculty advisor must pre-approve the internship opportunity. Prerequisite: Permission of instructor.

## POLITICAL SCIENCE

POLI 200 Introduction to American Government
Credit 3
This course presents a critical study of the American political system in its contemporary context: policy-making processes, sources of conflict processes.

## POLI 312 International Relations

Credit 3
The course is a study of basic components of national power and the foreign policy objectives of major nations. Proposed theories explaining the behavior of nations will also be explored.

## POLI 498

Independent Study

## Credit 1-3

The student, with the directed guidance of the instructor, undertakes an in-depth study of a specialized area of political science. Prerequisite: Consent of instructor.

## POLI 499 Independent Study

## Credit 1

The student, with the directed guidance of the instructor, undertakes an in-depth study of a specialized area of political science. Prerequisite: Consent of instructor.

## PROFESSIONAL GOLF MANAGEMENT

## PGMT 122 Orientation to PGA Golf Management <br> Credit 3

This course is the first in a series of four. This course describes the career opportunities, challenges, and benefits of a career as a PGA Professional. It also presents the structure of the PGA/PGM program and related program completion requirements. It also introduces The PGA Constitution, Bylaws, and Regulations. Topics covered include the evolution of the PGA during the past century; the PGA's organizational structure; the rights, responsibilities, and classifications of PGA membership; requirements for professional development; and procedures for dealing with membership issues. Additionally, it presents the structure and relevance of The Rules of Golf, published by the USGA and used throughout the industry. The course also highlights several common Rules and offers a procedure and helpful tips on how to address on-course Rules questions as a PGA Professional. Finally, the history, evolution, and importance of The Rules of Golf featured, among other methods, as a way to promote respect and adherence to the Rules. The First Year Experience (FYE) and test will be incorporated in this course. Prerequisite: Golf Management major.

PGMT 170 Professional Golf Management Internship I

## Credit 1

A twelve-week supervised and paid internship at a PGA-approved golf facility is the centerpiece of this "hands-on" experience. This is the first of three internships, normally offered during summer months. Duties and responsibilities are approved by the faculty member and supervised by the PGA professional at the site. Evaluation is conducted by the faculty member and the on-site professional. Written reports and evaluations are required at the completion of each phase of instruction. The actual site location and thereby placement is contingent on the availability of PGAsanctioned courses in and around areas where students are able to acquire housing. PGM Faculty, the student and the PGA collaborate on the final placement decision. A minimum cumulative GPA of 2.0 is required for each internship. PGMT 170 internships will emphasize the following skill sets: golf car fleet management, customer relations, rules of golf, tournament operations, golf club design and repair, career enhancement, introduction to teaching, and player development. Prerequisite: PGMT 122.

## PGMT 210 (Hybrid) Tournament Operations and Golf Car Fleet Management Credit 3

This course covers the skills and knowledge required to successfully plan and run golf tournaments at the facility level. The course covers all aspects of golf tournaments: planning, organizing, running, and reviewing an event. It also includes Rules-related topics such as forming a Committee, marking the golf course, and facilitating rulings. Additionally, although this course does not have a corresponding stand-alone seminar, this course covers planning, operating, and maintaining a golf car fleet at a facility in an on-line setting. The course focuses on operational topics, such as rental policies and procedures, as well as preventive maintenance routines and proper car storage. The course also features planning and business aspects, such as how to determine the number and type of cars for the fleet, whether to purchase or lease them, and how much to charge for rental. Prerequisite: PGMT 122.

## PGMT 222 Professional Golf Management I

## Credit 3

The course introduces the PGA Customer Relations Model, which includes customer greeting routines, seven interpersonal skills, and four strategies for effectively guiding interactions with customers, supervisors, employees, vendors, and others. Additionally, taking a case-study approach, business planning features several business techniques and principles necessary for planning and budgeting. Some of the tasks covered include creating a
business plan, developing a budget for a golf facility, and performing forecasts of rounds, revenues, expenses, and profit.

PGMT 230 Introduction to Teaching Principles

## Credit 3

This course introduces three major content areas: human learning, teaching process and procedures, and elements of the game. It includes topics related to laws, principles, preferences, biomechanics, and teaching technologies. The course also addresses club performance variables and how they can affect the swing, body movement, and ball flight. The course provides guidance on how to measure and observe these club performance variables to establish the effect on a player's performance. Prerequisite: PGMT 122.

## PGMT 270 Professional Golf Management Internship II Credit 1

A twelve-week supervised and paid internship at a PGA-approved golf facility is the centerpiece of this "hands-on" experience. This is the second of three internships, normally offered during summer months. Duties and responsibilities are approved by the faculty member and supervised by the PGA professional at the site. Evaluation is conducted by the faculty member and the on-site professional. Written reports and evaluations are required at the completion of each phase of instruction. The actual site location and thereby placement is contingent on the availability of PGA-sanctioned courses in and around areas where students are able to acquire housing. PGM Faculty, the student and the PGA collaborate on the final placement decision. A minimum cumulative GPA of 2.0 is required for each internship. PGMT 270 internships will emphasize the following skill sets: customer relations, business planning and operations, analysis of the swing, and golf club design and repair. Prerequisite: PGMT 170.

## PGMT 322 Professional Golf Management II

## Credit 3

This course focuses on managing the golf operation in a way that delivers upon the business plan, offering the desired level of service to customers, while also maintaining a viable, sustainable business. The course includes four elements: the pre-seminar, seminar, work experience activities, and a knowledge test. Prerequisite: PGMT 222.

## PGMT 330 Intermediate Teaching Principles

## Credit 3

This course focuses on the knowledge of learning - specifically, the different kinds of feedback that students can receive from a variety of sources, and the different kinds of practice conditions that facilitate learning. It also looks at using proper preparation and communication techniques to build relationships that help the students improve his or her golf skills. Additionally, it describes drills, warm-ups, and shot techniques that intermediate students can use to improve their skills. Prerequisites: PGMT 230.

## PGMT 340 Player Development Programs and Teaching Business Credit 3

This business and marketing course views teaching and player development programs as a part of an overall strategy for increasing facility business and growing the game of golf. This course includes strategies and tactics for meeting the needs of numerous golfer populations and facility business goals by developing a program of instructional services.

## PGMT 353 Agronomy and Turf Grass Management

## Credit 3

This is an introduction to turf grasses and maintenance procedures necessary for meeting modern golf course playability standards. Accordingly, students learn how to identify, select, establish and manage turf for specific recreational and competitive use in golf course settings. Technical knowledge obtained will also have applications for commercial and residential use. Emphasis is placed during the class on communicating with golf course superintendents and the customers about regular practices and protocol. Specific topics include basic plant physiology, Integrated Pest Management strategy, turf grass identification, fertility requirements, cultural practices, as well as environmental concerns. Campus facilities will be used to support a minimum 4-week laboratory experience. Human resource, financial, and governmental issues are also discussed.

## Credit 3

This course provides the important skills and tasks required to run a successful merchandising operation within a PGA approved golf shop. Emphasis will be placed on particular customer needs and wants within individual golf shop environment. Creative and cost effective inventory management to maximize financial health of the business will be stressed. Understanding of the individual golf shop manager's role as a valued added consultant will be highlighted as a competitive advantage as discounters and management companies continue to proliferate. Prerequisites: HMGT 305.

## PGMT 370 Professional Golf Management Internship III

## Credit 1

This twelve-week golf-facility-based exercise is number three in a coordinated series of three supervised internships. It is designed to provide a broad base of exposure to all aspects of golf management. Specific duties and assignments are approved on site by the responsible faculty member and the PGA Professional. The student will complete assigned duties and responsibilities as approved by the faculty member and supervised by the PGA professional at the site. Written reports and evaluations are required at the completion of each phase of instruction. A minimum cumulative GPA of 2.0 is required for each internship. Site locations are determined by the availability of PGA-approved sites and student preference, with faculty member approval. PGMT 370 internships will emphasize the skill sets of philosophy and swing concepts, merchandising and inventory, supervising and delegating, and food and beverage. Prerequisite: PGMT 270.

## PGMT 422 Professional Golf Management III

Credit 3
This course covers a wide range of topics related to recruiting and managing employees, including hiring, training, compensation, staff performance, evaluation, dismissal, job discrimination laws, and other legal issues faced by PGA professionals. The supervising and delegating portion builds on the Level 1 Customer Relations course and introduces a performance system for supervising employees and delegating work responsibilities. The course also presents core principles associated with motivating and managing individuals and teams; additionally, this course is designed to encourage PGA Golf Management students to refine their career aspirations and pursue their interest in the golf industry. The course delineates essential career development strategies and presents examples of careerenhancing actions. Prerequisite: PGMT 322

## PGMT 430 Advanced Teaching Methods

## Credit 3

This course builds on Level 1 and 2 courses and emphasizes the seamless integration of learning, teaching, and game elements. It addresses the quality and flow of teaching in order to maximize positive student behavior change and skill transfer to the course. The course also covers elements of the mental game and more advanced shotmaking. The club-fitting component centers on effective processes and procedures for club fitting. Prerequisites: PGMT 230 and PGMT 330.

## PGMT $470 \quad$ Professional Golf Co-Op

## Credit 3

PGMT 470 is an intense, extended and supervised 7-month paid work experience at a PGA certified site. The Coop is available only after all academic requirements are met. It is the final work experience incorporating academic learning with the everyday practical application of the golf business. Emphasis will be on preparing students' professional portfolios and preparing for the Level III Challenge/Response. Graduation requirements (except Level III) must be met prior to registering for PGMT 470. Prerequisite: PGMT 370.

## PSYCHOLOGY

## PSYC 100/Online

Introduction to Psychology

## Credit 3

This course provides a survey of general principles underlying human behavior. It includes study of the nervous system, perception, learning, memory, thinking, emotions, and individual differences in intelligence, aptitude, and personality.

This course provides a study of child development from pre-natal development through late childhood, with special emphasis on children of primary/middle school age. The focus of the course is on cognitive, emotional, intellectual, physical, psychological, and social growth and development. Prerequisite: PSYC 100 with a grade of "C" or better.

PSYC 203/Online
Adolescent Psychology
Credit 3
This course provides an overview of the special role that adolescence plays in overall development. Emphasis is on the psychological development of the adolescent in school. Prerequisite: PSYC 100 with a grade of "C" or better.

PSYC 205/Online
Developmental Psychology
Credit 3
This course presents a lifespan survey of human growth and development, beginning at conception and ending with death with emphasis on intellectual, linguistic, emotional, perceptual, social and personality development. Prerequisite: PSYC 100 with a grade of " C " or better.

## PSYC 207 Educational Psychology

## Credit 3

This course examines scientific research and psychological principles as they apply to teaching and learning. Topics include theories of learning, intelligence, memory, creativity, human diversity, and other factors influencing effective instruction and learning. Clinical/classroom experiences provide opportunity to apply learning theory within an educational framework. Prerequisites: PSYC 100 with a grade of "C" or better.

## PSYC 271/Online

Abnormal Psychology
Credit 3
This course examines the concepts of normality, abnormality, and psychopathology; symptoms syndromes; and theory and research in psychopathology and psychotherapy. The nature, identification, etiology and treatment of psychological disorders are emphasized. Prerequisite: PSYC 100 with a grade of "C" or better.

## PSYC 401 Introduction to Personality Theory

## Credit 3

This course presents the study of personality from various points of view: biological, experimental, social, and humanistic. It provides an overview of theory and empirical research in the study of personality. Prerequisite: PSYC 100 with a grade of "C" or better.

## PSYC 406 Applied Behavioral Analysis Credit 3

The purpose of this course is to present an array of behavior management techniques that will enable prospective educators to manage the instructional, psychological, and behavioral needs of students. The course explores a variety of theoretical models. Students will have a required field experience in the local public schools. This course is taken concurrently with EDSP 402, EDSP 403, and EDSP 422. Prerequisites: SPED majors with Teacher Candidacy Status.

## PSYC 497 Special Topics in Psychology

## Credit 3

This course provides an in-depth exploration of selective topics in Psychology based on the needs and interests of the students. Prerequisites: A "C" or better in PSYC 100 and two additional Psychology courses, Senior Standing, and the permission of the instructor.

## REHABILITATION PSYCHOLOGY

## RPSY 304 Test and Measurements

## Credit 3

This course covers the aspects of conducting a survey of psychological, social and vocational tests. The nature and use of tests in counseling, test and test interpretation are explained. Prerequisite: REHA 201. Students cannot receive credit for RPSY 304 and REHA 304.

RPSY 331 Research Methods I: Introduction to Research

## Credit 3

This course serves as a general introduction to the principles of research in behavioral sciences and promotes an inquiry orientation to becoming critical consumers of behavioral research. Students who complete this course will
be able to identify, read, interpret, synthesize, and evaluate qualitative and quantitative research reports and recognize legitimate uses for that information. Topics covered in the course include understanding basic behavioral research, procedures used in qualitative and quantitative data collection and analysis, as well as the analysis, synthesis, and evaluation of research reports. Prerequisites: PSYC 100 and REHA 201.

## RPSY 341 Research Methods II: Experimental Research Methods Credit 3

This course provides an introduction to research methods commonly used in the field of behavioral sciences and is intended to help students develop research-related knowledge and skills that are relevant to both the undergraduate program, the workplace and graduate school. The objectives in this course are in accordance with national standards for the undergraduate psychology major as recommended by the APA's Board of Educational Affairs. Prerequisites: PSYC 100, REHA 201, MATH 210 and RPSY 331.

## RPSY 418 Physiological/Psychology: The Biological/Physiological Mechanism of Behavior Credit 3

Physiological Psychology is a senior level course designed to allow students to explore the neurological mechanisms which serve as the underpinning for sensation, movement, sleep, memory, perception and communication. Much of the subject matter is concerned with basic neuroscience and the principles associated with neurophysiology, neurochemistry and neuroanatomy. Prerequisites: PSYC 100, REHA 201, REHA 301.

## RPSY 471 Group and Family Counseling Skills and Practices

## Credit 3

This course is designed to introduce students to selected processes, theories, practices and methods of group and family counseling. This course exposes students to various clinical and organizational issues involved in working in group and family settings. Students are encouraged to examine the various elements that contribute to the nature of group and family counseling. Emphasis is placed on exploring best practices and current developments in the field as well as selected models and approaches which are widely used. Prerequisites: PSYC 100, REHA 201.

## REHABILITATION SERVICES

## REHA 100 First Year Experience Seminar

## Credit 1

This course provides an opportunity for students to make a seamless transition from high school to college. Essential skills for transition will be explored and discussed. This course will assist students in developing cognitive skills and adjusting personally and socially to the college environment. Additionally, this course shall facilitate selfawareness and interpersonal communication. Requirement for all freshmen. This course is taken by Rehabilitation Services majors in lieu of GNST 100.

## REHA 201

Introduction to Rehabilitation

## Credit 3

The history, philosophy, and legislation of rehabilitation are examined. The course covers the rehabilitation process from referral to closure. Legal issues, professional ethics, consumer advocacy, and community resources will be investigated. REHA 201 is prerequisite for other REHA courses.

## REHA 301 Health/Medical Information

## Credit 3

This course provides an overview of health information. Study of basic medical terminology, medical information, and review of body systems will be explored. Review of common disabling conditions, their symptomatology, prognosis, and treatment will be examined. Prerequisites: REHA 201.

## REHA 302 Theories of Counseling

## Credit 3

This course provides study of counseling theories and techniques and their application in counseling with individuals who have a disability. Prerequisite: REHA 201.

This course examines principles and practices of obtaining, recording, evaluating, and utilizing case data in rehabilitation. Techniques of managing caseload of individuals with a disability are explored. Prerequisite: REHA 201.

## REHA 305/Online Vocational Development Counseling and Employment <br> Credit 3

This course are examines theories of vocational choice, and vocational counseling, and vocational assessment. Job development and placement techniques are discussed. Problems relating to placement of disabled persons in employment are investigated. Prerequisite: REHA 201.

## REHA 306 Counseling Skills and Techniques Credit 3

This course is designed to expose students to the basic skills and techniques of counseling. Students who participate in this course acquire counseling skills through participation in intensive classroom counseling scenarios. Prerequisite: REHA 201.

## REHA 311 Independent Living

## Credit 3

This course assists students in developing leadership skills and knowledge which will enable them to work with individuals with chronic disabilities. Students will learn the ways these individuals live independently and productively in the community. Prerequisite: REHA 201.

## REHA 401 Field Work in Rehabilitation Services <br> Credit 6

This course is a part-time supervised practicum in agencies and institutions providing rehabilitation services essential to employment. Prerequisites: REHA 301, REHA 302, REHA 303, RPSY 304, REHA 305 and REHA 306 and permission of the Clinical Coordinator.

## REHA 402/Online Introduction to Development Disabilities Credit 3

This course provides a study of the etiology, treatment, terminology, and related process of rehabilitation to include programs, personnel, and facilities; community resources, and current trends in developmental disabilities. Prerequisite: REHA 201.

## REHA 403 Psychiatric Rehabilitation Credit 3

This course is a study of the history and current practices; programs, personnel, and facilities; community organizations; and trends of the psychiatrically impaired. Prerequisite: REHA 201.

## REHA 404 Rehabilitation Services for the Addict/Hybrid Credit 3

This course is a study of the physical, social, psychological, and vocational aspects of the people who have become addicted. Assessment, prevention and treatment techniques are explored. Prerequisite: REHA 201.

## REHA 405 Multicultural Issues in Behavioral and Allied Health <br> Credit 3

This course is designed to assist students to develop an awareness of multicultural issues and related concerns. The student should be able to develop an awareness, knowledge and understanding of persons from various cultural backgrounds. Emphasis will be placed on identifying behavioral, social, barriers that persons from different cultural groups (particularly those persons with disabilities) are likely to encounter. Prerequisites: PSYC 100, REHA 201.

## REHA 406 Seminar in Rehabilitation

Credit 3
Current trends, problems, and development in rehabilitation are discussed. Students pursue a special interest area, such as cultural diversity, disability determination, work adjustment, work evaluation, legal and ethical issues, etc., and share information and experience mutually with the class. Lecture, guest speakers, reports, and class discussions are utilized. Prerequisite: REHA 201.

## REHA 407 Pharmacology of Chemical Dependency Rehabilitation

Credit 3
The medical, psychological, and sociological effects of legal and illegal drugs are discussed. Focus is on the pharmacological actions and behavior effects of cocaine, amphetamines, alcohol, depressants, psychiatric drugs, opiates, marijuana, hallucinogens and other prescription/over- the- counter drugs. Prerequisite: REHA 201.

## REHA 408 Technology in Rehabilitation

## Credit 3

This course provides an overview of technology focused on adaptive and assistive rehabilitation technology, including aids for daily living. Prerequisite: REHA 201.

## REHA 409 Traumatic Brain Injury Rehabilitation <br> Credit 3

People with traumatic brain injury (TBI) represent a large group who are receiving vocational rehabilitation. This course will provide the needed knowledge and skills to work effectively with people with TBI. Prerequisite: REHA 201.

## REHA 411 Field Work in Rehabilitation Services II

Credit 1-6
This course is a part-time supervised practicum in agencies and institutions providing rehabilitation services essential to employment. Students must have completed 6 credit hours of REHA 401 to enroll in this course.

REHA 412/Online Special Topics in Rehabilitation Credit 3
This course prepares students to understand current issues and policies regarding disabilities and how those policies influence the rehabilitation process. Prerequisite: REHA 201.

## REHA 421 Practicum in Rehabilitation <br> Credit 1-6

This course provides for an expanded elective opportunity for students to become exposed to and experience the operations within an agency, organization, or institution. This is a part-time supervised opportunity. Prerequisite: REHA 201.

## REHA 499 Independent Study/Online

## Credit 1-6

This course is an intensive study of specialized topics in rehabilitation for advanced students. Permission to take an independent study must be obtained from the instructor when the course is otherwise unavailable. Prerequisite: REHA 201.

## SOCIAL SCIENCE

SOSC $100 \quad$ First Year Experience

## Credit 1

This basic seminar introduces the topics of mental health and effectiveness in a changing world. This is an applied course to guide the student through a self-assessment process that includes developing a personal plan for academic success. Required course for all social science majors.

## SOCIOLOGY

## SOCI 101/Online

## Introduction to Sociology

## Credit 3

This class is intended to provide the student with an introduction to current theories and methods of sociology. Particular attention is paid to social structure, culture, socialization, and social inequality.

## SOCI 201/Online

## Social Problems

Credit 3
This course presents an analysis of the major social problems affecting modern society, social legislation relating to these problems, resources for treatment and prevention, and deficiencies in existing programs.

## SOCI 202 Social Deviance and Social Control

## Credit 3

Theories of deviance causation and their relevance to analysis of particular types of deviance, such as suicide, mental illness, addiction, sexual deviance are discussed. Investigation of the relationships between deviant and the social reaction of such behavior is the focus of the class. Prerequisites: SOCI 101 or 201.

SOCI 221 Research Methods in Behavioral Science
Credit 3
This is the first semester of a two-semester sequence. The first semester is devoted to the methods used in collecting data in the social sciences, including various measurement methodologies. Prerequisites: SOCI 101.

## SOCI 222 Statistical Methods in Behavioral Science Credit 3

This course, the second of a two-semester sequence is devoted to the statistical analysis of data, including statistical computations, interpretations, and reporting of findings. Prerequisites: SOCI 101 and MATH 102.

## SOCI 231/Honors Theory I: Foundations in Sociological Theory Credit 3

This course is a presentation and evaluation of the great currents of sociological thought from the early influence to the emergence of sociology as a major discipline during the Industrial Revolution. Developments up to the early decades of the twentieth century are traced.

## SOCI 232 Theory II: Contemporary Sociological Theory Credit 3

This course is a study and evaluation of the various theoretical orientations influencing contemporary sociology. The focus is the influence of classical theory on late twentieth century and current social theory. Prerequisite: SOCI 101.

SOCI 250 Juvenile Delinquency
Credit 3
This course is an introduction to theories of juvenile delinquency and alternative intervention strategies for reducing the prevalence of juvenile delinquency. Prerequisites: SOCI 101 or 201.

SOCI 303 Social Inequality Credit 3
This course investigates social differentiation, its influence upon behavior, and studies of social mobility patterns and their effects on this mobility. The course considers inequality that is present in both an American and international context. Prerequisites: SOCI 101 or 201.

## SOCI 306 Socialization <br> Credit 3

This course covers the development of personality and the acquisition of the roles, norms, attitudes, and actions that enable a person to function as a member of social groupings. Prerequisites: SOCI 101 or SOCI 201.

## SOCI $313 \quad$ Criminology and Penology <br> Credit 3

This class provides an overview of contributions of the various schools to the development of criminology. Theories of physical, psychological, and environmental factors in crime are presented. The role of the home and family, social relationships, and the methods and instrumentalities of criminal justice, and crime prevention are central to the class. Prerequisites: SOCI 101 of SOCI 201.

## SOCI 315 Urban Sociology

## Credit 3

The course is a sociological analysis of the development and effects of modern urbanization on human institutions, population trends and social relationships. The role of social agencies and elements making for organization and disorganization, urban planning and redevelopment will be explored. Prerequisites: SOCI 101, SOCI 201

## SOCI 316 Marriage and Family Life

Credit 3
The major focus of the course is given to preparation for marriage, selection of a partner, financing the marriage, problems of parenthood and family administration, successful and happy marriage, and family union. Prerequisite: SOCI 101or 201.

## SOCI 320 Social Movement and Social Change Credit 3

This class is an examination of collective behavior; it considers strategies and actions of movements, as well as examines of their characteristics, membership, and structure. The relationship of the social system and its changes to the social movements will also be examined. Prerequisite: SOCI 101 or 201.

## SOCI 322 Population Studies: Demography

Credit 3
Demography is the study of the basic variables of population: birth, death, and migration. The course considers socio-economic and cultural variables affecting population, growth projection and possible controls are discussed. Prerequisite: SOCI 101.
SOCI 326 Social Psychology Credit 3
This course considers personality and behavior as influenced by culture and interpersonal behavior. Social influences on motivation, learning, perception, attitudes, language, and leadership are reviewed. Prerequisites: SOCI 101 or SOCI 201.

## SOCI 331 American Minority Groups Credit 3

This class is a study of the cultural background distribution, assimilation, and adjustment of minority groups; problems arising from the contacts among people who differ as to race and culture are examined. Prejudice and discrimination will be considered. Prerequisites: SOCI 101 or SOCI 201.

## SOCI 334/Online Sociology of Mental Health Credit 3

This course examines the practices relating to mental health in the US and other advanced industrial societies. Special attention is given to the role of economics, politics, and culture in shaping these practices and in affecting the nature and organization of mental health care. Prerequisites: SOCI 101 or SOCI 201.

SOCI $340 \quad$ Small Group Analysis
Credit 3
The course is a study of small group structures and processes and the emergence of various structures. The course also includes techniques for the analysis of small groups. Prerequisites: SOCI 101 and SOCI 201.

## SOCI 344 Social Organizational I

Credit 3
This course reviews rational, natural, and open perspectives on formal organization. It focuses on the roots of organizational theory and recent attempts to combine those perspectives. Prerequisite: SOCI 101 or SOCI 201.

## SOCI 345 Organizational Social Psychology Organizational Dynamics I Credit 3

This course provides an understanding of managerial behavior in an organizational setup. It deals with individual attitudes and behavior in interpersonal and intra-group relationships, with a specific goal to improve awareness, perception, and understanding of one's own and other's points of view and behavior. Prerequisites: SOCI 101 or SOCI 201.

## SOCI 361 Social Gerontology

## Credit 3

The course is a sociological consideration of the aging process and the role of the elderly in modern American society. Attention is paid to the changing role of the elderly in society and to the connection of aging to the social, economic, and political structures of society and their change over time. An intentional comparison of the social status of age groups is examined. Prerequisites: SOCI 101 or SOCI 201.

## SOCI 400 Organizational Leadership <br> Credit 3

This course presents the concept of leadership in organization. The course presents the concept of leadership at three levels: individual, team and organization. The course includes discussion of major theories with their application in real world situations, and covers the lexicon of leadership studies. Leadership is discussed in the context of work organizations where leadership is required to resolve conflict, manage change, and influence organizational culture.

## SOCI $490 \quad$ Sociological Internship

Credit 3
Approved students are assigned to approved agencies or organizations for orientation and experience in a sociological field under the guidance of a trained professional, as well as a member of the University faculty. Prior to going out and after return, students attend a seminar. Students present an extended paper on their internship experience. Prerequisites: Thirty hours of Sociology, Senior Standing, cumulative grade point average of 2.25 or better, and permission of supervising instructor. Prerequisites: Senior sociology majors only.

## SOCI 498 Independent Study in Sociology <br> Credit 3

This class is an intensive study of specialized topics in sociology for advanced students. Permission to take an independent study must be obtained from the instructor.

## SOCI 499 Independent Study in Sociology Credit 3

This class is an intensive study of specialized topics in sociology for advanced students. Permission to take an independent study must be obtained from the instructor.

## SOIL SCIENCE

## SOIL 203 Introduction to Soil Science

## Credit 3

This course engages students in a study of soil forming factors, soil forming processes and minerals involved in soil development, weathering, soil physical and chemical properties, organic matter mineralization, and the impact of these factors on soil fertility, soil moisture holding ability, and pH . Prerequisites: CHEM 111 and CHEM 113 or permission of instructor. Three hours lecture per week.

## SOIL 204 Introduction to Soil Science Laboratory

## Credit 1

This course will provide students with individual and group dynamic approaches to laboratory exercises that will be designed for students to acquire knowledge, comprehend, apply, analyze, synthesize, and evaluate aspect of soil profile development, soil forming factors, minerals, weathering, soil physical properties, chemical properties, organic matter mineralization, soil chemistry, and the impact of these factors on soil fertility, soil moisture content, and soil hydrogen ion concentration. Prerequisite: CHEM 111 and CHEM 113 or permission of instructor. Corequisite: SOIL 203.

## SOIL 443 Soil Chemistry

## Credit 3

This course provides students with knowledge of the chemical composition and formation of soils, knowledge of cation and anion exchange, soil acidity, soil alkalinity, soil salinity, soil conditions, and soil fixation of nutrients. Chemical methods of soil analysis are studied with emphasis on their relation to fertilizer requirements. Prerequisites: CHEM 112, CHEM 114 and SOIL 203.

## SPANISH

## SPAN 101/Online Fundamentals of Spanish I <br> Credit 3

This course provides for the acquisition of basic skills in the language through drills in pronunciation, grammar, and translation of elementary prose. Laboratory work is required. To receive credit for this course, the student must also complete SPAN 102. It is recommended that students who have two or more years of high school Spanish take an examination for credit.

## SPAN 102/Online Fundamentals of Spanish II Credit 3

This course provides for the acquisition of basic skills in the language through drills in pronunciation, grammar and translation. Lab work is required. To receive credit for this course, the student must also complete SPAN 101. It is recommended that students who have two or more years of high school Spanish take an examination for credit. Prerequisite: C or better in SPAN101.

## SPAN 201 Intermediate Spanish I

Credit 3
This course provides a review of grammar and pronunciation. The course involves graded readings of modern prose. Prerequisites: C or better in SPAN 101 and SPAN 102 or equivalent.

## SPAN 202 Intermediate Spanish II

Credit 3
This course is a review of idiomatic expressions, and applications of language skills to reading, composition, and class discussion. Prerequisites: C or better in SPAN 101, SPAN 102 and SPAN 201.

## SPAN 301 Spanish Conversation and Composition Credit 3

This course is designed for the development of conversational proficiency in Spanish. It further focuses on the development of writing skills through reports on current events and on literary topics. Prerequisites: C or better in SPAN 101, 102, 201 and 202, or permission of the instructor.

## SPAN 302 Translation

## Credit 3

This course is designed to develop advanced skills through training in translation and interpretation. Students translate Spanish texts from different fields with emphasis on grammar and literary quality. They also practice translation from English into Spanish. Prerequisites: C or better in SPAN 101, 102, 201 and 202, or permission of the instructor.

## SPAN 401 Spanish for the Business World Credit 3

This course is an introduction to the study of terminology used in business, and styles used in commercial, private and official formats for correspondence and various common business documents. Prerequisites: C or better in SPAN 302 or permission of the instructor.

## SPAN 402 Writers of Spanish Expression-Spain/Latin America Credit 3

This course is a study of selected novels expressing the culture and aspirations of the Spanish-speaking people of Spain and Latin America. Prerequisites: C or better in SPAN 302 or permission of the instructor.

## SPECIAL EDUCATION

## EDSP 200 Introduction to Special Education Credit 3

This course focuses on the intellectual, physical, sensory, social and emotional characteristics and needs of exceptional individuals, including those with disabilities and gifts/talents, from birth through adulthood. Emphasis is placed on a survey of the various exceptionalities as well as on an overview of historical and legislative perspectives and on current and future directions in the field of special education. Educational and supportive services appropriate for exceptional individuals are also presented, as are the roles of general and special educators in the delivery of these services. This course is designed for Teacher Education majors. Students will have a required field experience in the local public schools.

## EDSP 400 Senior Seminar in Special Education <br> Credit 3

The senior seminar is designed to supplement and complement the teaching internship phase of the teacher education program. The seminar focuses on the analysis and synthesis of the internship experiences so that teacher interns may successfully integrate their experiences into future practice. Preparation of a professional portfolio, maintenance of a log book and journal, and participation in group synthesis and analysis are required. This course is intended for all special education (1-12) teacher interns. Students enroll concurrently in the teaching internship (EDSP 442 and EDSP 450) and the senior seminar. Prerequisites: Admission to Teacher Internship. This includes passing the PRAXIS II Tests for special education.

## EDSP 401 Processes and Acquisition of Reading and Language for Students with Disabilities Credit 3

This course will introduce students to the processes of language development and the relationship and role of language acquisition in reading development for students with disabilities at the elementary and secondary levels. It will analyze the relationship between oral language development, reading acquisition, and written language. In addition, the interactive nature of the reading process, including the impact of phonemic awareness will be addressed. This course is designed for students majoring in special education and includes a required clinical field experience. This course is taken concurrently with EDSP 414, EDSP 416, and EDSP 426. Prerequisite: Teacher Candidacy Status.

## EDSP 402 Instruction of Reading and Language for Students with Disabilities Credit 3

This course introduces instruction of reading skills for students with and without disabilities at the elementary and secondary levels. Content includes the development of word attack and comprehension skills and the teaching of expository reading in the content areas. Emphasis is placed on the selection, organization, and evaluation of instructional content, strategies, and activities. This course is designed for students majoring in special education and is taught as part of a core of courses related to assessment and instructional programming. The course includes a required field experience and is course is taken concurrently with EDSP 403, EDSP 422, and PSYC 406. Prerequisites: Teacher Candidacy Status and a "C" or better in EDSP 401.

## EDSP 403 Materials for Teaching Reading and Language for Students with Disabilities

## Credit 3

This course introduces various materials that can be used to provide a variety of reading and language experiences to students with disabilities at the elementary and secondary levels. Both teacher-made and commercial materials are discussed. The use of children's literature, community resources, and parental support will also be explored. Students will have a required field experience in the local public schools. This course is taken concurrently with EDSP 402, EDSP 422, and PSYC 406. Prerequisites: Teacher Candidacy Status and a "C" or better in EDSP 401.

## EDSP 404 Assessment, Diagnosis, and Remediation of Reading Problems for Students with Disabilities Credit 3

This course presents an in-depth analysis of assessment, diagnosis, and remediation of reading problems for students with disabilities at the elementary and secondary levels. A thorough understanding of the diagnostic process is explored, as well as remediation techniques for comprehension, vocabulary development, and word attack skills. Attention is given to effective reporting of these results to parents and other professionals. Students will have a required clinical experience. The course is taken concurrently with EDSP 428, EDSP 430, and EDSP 431. Prerequisites: Teacher Candidacy Status and a "C" or better in EDSP 401, EDSP 402, and EDSP 403.

## EDSP 414 Psycho-educational Assessment I <br> Credit 3

This course is the first of two three-credit courses in assessment. It provides in-depth instruction relative to the comprehensive psycho-educational process as it is used to identify the educational strengths and deficits of students with disabilities at the elementary and secondary levels. The development, administration, interpretation, and application of psycho-educational testing batteries, using both informal and formal assessment instruments, are emphasized. Norm-referenced, criterion-referenced, and curriculum-based assessment measures are examined. Skills related to the professional presentation and reporting of results are developed. The course has an emphasis on assessment in the areas of social/emotional development, achievement/school performance, general interests, attitudes, and study skills. Students develop a comprehensive case study as part of this course, which also includes a required clinical experience. This course is taken concurrently with EDSP 401, EDSP 416, and EDSP 426. Prerequisite: Teacher Candidacy status.

## EDSP 416 Program Development and Instructional Delivery for Students with Disabilities

Credit 3
This course is designed to examine the specific programs, instructional strategies, and resources that are appropriate for students with disabilities at the elementary and secondary levels. It addresses the organization and management of special education programs and prepares students to adapt and modify curriculum. Preparing students to work collaboratively as teacher consultants, academic coaches, on interdisciplinary teams, in inclusion classrooms, and in team teaching is also a course focus, as is the development and management of student records (e.g., IEP, IFSP). A required field experience in the local public schools is part of this course. The course is taken concurrently with EDSP 401, EDSP 414, and EDSP 426. Prerequisite: Teacher Candidacy Status.

## EDSP 422 Psycho-educational Assessment II

## Credit 3

This course is the second of two three-credit courses in assessment. It provides in-depth instruction relative to the comprehensive psycho-educational process as it is used to identify the educational strengths and deficits of students with disabilities at the elementary and secondary levels. The development, administration, interpretation, and application of psycho-educational testing batteries, using both informal and formal assessment instruments, are emphasized. Norm-referenced, criterion-referenced, and curriculum-based assessment measures are examined, with an emphasis on statewide assessment procedures. Use of the results to plan instruction is also presented. This course has an emphasis on assessment in the areas of oral language, reading, written language, and mathematics. Skills related to the professional presentation and reporting of results are developed. Students develop a comprehensive case study and an individualized education plan as part of this course, which also includes a required clinical experience. This course is taken concurrently with EDSP 402, EDSP 403, and PSYC 406. Prerequisites: Teacher Candidacy Status and a "C" or better in EDSP 414.

## EDSP 426 Instruction of Mathematics for Students with Disabilities Credit 3

This course addresses mathematics for students with disabilities at the elementary and secondary levels. Relevant mathematics content (i.e., early number concepts, arithmetic, consumer mathematics, algebra, and geometry) is presented. The use of technology (e.g., calculators, computers) is also included as is an emphasis on problem solving and making mathematical connections with other content areas. The curriculum standards of the National Council of Teachers of Mathematics are used as the focus of content and pedagogy. Appropriate prescriptive strategies, resources, curricular adaptations, and instructional programming for students with disabilities are emphasized. Students will have a required field experience in the local public schools. This course is taken concurrently with EDSP 401, EDSP 414, and EDSP 416. Prerequisite: Teacher Candidacy status.

## EDSP 428 Communication and Collaboration in Special Education Credit 3

This course focuses on the nature of oral and written communication - theories, models, and definitions; the role of the individual and groups in the communication process; and content and settings for communication; various formats and techniques of communication; and the differences in communication styles based on diverse groups. In addition, the course presents effective and ineffective strategies for communication with the opportunity to systematically analyze one's individual communication style as well as that of others. The educational setting serves as the context for developing these effective communication and collaboration skills. The focus of this course is primarily on communication and collaboration between general and special educators, parents, administrators, paraprofessionals and students. This course has a required clinical experience. This course is taken concurrently with EDSP 404, EDSP 430, and EDSP 431. Prerequisites: The student must have Teacher Candidacy status.

EDSP 430 Technology in Special Education
Credit 3
This course explores a wide range of assistive and instructional technology applications for students with physical, cognitive, communicative, sensory, and/or multiple disabilities. Students examine the use of technology in combination with effective instructional strategies to enhance learning and promote independence in the areas of academics, mobility, communication, socialization, and participation in home, school and community activities. Students also explore electronic and print resources for assistive and instructional technology information and review research about current practices for implementation of technology-based solutions. Students in this course have a
required field experience/pre-internship at a Professional Development School. This course is taken concurrently with EDSP 404, EDSP 428, and EDSP 431. Prerequisites: Teacher Candidacy status and a "C" or better in EDCI 306.

## EDSP 431 Instruction of Prevocational/Vocational and Transition Programs for Students with Disabilities <br> Credit 3

This course introduces the basic theories and practices of planning, implementing, and evaluation prevocational and vocational programs for students with disabilities at the elementary and secondary levels. Emphasis is placed on social skill development, prevocational/vocational assessment and instructional strategies, counseling techniques, and other generic skills required for transition programs. Students will have a required field experience/pre-internship at a Professional Development School. This course is taken concurrently with EDSP 404, EDSP 428, and EDSP 430. Prerequisite: Teacher Candidacy Status.

## EDSP 442 Teaching Internship in Special Education (Elementary) Credit 6

This seven (7) or eight (8) week clinical internship involves teaching students with disabilities in an elementary setting at a Professional Development School. Students are expected to gradually assume the duties and responsibilities of a special education teacher, which include the following: planning, instruction, assessment, curriculum adaptation, classroom management, communication, and evaluation. The student has the opportunity, under the direction and guidance of a university supervisor and a professional mentor, to refine skills and to develop professional expertise. This course is taken concurrently with EDSP 400 and EDSP 450. Prerequisites: Admission to Teacher Internship. This includes passing the PRAXIS II Tests for special education.

## EDSP 450 Teaching Internship (Secondary)

## Credit 6

This seven (7) or eight (8) week clinical internship involves teaching students with disabilities in a secondary setting at a Professional Development School. Students are expected to gradually assume the duties and responsibilities of a special education teacher, which include the following: planning, instruction, assessment, curriculum adaptation, classroom management, communication, and evaluation. The student has the opportunity, under the direction and guidance of a university supervisor and a professional mentor, to refine skills and to develop professional expertise. This course is taken concurrently with EDSP 400 and EDSP 442. Prerequisites: Admission to Teacher Internship. This includes passing the PRAXIS II Tests for special education.

## EDSP 497 Special Topics in Special Education Credit 3

This course provides an in-depth exploration of selective topics in special education based on the needs and interests of the students. Current issues, trends and research problems structure the focus and content of the course. Prerequisites: Special Education major, Teacher Candidacy Status, and permission of the instructor.

## EDSP 499 Independent Study in Special Education Credit 1-6

This course is designed to refine and expand the student's skills and knowledge base in a critical area of study in special education. This self-directed course is individualized to meet the student's professional and academic needs. The student develops an independent and detailed plan of study, including goals and objectives, under a faculty mentor's mentorship. Successful completion of a significant research or clinical project is required. Prerequisites: Special Education major, Teacher Candidacy Status, and permission of the instructor.

## TECHNOLOGY AND ENGINEERING EDUCATION

## EDTE 100 First Year Experience Seminar <br> Credit 1

This course provides an opportunity for students to make a seamless transition from high school to college. Essential skills for transition will be explored and discussed. The course will assist students in developing skills that will assist them in adjusting personally and socially to the college environment. First-year students will develop skills in critical thinking, information literacy, self-awareness, and communication to facilitate a successful transition. In addition, to providing information needed for student success at the University of Maryland Eastern Shore, this course serves as a conduit for students entering the fields of Technology. Lecture one hour. Prerequisite: None.

## EDTE 105 Electrical Circuit Technolgy I Credit 3

This course introduces the fundamental concept of electrical circuits, including direct current (DC), voltage, power, resistance, inductance and capacitance. The application of Ohm's law, network analysis and electrical measurement are stressed. Prerequisites: Permission of the Department Head.

## EDTE 109 Quantitative Methods for Technology

## Credit 3

This course provides the quantitative background needed in the field of electronics, computer, and information technology. Topics include arithmetic review, algebra, basic trigonometry, complex algebra, statistics, and Boolean algebra and fundamental units, as they relate to electronics, information and computer technology. This course is two hours lecture and two hours laboratory.

## EDTE 111 Technology and Society

## Credit 3

This course examines the nature of technology and society within the context of the designed world: its meaning, application, significance, the role it has played in our history and its importance in today's technological society. Course content focuses on: the characteristics and scope of technology; the nature of technology within the context of the designed world; the design and development process; core concepts of technology; relationships and connections between technology and other fields; the cultural, social, economic, and political effects of technology; the effects of technology on the environment; and the role of society in the development and use of technology. Lecture three hours. Prerequisite: None.

## EDTE 131 Computer-Assisted Drawing and Design I (CAD) Credit 3

The attributes of design, the engineering design process, and the basics of technical drawing are covered in this course. The design process is utilized to solve problems and design contemporary products. Basic technical drawing skills are developed, such as sketching, coordinate systems, the principles and theory of visualization, shape description, orthographic projection, basic descriptive geometry, axonometric drawings, and developments. Students use and apply computer-assisted drawing and design (CADD) software to produce basic technical drawings and three-dimensional designs. Engineering design and problem solving are used to research and develop renderings and solid three-dimensional models. Lecture two hours. Laboratory two hours. Prerequisite: None.

## EDTE 132 Computer-Assisted Drawing and Design II (CAD)

## Credit 3

This course covers advanced computer-assisted drawing and design software used to produce three-dimensional drawings. Engineering design and problem solving are used to research and develop renderings and animated wireframe, surface, and solid three-dimensional models. The use of libraries of pre-drawn materials is also covered. Lecture two hours. Laboratory two hours. Prerequisite: EDTE 131 or permission of instructor.

EDTE 202 Electronics

## Credit 3

This course provides an overview of solid-state electronics from basic components to advanced circuit analysis. Topics includes diodes, bipolar transistor, field effect transistor (FET), thyristor, amplifiers and the application of the operation of amplifiers. Prerequisites: EDTE 105 or permission of departmental head.

This course concentrates on the theory and analysis of alternating current (AC). Topics include sine waves, wave forms, transformers, transient analysis, reactance, resonance circuits and filters. Prerequisites: EDTE 105 or permission of the department head.

## EDTE 210 Electronic Troubleshooting Lab

## Credit 4

This course provides students with guided experience in diagnosing, analyzing and repairing various electronic circuits and equipment. Emphasis is placed on problem-solving techniques, analysis and documentation. Prerequisites: EDTE 202 and EDTE 205 or permission of the department head.

## EDTE 211 Electrical and Electronics Technologies I <br> Credit 3

This is a study of electricity and electronic technologies within the context of the designed world. Different systems and technologies are presented to provide an overview of how systems relate to technology. Technical concepts and principles of different types of circuits, laws, symbols, scientific principles, design and test equipment are analyzed and applied to electronic technological systems. Theories and principles applied to communication devices such as computers, cell phones, and audio systems are studied. Students design, build, test, and evaluate systems. Laboratory two hours. Prerequisites: PHYS 121 and MATH 110.

## EDTE 212 Electrical and Electronics Technologies II

Credit 3
This course provides an advanced study of AC circuits, inductance, capacitance, and resonance applied to communication devices such as computers. Emphasis is placed on power supplies, amplifiers, oscillators, receivers, and test equipment. Lecture two hours. Laboratory two hours. Prerequisite: EDTE 211.

EDTE 215 Electronics II
Credit 3
This course is a continuation of EDTE 202. This is the second part of an electronics course designed for technology students and others needing an in-depth understanding of electronic circuit analysis and design. The primary emphasis of this class will be to cultivate an understanding of how modern electronic circuits work. Specific topics to be covered include differential and multistage amplifiers, amplifier frequency response and feedback, output stages, power amplifiers, a selection of analog integrated circuit topics, filters and tuned amplifiers, waveform-shaping circuits, and MOS digital circuits.

## EDTE 216 Digital Electronics <br> Credit 3

This course provides an introduction to digital logics and circuits. Topics include number systems, Boolean algebra, logic circuits, digital design, multiplexers, encoders, flip-flop circuits, and digital circuit analysis. Prerequisites: EDTE 105 or EDTE 211 or permission of the department head.

## EDTE 220 RF For Wireless Communication Credit 3

This course provides students with a technical understanding of the function and operation of wireless telecommunication systems. A wide variety of concepts, protocols, signaling types, modulation and terminology are included. This course focuses on wireless signaling to communicate voice and data used in the wireless cellular and personal communications service (PCS) industry. Prerequisites: EDTE 205 or permission of department head.

## EDTE 225 Microprocessors <br> Credit 3

This course introduces microprocessors and basic computer systems. Topics include programming and machine language, the central processing unit (CPU), memory and input-output devices. Prerequisites: EDTE 216 or permission of the department head.

EDTE 230 Industrial Controls

## Credit 3

This course introduces electronic controls of process and mechanical devices. Components studied include transducers, data acquisition systems, programmable logic controllers (PLCs) and motors. Prerequisites: EDTE 202 and EDTE 205 and EDTE 216; or permission of the department head.

EDTE 232 Information and Communication Technologies

## Credit 3

This course covers information and communications systems within the context of the design world. It examines how information can be encoded, transmitted, and received. Graphic communications, television, radio, computer networks, computer graphics, the Internet, telephone, and other systems and subsystems are also examined. The symbols, design, and language of information and communications are discussed. Lecture two hours; laboratory two hours. Prerequisite: EDTE 132 or permission of instructor.

## EDTE 240 Communication Electronics

## Credit 3

This course introduces the basic elements of communication systems. Topics include modulation, transmission, amplification, radio frequency (RF) circuits, microwave circuits, fiber optics, and voice and data communication. Hands-on activities are emphasized through the use of filters, bandwidth, voltage and power calculations and the use of oscilloscopes and spectrum analyzer. Prerequisites: EDTE 202 and EDTE 205; or permission of the department head.

## EDTE 245 Digital Communication Electronics

## Credit 3

This course introduces the basic elements of digital communication electronics. Topics include fiber optics, and data communications. Protocol standards and hands-on experience are emphasized on receivers, modems and integrated service digital networks. This course meets for two hours of lecture and two hours of laboratory each week. Prerequisites: EDTE 240 or Permission of Instructor.

## EDTE 314 Biotechnology and Agricultural Technologies

## Credit 3

A study of techniques that use living organisms or parts of an organism to make or modify products to improve plants or animals, including humans, within the context of the designed world is covered in this course. Developing micro-organisms and agricultural products for specific uses is also examined. Medical technologies as related to biotechnology are infused through the course. Lecture two hours. Laboratory two hours. Prerequisite: BIOL 101.

## EDTE 341 Transportation Technologies

## Credit 3

This course covers transportation systems used to transport people and goods within the context of the designed world and STEM disciplines. The design and operation of transportation systems and subsystems, governmental regulations, care of products and systems, design and operation of transportation systems, and the impact of transportation systems on society are studied. Lecture two hours, laboratory two hours. Prerequisite: Junior standing and/or permission of instructor.

## EDTE 342 Energy and Power Technologies Credit 3

The use and impact of energy and power systems within the context of STEM and the designed world are examined in this course. Such areas as power efficiency and conservation, energy sources, thermodynamics, renewable and non-renewable forms of energy, and alternate energy are studied. Technical aspects of systems design and development for solar energy, nuclear energy, wind energy, geothermal energy, hydro-energy and other sources are examined. Lecture two hours. Laboratory two hours. Prerequisite: EDTE 341 or permission of instructor.

## EDTE 351 Construction Technologies <br> Credit 3

The structures, systems, processes, and procedures of construction technologies are examined within the context of the designed world. Principles of construction, personnel management and organization, the design process, methods, materials, tools, and equipment used in building structures are studied. Prefabricated materials, infrastructures and renovation are additional topics covered. Lecture two hours, Laboratory two hours. Prerequisite: Junior standing and/or permission of instructor.

## EDTE 361 Manufacturing Technologies

## Credit 3

This course is a study of the principles of manufacturing goods, processes, and systems within the context of the designed world. Personnel management, organizational structures, durable and non-durable goods, product design, interchangeability, and product marketing are covered. Students research and select products suitable of mass-
production using an enterprise system. Emphasis is placed on the manufacturing design process. The social, cultural and economic problems and benefits are also examined. Lecture two hours. Laboratory two hours. Prerequisite: Junior standing.

## EDTE 368 ${ }^{1}$ Curriculum Development and Methods of Teaching I Credit 3

This course focuses on identifying course content, developing instructional plans, writing performance objectives, identifying appropriate instructional strategies, developing instructional materials, and utilizing standards-based assessment strategies for career and technology education courses. State and national content standards are used as a basis for curriculum design. Prerequisite: Permission of Instructor.

## EDTE 370 ${ }^{1}$ Curriculum Development and Methods of Teaching II Credit 3

A field-based internship in a public school under the supervision of an experienced mentor teacher and a university teacher educator is the basis for this course. Beginning teachers plan, develop, deliver, and assess competency-based instruction in their assigned area of teaching. Laboratory six hours. Prerequisite: EDTE 368.

EDTE 410 Foundations of Technology

## Credit 3

The course focuses on the development of STEM knowledge, skills and dispositions regarding the following aspects of technology: 1) its evolution, 2) systems, 3) core concepts, 4) design, and 5) utilization. It addresses the three dimensions of technological literacy: knowledge, ways of thinking and acting, and capabilities with the goal of students developing the characteristics of a technologically literate citizen. This course explores teaching/learning strategies that enable students to build their own understanding. Prerequisite: Senior standing or Permission of instructor.

EDTE 437 ${ }^{1}$ Student Performance Assessment Credit 3
This course teaches how to identify and utilize appropriate performance criteria to measure student achievement in the cognitive, psychomotor, and affective domains. A variety of assessment instruments is developed to document student mastery of instructional objectives. Topics covered include performance tests, rating scales, checklists, rubrics, student portfolio assessment, and grading systems. Lecture three hours. Prerequisite: Permission of instructor.

## EDTE 440 ${ }^{1}$ Integrating Math \& Science in Occupational \& Technical Education Credit 3

The purpose of this course is to provide teachers with techniques and methods to assist students in improving their math and science skills. Techniques and problem application will be covered for specific occupational/technical areas. Lecture three hours. Prerequisite: Permission of instructor.

## EDTE 450 ${ }^{1}$ Mentoring: Expectations and Responsibilities Credit 3

Introduction to mentoring, selecting mentors, mentor/teacher responsibilities, teacher observation, problems of beginning teachers, mentoring techniques, assessment, and portfolio development are covered in this course. This course is designed to prepare experienced teachers that are interested in becoming mentors in their school system. Lecture three hours. Prerequisite: Permission of instructor.

## EDTE 470 Academic Literacy in Career and Technology Education

## Credit 3

This course provides an overview of the academic literacies that should be taught and modeled in Career and Technology Education classrooms. The academic literacy of reading, writing, and science, technology, engineering and mathematics (STEM) as identified in the Common Core State Standards are crucial for CTE students to transition into their post-secondary choices. The reading content covers the fundamentals of the reading process, theories, and instructional strategies for assisting CTE students in reading text. The writing content will emphasize the development of technical writing skills including research and technical document writing, effective communication of ideas, and development of critical thinking skills through writing.

Mathematics literacy is emphasized through linking Common Core State Standards for Mathematical Practice to authentic applications in CTE. The STEM content includes the context and best practice instructional strategies for
integrating academic and technological literacy standards in CTE curriculum, based on Next Generation Science Standards and Maryland STEM Standards of Practice.

## EDTE 480 Coordination of Work-Based Learning Credit 3

Study of a variety of work-based learning programs will be covered including cooperative work-experience internships, mentorships, job shadowing, and apprenticeship. Mission, trends and current practices in these programs will be discussed. Methods and techniques of coordination in comprehensive and part-time programs at the secondary and adult levels are covered. Prerequisite: Permission of instructor.

## EDTE 481 ${ }^{1} \quad$ Facilities Organization and Management

## Credit 3

Basic elements of designing, creating, and managing Technology Education learning environments, both classroom and laboratory facilities, are covered relative to state instructional standards. Room layout, selection of tools, supplies, equipment, safety and layout arrangements will be studied. Modular laboratory design and management will be examined. Lecture three hours. Prerequisite: Senior standing.

## EDTE 482 Core Technologies I Credit 3

The core technologies are the building blocks of all technology systems within the context of the designed world. Mechanical and structural technologies will be examined with regard to common components, simple controls, basic system design, safety, and applications. Students will design, build, operate, and analyze a technological model, prototype or simulation related to the core technologies. An overview of materials technology will include an examination of ferrous and non-ferrous materials, common industrial forms, and the primary and secondary processing of industrial materials. Topical investigations and modular activity packages will be utilized to enhance understanding of the core technologies. Lecture two hours. Laboratory two hours. Prerequisite: Senior standing or permission of instructor.

## EDTE 483 Core Technologies II Credit 3

The core technologies are the building blocks of all technology systems within the context of the designed world. Electrical, electronic, optical, fluid, and thermal technologies will be examined with regard to common components, simple controls, basic system design, safety, and applications. The context for the study of these core technologies will be the design and development of technology systems to solve practical problems. Students will design, build, operate, and analyze a technological model, prototype or simulation related to the core technologies studied in this course. Communication skills will be developed through the documentation of the design and development process. Topical investigations and modular activity packages will be utilized to enhance understanding of the core technologies. Lecture two hours. Laboratory two hours. Prerequisite: Senior standing or permission of instructor.

## EDTE 484 Information Systems <br> Credit 3

This course provides students with knowledge and skills related to communication systems, application of computers, computer controlled robots and machines, imaging, publishing, audio systems, video systems, and telecommunications. The focus of the course is on integrating instruction on information systems into the technology/learning strategies used in technology education. These strategies include: (1) Ingenuity Challenges, (2) Topical Investigations, (3) Product Generation, (4) Modular Activity Packages, (5) Research and Experimentation, and (6) Engineering Design and Development. Lecture two hours; laboratory two hours. Prerequisite: Senior standing or permission of instructor.

## EDTE 485 Safety Programs in Education and Occupational Settings

## Credit 3

This course is a study of exemplary safety practices through conference discussions, group demonstrations, and development of written safety programs for occupational education facilities. Organized plant visits and industrial safety programs are studied. Lecture three hours. Prerequisite: Senior standing or permission of instructor.

## EDTE 486 Instructional Technology and Media Development

Credit 3
The study of various instructional technology commonly used as learning tools to assist with instructional delivery is the focus of this course. Computers, software, hardware, the Internet, web-page design, e-portfolios, video and audio resources, and other multimedia devices are covered. Lecture two hours; laboratory two hours. Prerequisite: Senior standing or permission of instructor.

EDTE 487 Foundations of Technology I

## Credit 3

The course focuses on the development of STEM knowledge, skills, and dispositions regarding the following aspects of technology: 1) its evolution, 2) systems, 3) core concepts, 4) design, and 5) utilization. It addresses the three dimensions of technological literacy: knowledge, ways of thinking and acting, and capabilities with the goal of students developing the characteristics of a technologically literate citizen. This course explores teaching/learning strategies that enable students to build their own understanding. Prerequisite: Senior standing or permission of instructor

## EDTE 486 Instructional Technology and Media Development Credit 3

The study of various instructional technology commonly used as learning tools to assist with instructional delivery is the focus of this course. Computers, software, hardware, the Internet, web-page design, e-portfolios, video and audio resources, and other multimedia devices are covered. Lecture two hours; laboratory two hours. Prerequisite: Senior standing or permission of instructor.

EDTE 487 Foundations of Technology I Credit 3
The course focuses on the development of STEM knowledge, skills, and dispositions regarding the following aspects of technology: 1) its evolution, 2) systems, 3) core concepts, 4) design, and 5) utilization. It addresses the three dimensions of technological literacy: knowledge, ways of thinking and acting, and capabilities with the goal of students developing the characteristics of a technologically literate citizen. This course explores teaching/learning strategies that enable students to build their own understanding. Prerequisite: Senior standing or permission of instructor.

## EDTE 488E Work-Based Learning Externship Credit 3

This course is an externship in work-based learning where the student participates in an on-site experience in a business or industry. The student rotates through all aspects of the business or industry from planning and production to marketing and management. Prerequisite: EDTE 480.

## EDTE 499 Undergraduate Research in Technology Education Credit 1-6

This course is designed for the junior-senior undergraduate student who has an interest in pursuing a special problem as an independent research project. An Independent Study Contract must be prepared and submitted for the Department Chair's approval within the first week of the semester. Student cannot take more than two 499 courses for a total of 6 credits. Prerequisite: Consent of the instructor and approval of the Department Chair.

## TELECOMMUNICATIONS

## TELC 214/Online Introduction to Telecommunications Credit 3

This course concentrates on the history of telecommunications, regulation, and current policies and procedures. It is a prerequisite for most telecommunications courses. Prerequisites: ENGL 101 and ENGL 102.

## TELC 236 Interviewing

Credit 3
This course is a study of methods used to prepare for and conduct interviews for articles in periodicals. Emphasis is placed on ways to structure a set of questions to elicit information and conduct an effective interview. Prerequisite: TELC 214.

## TELC 237

Radio Production and Programming
Credit 3
This course involves recording and control of sound in studios and on location, including introduction to radio production equipment and creative mixing and editing of multiple sound tracks. This course examines station organization, staff job descriptions, and responsibilities, along with station operation techniques. Prerequisite: TELC 214

## TELC 238 TV Production and Programming <br> Credit 3

This is a laboratory course designed to expose the student to each production position in a TV studio, including director, camera operator, audio operator, and video editor. Prerequisite: TELC 214

## TELC 239 Introduction to Broadcast Performance <br> Credit 3

This course is a study of communications theory and its application to the preparation, presentation, and criticism of radio and television performance. The course includes basic formats of broadcasting news, interviews, music, commercials, public affairs, and entertainment features. Prerequisite: TELC 214.

## TELC 241 Basic News Writing and Reporting

Credit 3
This course is an introduction to the structure and organization in writing news for on-air presentation. The course includes news gathering techniques and ethical issues. Prerequisite: TELC 214

## TELC 242 Aesthetics of TV \& Film

## Credit 3

Study of formative elements of television and film images including intensive analysis of space, time, light, color, and sound. Prerequisites: TELC 214.

## TELC 303 Broadcasting Management

## Credit 3

This course explores theories of management. It involves study and analysis of special problems and situations confronting the manager of a broadcast or cable facility in the administration of personnel in various station departments. Prerequisite: TELC 214

## TELC 333 Principles of Photojournalism <br> Credit 3

In this course students gain an understanding as well as a working vocabulary of the historic, formal, and psychological aspects of photojournalism using still photography, video, and film. Basic concepts of organization, framing, techniques of editing, etc. are examined through the reading and viewing of selected materials (photo stills, film \& video), as well as the practical experience of supervised projects. Prerequisite: TELC 214.

## TELC 355 Broadcast Ethics

## Credit 3

This course introduces students to the challenges of exercising good taste and accuracy when gathering and reporting news. Students examine case studies. Prerequisite: TELC 214 and TELC 241.

## TELC 336 Computer Graphics I

## Credit 3

This is an introductory level course in computer-generated graphic design and desktop publication. Through a "hands-on" approach, the student develops a basic knowledge of the various application programs of desktop publication and illustration using Macintosh computers. The student also develops the ability to create computer generated original art and learn the manipulation of scanned images, original digital camera images, basic design principles, and techniques such as layout, typography, and graphic production used in various commercial arts fields.

## TELC 337 Computer Graphics II Credit 3

Computer Graphics II is a continuation of Computer Graphics I (TELC 336) and the course work builds on the skills learned in TELC 336. Further skills are gained and then applied to applications such as: PageMaker \& Quark Express (used for layout design); Photoshop and Illustrator (illustration applications); After Effects \& Gif Builder (introduction to video and multimedia \& computer animation); and BB Edit (web page design). The course also
builds on the student's knowledge of basic design principles and techniques in design and graphic production generally started during the first semester. Prerequisite: TELC 336

## TELC 351 Communications Design Survey

Credit 3
This course is an introduction to the study of visual communications. It involves conceptualization, graphic imagery, aesthetics, and symbolism for the communication of information through graphic design, with specific emphasis on the relationship of graphic design to advertising. Problem-solving projects related to the design profession are required. Prerequisites: TELC 336 and TELC 337.

TELC 424 Advanced Reporting
Credit 3
This course focuses on the production of broadcast journalism for television newscasts. Prerequisites: TELC 214 and TELC 241.

## TELC 450 Broadcast Law

## Credit 3

This course is a study of various laws affecting broadcasting and cable communications. It examines the actions of the courts in interpreting the laws and the actions of the federal regulatory agencies related to the telecommunications industry. Prerequisite: TELC 214.

## TELC 472 Internship

Credit 3-12
This course is designed to provide experiential learning for students who seek careers in telecommunications including radio, television, and other media-related fields. It offers a unique opportunity to gather on-site, careerrelated experience and apply information previously gathered in the classroom setting. Students who receive the instructor's permission to enroll in TELC 472 must have completed the sophomore year of instruction and have maintained a minimum GPA of 2.7 prior to enrollment in the course. The course is offered in three credit increments up to twelve credits.

## TELC 481 Dramatic Writing for Film and TV <br> Credit 3

This course is designed for students who want to learn to take ideas and develop them into treatments, screen-plays, and other verbal and visual forms. The class is conducted as a workshop; students' work is discussed in an informal atmosphere, and selected films are screened. Through the workshop format, students are encouraged to find their creative direction. Prerequisite: Successful Completion of ENGL 101 and ENGL 102. Enrollment is limited to seventeen students.

## THEATER ARTS

## THAR 101 Introduction to Theater

## Credit 3

The course presents a survey of theater through the exploration of the components of a production, acting, set, costumes, lighting, sound, script, and the audience. Prerequisite: Permission of instructor.

## THAR 102 Stagecraft

Credit 3
This course involves an investigation and application of the visual effects of stage scenery in dramatic productions with exercises in set designing. Practical experiences within current productions are offered. Prerequisite: Permission of instructor.

## THAR 201 History of Theater and Drama

## Credit 3

This course provides a study of the cultural forms of theater from the Greek period to the end of the Renaissance, with analysis of selected plays. Selected plays from all major periods are read and critically analyzed. Prerequisite: Permission of instructor.

## THAR 202 History of Theater and Drama II

Credit 3
The course offers a study of the cultural forms of theater from the end of Renaissance to the present, with analysis of selected plays. Selected plays from all major periods are read and critically analyzed. Prerequisite: Permission of instructor.

## THAR 203 Acting I

Credit 3
This course provides a survey of acting practices along with basic training in the elements of acting, with preliminary studies in movement, pantomime, interpretation, and the use of the voice. Students participate in scenes or plays. Prerequisite: Permission of instructor.

THAR 204 Acting II
Credit 3
This course is a continuation of Acting I with more advanced instruction in movement, interpretation, and voice usage. Acting technique is stressed. Students participate in selected plays. Prerequisite: Permission of instructor.

## TRAVEL AND TOURISM MANAGEMENT

TMGT 130 Analysis of Travel and Tourism

## Credit 3

In this study of the components of the tourism industry and their interrelationships, the roles of the tour companies, travel agencies, government bureaus, tourism associations, and others who assemble, promote, and sell tourism services will be investigated.

TMGT 300 Tourism Transportation Systems Credit 3
An analysis of major land, sea, and air transportation systems supporting travel will be undertaken. Key components include airlines, cruise ships, buses, rail, and transportation packages.

## TMGT 306 Eco \& Cultural Tourism (Emerging Issue) Credit 3

This course is a study of purposeful travel to natural habitats to create an understanding of the cultural and natural history pertaining to the environment. The course emphasizes the philosophy of not altering the ecosystem, while producing economic benefits to local people and governments that encourage the preservation of the inherent resources of the environments locally and elsewhere. The cultural aspects emphasize African-American history and heritage.

TMGT 309 Tourism Economics
Credit 3
This course includes the application of economic principles and research methods to tourist and tourism industry behavior.

## TMGT 420 Marketing of Tourism Destinations Credit 3

This course includes procedures for analyzing the tourism and travel resources of a region and guidelines for formulating destination-oriented marketing goals and strategies.

## TMGT 499 Independent Study

Credit 1-3
This course provides an opportunity for comprehensive review of the tourism planning and policy process used to develop or modify major travel destination areas.

## University Offices and Unit Services

## Auxiliary Enterprises

Auxiliary Enterprises are self-supporting units that provide non-academic services to students, faculty, staff and guests of the University. These services include: student, faculty and staff dining, catering, snack bar, concessions, mail service, hotel accommodations, conferencing, laundry, bookstore, Greyhound Bus Service, student ID cards, vending, printing and document services and student security.

The HAWK CENTER is the pulse of Auxiliary Enterprises. It serves as the service center for the UMES Community and special programs. The HAWK CENTER is located on the second floor of the Student Services Center. Hours of operations for payments are 8:30 a.m. to 3:30 p.m., Monday through Friday. All other services are available Monday through Friday from 8:30 a.m. to $4: 15$ p.m. For more information about Auxiliary Enterprises, please visit https://www.umes.edu/auxiliary/.

Campus Life
The Office of Campus Life manages and implements a number of student activities based on student interest and input, both on and off campus. These activities include dances, intramural sports and recreation, plays, movies, lectures, bus trips, leadership training, homecoming, ethnic festival, and Spring Fest.

## Student Organizations

All official extra-curricular organizations, activities, and enterprises of students on the UMES campus operate under the broad guidance of the Director of Campus Life. The following is a listing of some of the many organizations currently functioning on the UMES campus: Beta Kappa Chi; Campus Pals Organization; Caribbean International Club; Criminal Justice Society; Drama Society; Education Club; Eta Rho Mu; Engineering Technology Society; Groove Phi Groove Social Fellowship; Human Ecology Club; Industrial Arts Club; International Students Organization; Math and Computer Science Club; Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS); NAACP; National Association of Black Accountants; National Student Business League; Pan-Hellenic Council; Pom-Pom Squad; Pep-Band; Poultry Science Club; Recruitment Club; Rehabilitation Services Student Association; Social Work Student Association; Student Activity Advisory Board; Wesley Foundation.

## Student Government Association (SGA)

Made up of elected student officers and advised by the Office of Campus Life, the SGA is the official undergraduate student governing body on the UMES campus. The SGA promotes the interests and welfare of the university community and encourages student participation in the solution of student concerns, while cooperating with the faculty and staff in the regulation and promotion of student life and development.

## Student Publications

The Yearbook is generated through student fees, appropriated by the Student Government Association. While the Yearbook is an annual publication, students volunteer as editors, photographers, and writers for the publications. For information on how to volunteer for the publication, contact the Student Government or the Office of Campus Life.

## The Pan-Hellenic Council

The Pan-Hellenic Council is made up of representatives of the National Greek Letter Organizations of UMES. The Council makes recommendations to the administrative bodies of the UMES campus regarding the activities of the National Greek Letter Organizations on the campus. One of its chief functions is to stimulate and guide each individual Greek Letter Organization so that the best interests of the University community will be served.

## Fraternities and Sororities

National Greek Letter fraternities and sororities are represented on the UMES Campus by chapters of the following organizations: Alpha Kappa Alpha; Alpha Phi Alpha; Delta Sigma Theta; Omega Psi Phi; Phi Beta Sigma; Sigma Gamma Rho; Zeta Phi Beta.

Any sorority or fraternity which permits any type of activity incidental to the initiation of members will be suspended.

## Student Handbook

The UMES Student Handbook is designed to familiarize students with official policies and procedures related governing students through their educational path with respect and dignity towards all persons associated with the University. This publication is located at https://www.umes.edu/Student/SH.pdf.

## Career Services and Professional Development Center

The Career and Professional Development Center at the University of Maryland Eastern Shore focuses on the integration of new services that are reflective of the student's plans to enter the workforce or academic arena after graduation. This will begin in their freshmen year, with the specialization of career and professional development support to students, while further enhancing internship and employment opportunities, mentoring and networking programs, experiential learning opportunities and/or graduate professional school exposure. The Career Professionals in the Center assist with the developing, evaluating and implementation of career goals and objectives. The Center recognizes its place as a leading example of excellence by acknowledging the unique needs of University of Maryland Eastern Shore. This Center is the linkage between the global workforce and academic environment.

Career related programs/seminars will be held targeting the various majors offered at the University. Further emphasis will be placed on developing connections with employers in various industries, including traditional recruiting efforts, while also exposing students to networking opportunities. Students no longer should look towards only attaining their first job, but also examining life and professional development skills, because of the many career changes they will make throughout life. The Career and Professional Development Center can help students identify their own range of skills through a strategic plan. All students should leave this University with a strategic plan of action prior to graduation. For additional information, contact the Career and Professional Development Center at (410) 651-6447.

## The Cooperative Education Program

The Office of Career Services administers the Cooperative Education program. This program is designed to combine educational training and practical work experience. The program provides students with planned and supervised work experiences related to their chosen field. All eligible and qualified students shall have access to the benefits of a cooperative education work experience through the availability of credited undergraduate and graduate cooperative academic course offerings and the provision of course enrollment opportunities.

Credit may be awarded contingent upon approval of the Cooperative Education Office only. The grading system for all Cooperative Education courses shall be pass/fail. Students may be awarded one to twelve (1-12) credits per course, which are designated as non-additive free elective credits that are applied, in accordance with the applicable academic major criteria for graduation, towards the completion of a baccalaureate, master's or doctoral degree.

Cooperative Education Eligibility: In order to participate, the student must:

- possess a minimum 2.0 GPA,
- have completed a minimum of 24 semester hours,
- be a sophomore or junior enrolled in a degree seeking program,
- have full-time status, and
- file an application with the Cooperative Education Office.

To remain in the program, the student must:

- register for each semester of cooperative education assignment,
- satisfactorily perform the work assignments for each work semester,
- submit and complete all required reports to the Cooperation Education Office on time, and
- attend Cooperative Education orientation workshops and seminars.

Once enrolled in this program, students will receive assistance in developing learning objectives, which outline the responsibilities and expectations of the Cooperative Education Program. The listing of objectives is intended to be flexible and individualized. It establishes readiness for learning and identifies relevant job-related information and specific requirements for credit.

## Cooperative Education Courses

- Co-Op Ed. 300 Cooperative Work Experience 1-12 credits
- Co-Op Ed. 301 Cooperative Work Experience 1-12 credits
- Co-Op Ed. 400 Cooperative Work Experience 1-12 credits
- Co-Op Ed. 401 Cooperative Work Experience 1-12 credits]


## The Center for Access and Academic Success (CAAS)

www.umes.edu/CAAS
The Center for Access and Academic Success (CAAS) is designed to promote holistic academic and personal student development, providing assistance primarily to first and second year students and transfer students with less than 30 credits, with access to comprehensive academic support services which strengthen their performance and promote student success and retention. The Center offers academic support through the following services: Academic Advising and Coaching, Tutoring, Peer Mentoring, Supplemental Instruction (SI), and English as a Second Language (ESL). The center also encompasses student enrichment programs such as, "Future Outstanding Cohort of University Students" (FOCUS), "Dare to be Resilient, Accountable \& Motivated" (DREAM) summer bridge program, and the First-year Experience-Hawk Mentor Partnership. CAAS partners with personnel from each of the divisions on campus-Academic Affairs, Administrative Affairs, Student Affairs and Institutional Advancement to support, and in some instances, creates initiatives that will assist in the retention of every student. The staff is comprised of highly trained and caring professionals who are dedicated to helping students achieve academic and personal success at UMES.

## Center for Instructional Technology and Online Learning

The Center for Instructional Technology and Online Learning at UMES assists faculty and students in all aspects of e-learning including hosting, training, development and support of the Blackboard Learning Management System, the Blackboard Portfolio System, Respondus, LockDown Browser and Echo 360. Additionally, the Center is responsible for development and delivery of online and hybrid programs offered by the University. Founded in 2006, the Center for Instructional Technology and Online Learning is supported by a grant awarded through Title III. The Center is located in 1106 Wilson Hall and is open Monday through Friday during normal business hours. For additional information, please call (410) 651-7574.

## Center for International Education

The purpose of the Center for International Education is to provide a conducive environment that will support the educational, cultural and social interactions among international students/scholars, domestic students, faculty,
staff, and the community. The Center will promote global education through student study/research abroad programs and faculty research and teaching abroad. The CIE is located at 11966 Dean Harris Court, across from the Student Apartments Office. For additional information, contact the Center for International Education at (410) $\mathbf{6 5 1 - 8 3 8 5}$ or 6079 or oiss @ umes.edu.

## Child and Family Development Center

The UMES Child and Family Development Center (CFDC), located in the Early Childhood Research Building, is a Maryland State Department of Education licensed preschool environment for one hundred-two children ages six-weeks through school age. One director, five full-time classroom teachers, supporting full-time staff and UMES students manage the full-day program that is in operation year-round and serves University students, staff and faculty, and the local community. The CFDC is committed to facilitating children's growth and development in a caring, enriched and supportive environment. State approved curricula, The Creative Curriculum and Little Treasures, prepare the children for successful entry into formal educational settings. Tuition fees are reasonable and are set on a sliding fee scale. Purchase of Care funds is accepted. Breakfast, lunch and afternoon snack are served. For additional information regarding the UMES Child and Family Development Center, visit the Center's website: https://www.umes.edu/he/affiliatedunits.html or contact the director, Dr. Donna Long at (410) 651-6173.

## Counseling Services

The University Counseling Center offers a broad range of services designed to assist students in personal growth, academic success, emotional health and well-being, and human development. The Center's holistic and studentcentered approach to counseling allows the staff to help students learn to make reasoned decisions in the multiple areas of their academic and personal lives.

It is the policy of the Counseling Center to provide comprehensive services to all students. The Counseling Center subscribes to principles outlined by the International Association of Counseling Services (ISACS) and the code of ethics of the American Counseling Association (ACA). These services are offered at no cost to enrolled students.

It is the philosophy of Counseling Services that one of the basic rights of clients in treatment is the right of confidentiality, as counseling is most effective when a student can be direct and honest with the counselor without fear that personal information will be divulged.

Confidentiality is an ethic that prevents unauthorized disclosure about clients, including their names and their care, without the client's written permission, except under conditions where such disclosure is necessary to protect the student or someone else from imminent danger. While information will not be released outside of The Counseling Center without the student's written permission, by state law Counseling Center staff may confer with each other in order to improve the quality of its services.

Referrals from the campus community are encouraged as faculty and staff are often the first to identify that a problem exists and can provide support by referring students to Counseling Services. To make an appointment, the student may walk in, or call ((410) 651-6449) to schedule the initial session.

## Department of Intercollegiate Athletics

The University of Maryland Eastern Shore is a Division I member of the National Collegiate Athletic Association (NCAA) and a member of the Mid-Eastern Athletic Conference (MEAC). Athletic scholarships are available to qualified student-athletes in the following sponsored sports.

| Men |  |  |  |
| :--- | :--- | :--- | :--- |
| Baseball | Basketball | Basketball | Women |
| Cross Country | Tennis | Cross Country | Softball |
| Track \& Field | Golf | Tennis | Track \& Field |
|  |  | Volleyball |  |

## Mission

The Department of Intercollegiate Athletics has a long history of excellence in promoting athletic competition, academic achievement, and personal development in a supportive environment. The Department strives to maintain this legacy by producing championship caliber teams while providing student-athletes the opportunity and resources to reach their highest potential in all areas of their lives. The University and the Department of Intercollegiate Athletics are committed to the equitable and fair treatment of all student-athletes without regard to race or gender. Emphasis is placed on opportunities for full participation of women in the athletics program.

Through team sports, the faculty and staff seek to develop the student-athletes' self-esteem and interpersonal skills. It is the philosophy of the Athletics Department that self-esteem is the key to success in any endeavor and should be fostered in all Departmental activities. Pride in one's self, respect for teammates, and pride in the institution are actively promoted.

The University of Maryland Eastern Shore's Department of Intercollegiate Athletics emphasizes academics as the primary focus in any student-athlete's life, and assists student-athletes in developing a balance in their social, athletic, and academic pursuits. It is the goal of the Department to produce graduates who are personally and professionally prepared to meet the challenges of the future.

## Discover UMES

Discover UMES is an activity designed to strengthen experiential learning opportunities in the field of broadcasting and communications for UMES students. For additional information, please contact Jim Glovier, Interim Producer, Discover UMES, (410) 651-6556 or jmglovier@ umes.edu or www.umes.edu.

## The Frederick Douglass Library

The Frederick Douglass Library, led by the Dean of Library Services, provides a multiplicity of reference and technical resources onsite and via the Internet to support the University's programs. As a member of the University System of Maryland (USM) Libraries, the Frederick Douglass Library is electronically linked via an automated integrated internet system with USM's eleven campuses and thirteen libraries. Therefore, the Library's patrons have access to the USM's extensive library collections, electronic resources, and global access to collections, databases, and/or resources worldwide.

The collection includes over 271,310 volumes; 37,482 bound periodicals; and over a half million microfiche and microfilm collections. As a member of USMAI (University System of Maryland and Affiliated Institutions) consortium, the library is affiliated with the sixteen libraries at the public universities and colleges in the State of Maryland for the purpose of sharing library resources. The integrated, comprehensive information library system Ex-Libris makes it possible for our patrons to have 24/7access to USMAI library collections and electronic resources. These collections and resources are reflected in the library catalog and include over 148 research
databases often including full text journals, books and newspapers. A very competent staff is also available to assist with information needs.

## Health Center

The Charles R. Drew Student Health Center provides basic health care for students (residents and commuters) currently enrolled at UMES. The Health Center staff includes a nurse practitioner, a physician and nursing staff that provide evaluation, diagnosis, treatment, counseling, and referral for health needs.

The Student Health Center provides a variety of services such as treatment for acute conditions, immunizations and screenings. There is no charge for office visits; however, some fees may be required for certain services. Students who are referred off campus to other medical facilities (for x-rays, more extensive testing, etc.) are responsible for any expenses incurred. Likewise, costs for prescriptions are the responsibility of the student.

All registered students, including graduate, transfer and international, regardless of number of credit hours being taken are required to provide a completed health history form and proof of up-to-date immunization status for measles, mumps, rubella (MMR) and tuberculosis (TB) prior to registering for and/or attending classes. Students living in campus housing must also meet the meningitis requirement. Registration blocks will be placed on students who have not submitted the required documents. This will prevent students from registering for/or attending classes until the records are received and processed. To avoid delays, students should submit the records as soon as possible. The deadlines for submission are August 1 for the fall semester and January 1 for the spring semester. Students who encounter difficulty obtaining documentation should contact the Student Health Center for assistance.

All international students are required to have health insurance. A University-sponsored plan is available and international students are automatically enrolled in the insurance plan unless they opt out. To opt out of the University health insurance plan, students must provide proof of current valid health insurance that meets or exceeds the benefits in the university plan. Proof of insurance must be presented by the deadline of September 15 in the fall and by February 15 in the spring. If no proof of insurance is provided, the student's account will be billed for insurance at the current rate. Copies of the insurance brochure may be obtained from the Student Health Center or the Student Health webpage. Students with questions about using the insurance should contact the Health Center staff.

Hours for the Health Center during the fall and spring semesters are 8:00 AM to 4:00 PM, Monday through Friday. For medical emergencies after these hours, students may seek assistance through Campus Police or Residence Life staff members. For additional information, contact the Student Health Center at (410) 6516597 or (410) 651-6702 (fax).

## Office of the Registrar

The Office of the Registrar is the official University repository of academic records. The Office of the Registrar strives to provide the highest level of customer service, professionalism, courtesy, and efficiency in servicing students, faculty, staff, alumni and the community. This office plays an essential role in the Division of Academic Affairs by ensuring that all academic policies and procedures are met. The Office of the Registrar is located on the first floor of the Student Development, Cultural, and Recreation Center (SDCRC). The following services are representative, but not limited to those offered by the Office of the Registrar: Issuance of Transcripts; Enrollment Verifications; Withdrawal from the University; Graduation Audits; Credit by Examination; Coordination of Cooperative Programs; Change of Major; Degree Certification; Course Withdrawal; and Inter-Institutional Enrollment. For more information please visit www.umes.edu/Registrar/.

The Department of Public Safety is responsible for the safety and security of all students, faculty and staff, as well as, the university's facilities, grounds and property. It is the goal of Public Safety to provide a safe and wholesome environment to facilitate the educational mission of the University. The Department is operational 24 hours a day, seven days a week.

## Prevention Education

The Department of Public Safety distributes materials recommended by the National Crime Prevention Council and by Maryland Crime Watch on various topics. Additional information is provided to the University community through lectures, videos, bulletins, and workshops.

## Emergency Telephones

There are thirteen "blue light" emergency telephones strategically located throughout the University, directly connected to the Department of Public Safety for immediate police response. Elevators have similar emergency phones that are also connected to the Department.

## Motor Vehicle Registration

All motor vehicles operated on campus by UMES students, faculty, staff and visitors must be registered and display a parking permit or obtain a temporary parking permit from the Department of Public Safety, regardless of ownership. Motorcycles and motor scooters are included in the policy. Each registered vehicle is issued a parking permit that is valid for one academic year. A small fee is charged for each permit. The 1992 Maryland General Assembly passed legislation requiring all out-of-state students attending the University to secure a Non-Resident permit for the vehicle which is to be operated in the State of Maryland for more than 30 days. There is a fee associated with the permit. Contact the Maryland State Motor Vehicle Administration for details.

## Campus Parking

There is ample parking at UMES. All students living on campus may have their own vehicle and are expected to park only in the designated areas for their parking permit. All Students, regardless of whether they have a University registered vehicle, are responsible for knowing the policies for operating motor vehicles on campus and are expected to park only in designated areas. Failure to do so can result in ticketing and/or towing, depending on the violation. Fines must be paid within 15 days of occurrence or a late fee will be incurred. Violators who do not pay parking fines will have their tickets forwarded to the State's Motor Vehicle Administration for flagging of registration renewal and fines added to the student's UMES fiscal account.

## Student Services Center

The Student Services Center, or SSC, is the hub of campus life on the UMES campus. The Center offers a variety of recreational and educational activities and employment opportunities for UMES students and student organizations. Stretching 147,000 square feet, the length of two football fields, the two-story building is the home of the Student Government Association, twenty-five registered student organizations, bookstore, game room, bowling center, dining hall, snack bar, lounges, ballroom, theatre, and campus post office. In addition, several administrative and support offices are located in the facility, including offices for the Vice President for Student Affairs and Enrollment Management, Director for Auxiliary Enterprises, Camps Life, Career and Professional Development Center, and Auxiliary Enterprises. The SSC is filled with activity during a typical day and is the site for a number of student organization meetings, lectures, plays, and movies. The Center is also equipped with an Automatic Teller Machine (ATM), sponsored by the State Employees Credit Union of Maryland.

The UMES Bookstore provides course materials (both new \& used), general reading books and references, school and office supplies, computer products, and official UMES sportswear and paraphernalia to the university family. The bookstore has some custom Greek apparel and accessories available in the store. The bookstore, which is located in the Student Services Center, accepts the HAWKCARD, cash, checks, and all major credit cards. Items can be purchased online at www.neebo.com/umes.

Office of University Engagement and Lifelong Learning (OUELL)

## OUELL Mission

Our mission is to work collaboratively with local communities to enrich the quality of living on the Shore through outreach programs; to engage faculty and students in scholarly activities that positively impact Maryland citizens; and to provide lifelong learning opportunities to a global community. This Office will promote college readiness and retention while working with local schools to build a pipeline to postsecondary education and identify curriculum-based service learning and civic engagement opportunities for college students.

## Community Partners

The Office of University Engagement and Lifelong Learning (OUELL) recognizes and values societal transformations made possible through engaged universities and communities. All organizations and agencies are invited to partner with our office to provide quality faculty and student service-learning and engagement opportunities that are equally beneficial to campus participants and communities within the Eastern Shore.

## Service-Learning

Service-learning is an active teaching and learning method that blends meaningful community service with academic instruction and reflection to enrich learning experiences, instill civic responsibility, and strengthen communities.

Model service-learning projects and/or activities address recognized community needs; integrate learning outcomes from classrooms or broader institutional goals with life skills gained outside of the classroom; allow students to "have a voice" as active participants in planning, implementing, and evaluating potential solutions to identified challenges; and promotes collaboration, democracy, and a sense individual responsibility to care and contribute to the betterment of the community. Students can apply and strengthen various skills through the following types of service-learning activities:

- Direct Service: activities requiring face-to-face service that directly impacts the individual(s) being served (e.g., tutoring, creating lessons and presenting them to younger audiences or community members, etc.).
- Indirect Service: working on community development or environmental projects and/or larger issues that benefit the broader community or region, but not necessarily an individual (e.g., restoring ecosystems, preserving community structures, historic landmarks or historic documents, etc.).
- Research-based Service: collecting and presenting information in a particular field of interest associated with an identified community need (e.g., conducting surveys, studies, interviews, and reporting information needed; gathering data/information and creating publications for non-profit organizations; conducting water quality and natural resources for local residents, etc.).
- Advocacy Service: projects focused on educating, creating awareness and/or promoting action on public issues (e.g., planning and organizing public forums, safety and disaster preparation training events, working with elected officials to create legislation, etc.).


## University Housing/Residence Life

There are twelve (12) residential communities in the University's array of housing options. Combined, these facilities accommodate over 2100 residents. Housing options range from traditional double rooms to apartments with single bedrooms. Included are unique options such as apartments with full kitchens. Students who reside in the efficiency apartment communities are not required to purchase a meal plan. The Office of Residence Life (ORL) oversees the operation of all University housing and off-campus leased properties, and strives to promote a living environment that respects the privacy and security of residential students and, perhaps more importantly, encourages the creation of good academic habits, non-traditional learning and managed social opportunities. All residential facilities have policies that incorporate quiet hours for the purpose of study and rest and restricted hours for disruptive group activities.

In order for students to acquire on-campus housing, students must complete a housing contract on Hawkville, the Residence Life online housing reservation system. Room deposits are required upon completion of the housing contract. For the fall semester, the room deposit is $\$ 300$ and $\$ 150$ for the spring semester. The room deposit is applied towards the student's account to assist in covering future charges. It is refundable by notifying the ORL in writing by July 1 for the fall semester and January 1 for the spring semester. Failure to notify the ORL prior to these dates will result in a forfeiture of the deposit if the student decides not to matriculate at UMES. Information regarding housing policies, descriptions and how to reserve housing may also be obtained from the UMES website at https://www.umes.edu/reslife/Default.aspx?id=12768.

## IMPORTANT UNIVERSITY REGULATIONS WHICH ApPLY TO STUDENTS

The following behavior may result in referral to the UMES campus Conduct System for appropriate action. Typically, disciplinary sanctions will be imposed not only for individual misconduct that demonstrates a disregard for institutional behavior standards, but also for conduct that indicates disregard for the rights and welfare of others as members of an academic community. Such conduct may ultimately call into question the student's membership in the University community, either because he/she has violated elementary standards of behavior necessary for the maintenance of an educational milieu or because his/her continued presence at the University adversely affects the ability of others to pursue their educational goals.

- Violation of Fire Regulations - This includes failure to comply with evacuation procedures, tampering with fire-protection apparatus, use or possession of fireworks or firearms, use of open-flame devices or combustible materials which endanger the safety or well-being of the University community, or unauthorized use of electrical equipment.
- Behavior Which Jeopardizes the Safety or Well-Being of Other Members of the University Community or Persons Coming onto University Property - This includes physical harassment of, or interference with, fire fighters, police officers, or other persons engaged in the performance of their official duties; physical abuse or threatening physical abuse of any person on University property; and/or forcible detention of any person on University property.
- Unauthorized Possession, Use, or Distribution of Alcoholic Beverages on or in University Property University policy, consistent with State and County Laws, restricts on-campus use of alcoholic beverages in specified areas.
- Possession, Use, Sale or Distribution of Illegal Drugs or of Drugs for Which the Required Prescription Has Not Been Obtained - This includes possession, use, distribution, sale, manufacture of, or processing of, illegal or un-prescribed narcotics, drugs, and/or hallucinogenic substances.
- Destruction, Theft, Attempted Theft or Impairment of Personal or University Property Disciplinary action may include a requirement of restitution.
- Unauthorized Possession or Use of University Keys - Keys to rooms or buildings on the university campus may be obtained only through official channels.
- Unauthorized Entry into or Presence in a University Building or Facility - Except for properly scheduled use, classroom, administration, and recreation buildings are closed to general student use on holidays, Saturday afternoons, Sundays, and after 12:00 midnight during the week. Students may use a building or facility for a specified purpose upon written permission from a member of the faculty, with approval of the academic or administrative officer normally having control over such building or facility. Such permission may also be revoked or withdrawn.
- Plagiarism, Cheating and Other Academic Irregularities - A student who violates accepted academic procedure may be referred to the Department Chairperson or to an Ad Hoc Committee on Academic Dishonesty.
- Falsification, Forgery or Modification of Any Official University Record - Identification card, absence excuses, parking stickers, transcripts, examinations, grade cards, admission applications, etc. are all Official University records. Tampering with any of these records may invoke conduct actions.
- Actions on the Part of Students Which Substantially Obstruct, Disrupt, or Interfere with NonAcademic Activities on University Premises by Members or Authorized Non-Members of the University Community.
- Obstruction of, Disruption of, or Interference with Any University Activity of an Academic Nature - Discipline in the classroom is the responsibility of the faculty member in charge of the class. Misbehavior of a type that interferes with the educational efficiency of a class will be considered sufficient cause for suspending a student from the class. If a student is suspended from class for disciplinary reasons, he/she should report immediately to the Department Chair.

The Department Chair will investigate the incident and will report it to the Academic Dean, who will in turn report it to the Provost and Vice President for Academic Affairs to determine whether or not past disciplinary action has been taken against the student. The Department Chair will then write a letter to the student indicating the disposition of the case. The student will be required to present this letter to the instructor who suspended him/her before he/she can be readmitted to class. A copy of this letter will be sent to the Chair of the Student Judiciary Council.

- Failure to Meet Financial Obligations to the University - This includes refusal to pay delinquent accounts and use of worthless checks or money orders as payment to the University for tuition board, fees, library fines, traffic penalties, etc.


## Suspension of Students and Organizations from University Activities and/or Facilities

Suspension from University activities and facilities occurs when a student breaks the University's Code of Student Conduct. The person in charge of a unit of the University directly related to the code violation (the person in charge of a department, division, organization building, facility, or unit such as the Dining Hall, Student Center, etc.) may recommend suspension of any student or organization from a facility, pending action by the Conduct Board, which adjudicates all such incidents and notifies the student(s) of the disposition of the case. A file of such actions is kept in the office of the conduct administrator.

## Student Code of Conduct

The University of Maryland Eastern Shore (UMES) is a student-centered community, the central purpose of which is the discovery and transmission of knowledge and learning through scholarly research, teaching, service, and community outreach, building towards the total development of its students and the global community.

Members of the UMES community (students, faculty, administrators, and staff) have come together in a voluntary association, not merely to fulfill individual responsibilities, but to contribute to the realization of the University's objectives and mission. Therefore, in the interest of maintaining order (in the University community) within the
broadest range of student freedom, these rules and regulations have been established by the University of Maryland Eastern Shore to govern student conduct.

The UMES Conduct System is designed to assure due process, with the speedy and constructive resolution of cases and controversies. Disciplinary proceedings at UMES are not criminal proceedings; therefore the focus of inquiry in disciplinary proceedings shall be to determine whether a student(s) has violated the University Student Code of Conduct. A humanistic approach to discipline is employed whenever possible. It is intended that this conduct system, will operate on the principle that justice will best be served by promoting the development of self-knowledge and self-discipline, expressed in socially desirable ways, rather than harmful, destructive or immature attitudes or behaviors.

The Student Code of Conduct outlines rules and regulations relative to student conduct and housing, and is applicable to all students (on and off campus), as well as registered student and Greek-letter organizations. The authority to administer the Student Code of Conduct and its conduct system is delegated to the Vice President for Student Affairs and Enrollment Management. The Campus Conduct Board adjudicates disputes over complaints of violations of these rules and regulations.

All UMES students share the following responsibilities: to read, become acquainted with, and adhere to the Code; to respect personal and property rights of others, and to act in a responsible manner at all times, on or off campus; to protect and foster the intellectual, academic, research, cultural, and social missions of the University; and to observe the laws of local, state and federal governments and agencies.

## UMES Code of Student Values

The University of Maryland Eastern Shore claims certain foundational principles of values upon which its entire existence stands. All students at the University of Maryland Eastern Shore have the duty to observe, uphold, and accept these values as standards of conduct. These include honor, personal and academic integrity, mutual respect for personal and property rights of others, justice, freedom, diversity, leadership, civility, courtesy, fairness, spirituality, and loyalty to the University. UMES has established this Code of Student Values (see full Interpersonal Values Statement in appendix, Student Code of Conduct), which forms the model 2 of conduct for student members of our academic community.

## Prohibited Conduct

The following conduct is prohibited by the University of Maryland Eastern Shore and subject to disciplinary action in accordance with the Student Code of Conduct. Attempts to commit acts prohibited by this Code shall be punished to the same extent as completed acts, which may include suspension and/or expulsion from the University. Students and student organizations are responsible for the conduct of their guest(s) on, or in University property and at functions sponsored by the University, and may be disciplined for a guest's violation of this Student Code of Conduct. Pursuant to the University's parental notification policy, parents or guardians will be notified when students under the age of twenty-one (21) receive disciplinary sanctions for abuse and/or misuse of alcohol, and drugs, or for arrest. Please note this is not an exhaustive list, a more complete list is available in the Student Code of Conduct.

- Computer misuse and dishonesty
- Forgery, fraud, and dishonesty
- Improper possession, use or abuse of alcoholic beverages
- Drugs
- Discriminatory conduct
- Violence to persons
- Theft, vandalism, destruction and abuse of property
- Disruptive, disorderly, or reckless conduct
- Possession of dangerous weapons, firearms, or explosives
- Violations of Residence Life and Housing/Rules and Regulations
- Cellular telephone and pagers in the classroom
- Obstruction of the free flow of pedestrian or vehicular traffic
- Arson
- Harassment
- Sexual assault and misconduct
- Stalking
- Illegal gambling or wagering
- Hazing
- On or off campus event related misconduct

A complete copy of the UMES Code of Conduct is available at www.umes.edu/Student/index.html or visit the Office of Campus Conduct, Student Services Center, Suite 2165 or call (410) 651-8440.

# 13B MARYLAND HIGHER EDUCATION COMMISSION Subtitle 06 GENERAL EDUCATION AND TRANSFER 

# Chapter 01 Public Institutions of Higher Education <br> Authority: Education Article, § 11-201-11-206, Annotated Code of Maryland 

## . 01 Scope and Applicability.

This chapter applies only to public institutions of higher education.

## . 02 Definitions.

A. In this chapter, the following terms have the meanings indicated.
B. Terms Defined.
(1) "Area of concentration" means a sequential arrangement of courses within a program which at the:
(a) Undergraduate level exceeds 24 semester credit hours;
(b) Master's level exceeds 12 semester credit hours; and
(c) Doctorate level exceeds 18 semester credit hours.
(2) "Articulated system (ARTSYS)" means a computerized data information system created to facilitate the transfer of students from Maryland community colleges to the University of Maryland System and other participating institutions.
(3) "Associate of Applied Science (A.A.S.)" means a degree which recognizes a mastery of vocational-technical occupational skills (law enforcement, computer technology, engineering technology, etc.). The program is intended for those seeking immediate employment opportunities. However, the program does not preclude a student from transferring to a technical baccalaureate degree program such as a bachelor's degree in technology or a bachelor's degree in technical or professional studies, or from transferring non-technical courses to a 4 -year institution.
(4) "Associate of Arts (A.A.)" means a degree which recognizes a mastery in the liberal arts (social sciences, humanities, and similar subjects) and in the fine arts (music, art, etc.). The program is intended for transfer to an equivalent Bachelor of Arts degree program at 4 -year institutions.
(4-1) "Associate of Art in Teaching (A.A.T.)" means a degree which recognizes a mastery in teacher education which:
(a) Meets the lower-level degree academic content, outcomes, and requirements for teacher education, similar to the first 2 years of a baccalaureate program in teacher education;
(b) Requires a passing score on Praxis I;
(c) Requires a cumulative grade point average of 2.75 on a 4.00 scale; and
(d) If achieved, transfers in total without further review by Maryland public and independent four-year institutions.
(5) "Associate of Fine Arts (A.F.A.)" means a degree which recognizes a mastery in the professional arts in programs which:
(a) Have as a primary goal transfer to a B.F.A. degree program;
(b) Are similar to the first 2 years of a B.F.A. degree program; and
(c) Require at least 60 percent of the course credit to be in studio work and related areas.
(6) "Associate of Science (A.S.)" means a degree which recognizes a mastery in science or technology (engineering, agriculture, and the natural sciences) with a heavy emphasis on undergraduate mathematics or science. The program is intended for transfer to a Bachelor of Science degree program at 4 -year institutions.
(7) "Bachelor of Arts/Bachelor of Science (BA/BS)" means a degree awarded for successful completion of a program of 120 or more undergraduate semester credit hours.
(8) "Bachelor of Technical or Professional Studies" means a degree awarded for the successful completion of an A.A.S. degree, an advanced program of study in the designated area of concentration, and a 12 -credit internship or field placement related to the program of study.
(9) "Certificate of advanced study" means a certificate awarded for successful completion of at least 30 semester credit hours of graduate study or the equivalent beyond the master's degree.
(10) "Commission" means the Maryland Higher Education Commission.
(11) "Directed technology certificate" means a certificate awarded for successful completion of a specialized learning program which:
(a) Meets employer training needs; and
(b) Consists of at least 12 credits but not more than 24 credit hours at the freshman or sophomore levels, or both.
(12) "Doctoral degree" means a degree awarded for successful completion of at least 2 years of study beyond the master's level, including completion of a thesis or dissertation.
(13) "First professional degree" means a degree awarded for successful completion of all institutional requirements for becoming a practitioner in a field such as law, medicine, dentistry, pharmacy, theology, or nursing.
(14) "Formal award" means a certificate, diploma, or degree granted in recognition of successful completion of the requirements of a program. These official awards are conferred by the faculty and ratified by the institution's governing board.
(15) "Full-time equivalent faculty (FTEF)" means the number of full-time faculty plus the number of course credit hours taught by part-time faculty during the fall and spring semesters, divided by 24 for teaching 4 -year institutions and divided by 18 for research institutions. For community colleges, the number of course credit hours eligible for State aid and taught by part-time faculty during a given fiscal year would be divided by 30 and added to the number of full-time faculty.
(16) "Instructional program" means a course of study, requiring the completion of a specified number of course credits from among a prescribed group of courses, which leads to a formal award.
(17) "Internship" means a supervised work experience or field placement directly related to the student's program.
(18) "Joint degree" means a single degree offered by two or more institutions bearing the name and seal of each in which all participants are substantively involved in required course work, faculty exchange, and shared use of facilities.
(19) "Lower-division certificate" means a certificate awarded for successful completion of a minimum of 12 semester hours at the freshman or sophomore levels, or both.
(20) "Master's degree" means a degree awarded for successful completion of at least 30 semester credit hours or the equivalent of graduate-level courses.
(21) Off-Campus Program.
(a) "Off-campus program" means:
(i) A program in which more than $1 / 3$ of the required course work in a major field of study leading to a certificate beyond the bachelor's level or leading to an undergraduate or graduate degree is offered by an approved or chartered institution at a location other than the principal location of the sponsoring institution during any 12 -month period; or
(ii) Course work offered at a location other than the principal location of an approved or chartered institution that is advertised as leading to an undergraduate or graduate degree or to a certificate beyond the bachelor's level at that location, regardless of the portion of a program offered at that location.
(b) "Off-campus program" for community colleges means an activity or activities offered outside the community college service area.
(22) "Parallel program" means a program of study, or courses, at one institution of higher education which has comparable objectives to those at another higher education institution. For example, a transfer program in psychology in a community college is defined as a parallel program to a baccalaureate psychology program at a 4year institution of higher education.
(23) "Post-baccalaureate certificate" means a certificate awarded for successful completion of at least 12 semester credit hours of college-level work, the majority of which is at the master's level.
(24) "Primary degree" means a single degree offered by one institution having responsibility for at least $2 / 3$ of the course requirements in which cooperating institutions participate by the appropriate and complementary addition of courses, faculty, and facilities intended to complete the degree requirements of the primary institution.
(25) "Professional certificate" means a certificate awarded for successful completion of the number of courses required by the appropriate national professional association.
(26) "Recommended transfer program (RTP)" means a planned program of courses, including both general education and courses in the major, taken at the community college which is:
(a) Applicable to a baccalaureate at a receiving institution; and
(b) Ordinarily the first 2 years of the baccalaureate degree.
(27) "Secretary" means the Secretary of Higher Education.
(28) "Segment" means the University of Maryland System, Morgan State University, St. Mary's College of Maryland, the Maryland Independent Colleges and Universities Association, and the Maryland Association of Community Colleges.
(29) "State Plan" means the document entitled State Plan for Higher Education.
(30) "Undergraduate major" means, varying by degree program and subject area:
(a) Minimum of 30 semester hours ( $1 / 2$ of which must be upper-divisional credit) in one field or in an interdisciplinary or multidisciplinary field; and
(b) Coherent, sequential, and integrated academic program of study-in-depth which is intended to provide:
(i) A body of knowledge,
(ii) Methods of study, and
(iii) Practice appropriate to a subject area.
(31) "Upper-division certificate" means a certificate awarded for successful completion of at least 12 semester credit hours at the junior or senior levels, or both.

## .02-1 Admission of Transfer Students to Public Institutions.

A. Admission to Institutions.
(1) A student attending a public institution who has completed an A.A., A.A.S., or A.S. degree or who has completed 56 or more semester hours of credit, may not be denied direct transfer to another public institution if the student attained a cumulative grade point average of at least 2.0 on a 4.0 scale or its equivalent in parallel courses, except as provided in $\S(4)$ of this regulation.
(2) A student attending a public institution who has not completed an A.A., A.A.S., or A.S. degree or who has completed fewer than 56 semester hours of credit, is eligible to transfer to a public institution regardless of the number of credit hours earned if the student:
(a) Satisfied the admission criteria of the receiving public institution as a high school senior; and
(b) Attained at least a cumulative grade point average of 2.0 on a 4.0 scale or its equivalent in parallel courses.
(3) A student attending a public institution who did not satisfy the admission criteria of a receiving public institution as a high school senior, but who has earned sufficient credits at a public institution to be classified by the receiving public institution as a sophomore, shall meet the stated admission criteria developed and published by the receiving public institution for transfer.
(4) If the number of students seeking admission exceeds the number that can be accommodated at a receiving public institution, admission decisions shall be:
(a) Based on criteria developed and published by the receiving public institution; and
(b) Made to provide fair and equal treatment for native and transfer students.
B. Admission to Programs.
(1) A receiving public institution may require higher performance standards for admission to some programs if the standards and criteria for admission to the program:
(a) Are developed and published by the receiving public institution; and
(b) Maintain fair and equal treatment for native and transfer students.
(2) If the number of students seeking admission exceeds the number that can be accommodated in a particular professional or specialized program, admission decisions shall be:
(a) Based on criteria developed and published by the receiving public institution; and
(b) Made to provide fair and equal treatment for native and transfer students.
(3) Courses taken at a public institution as part of a recommended transfer program leading toward a baccalaureate degree shall be applicable to related programs at a receiving public institution granting the baccalaureate degree.
C. Receiving Institution Program Responsibility.
(1) The faculty of a receiving public institution is responsible for development and determination of the program requirements in major fields of study for a baccalaureate degree, including courses in the major field of study taken in the lower division.
(2) A receiving public institution may set program requirements in major fields of study which simultaneously fulfill general education requirements.
(3) A receiving public institution, in developing lower division course work, shall exchange information with other public institutions to facilitate the transfer of credits into its programs.

## .03 General Education Requirements for Public Institutions.

A. While public institutions have the autonomy to design their general education program to meet their unique needs and mission, that program shall conform to the definitions and common standards in this chapter. A public institution shall satisfy the general education requirement by:
(1) Requiring each program leading to the A.A. or A.S. degree to include not less than 30 and not more than 36 semester hours, and each baccalaureate degree program to include not less than 40 and not more than 46 semester hours of required core courses, with the core requiring, at a minimum, course work in each of the following five areas:
(a) Arts and humanities,
(b) Social and behavioral sciences,
(c) Biological and physical sciences,
(d) Mathematics, and
(e) English composition; or
(2) Conforming with COMAR 13B.02.02.16D(2)(b)-----(c).
B. Each core course used to satisfy the distribution requirements of §A(1) of this regulation shall carry at least 3 semester hours.
C. General education programs of public institutions shall require at least:
(1) One course in each of two disciplines in arts and humanities;
(2) One course in each of two disciplines in social and behavioral sciences;
(3) Two science courses, at least one of which shall be a laboratory course;
(4) One course in mathematics at or above the level of college algebra; and
(5) One course in English composition.
D. Interdisciplinary and Emerging Issues.
(1) In addition to the five required areas in §A of this regulation, a public institution may include up to 8 semester hours in a sixth category that addresses emerging issues that institutions have identified as essential to a full program of general education for their students. These courses may:
(a) Be integrated into other general education courses or may be presented as separate courses; and
(b) Include courses that:
(i) Provide an interdisciplinary examination of issues across the five areas, or
(ii) Address other categories of knowledge, skills, and values that lie outside of the five areas.
(2) Public institutions may not include the courses in this section in a general education program unless they provide academic content and rigor equivalent to the areas in $\S(1)$ of this regulation.
(E) General education programs leading to the A.A.S. degree shall include at least 20 semester hours from the same course list designated by the sending institution for the A.A. and A.S. degrees. The A.A.S. degree shall include at least one 3 -semester-hour course from each of the five areas listed in $\S \mathrm{A}(1)$ of this regulation.
(F) A course in a discipline listed in more than one of the areas of general education may be applied only to one area of general education.
(G) A public institution may allow a speech communication or foreign language course to be part of the arts and humanities category.
(H) Composition and literature courses may be placed in the arts and humanities area if literature is included as part of the content of the course.
(I) Public institutions may not include physical education skills courses as part of the general education requirements.
(J) General education courses shall reflect current scholarship in the discipline and provide reference to theoretical frameworks and methods of inquiry appropriate to academic disciplines.
(K) Courses that are theoretical may include applications, but all applications courses shall include theoretical components if they are to be included as meeting general education requirements.
(L) Public institutions may incorporate knowledge and skills involving the use of quantitative data, effective writing, information retrieval, and information literacy when possible in the general education program.
(M)Notwithstanding $\S A(1)$ of this regulation, a public 4 -year institution may require 48 semester hours of required core courses if courses upon which the institution's curriculum is based carry 4 semester hours.
(N) Public institutions shall develop systems to ensure that courses approved for inclusion on the list of general education courses are designed and assessed to comply with the requirements of this chapter.

## . 04 Transfer of General Education Credit.

(A) A student transferring to one public institution from another public institution shall receive general education credit for work completed at the student's sending institution as provided by this chapter.
(B) A completed general education program shall transfer without further review or approval by the receiving institution and without the need for a course-by-course match.
(C) Courses that are defined as general education by one institution shall transfer as general education even if the receiving institution does not have that specific course or has not designated that course as general education.
(D) The receiving institution shall give lower-division general education credits to a transferring student who has taken any part of the lower-division general education credits described in Regulation .03 of this chapter at a public institution for any general education courses successfully completed at the sending institution.
(E) Except as provided in Regulation .03M of this chapter, a receiving institution may not require a transfer student who has completed the requisite number of general education credits at any public college or university to take, as a condition of graduation, more than $10----16$ additional semester hours of general education and specific courses required of all students at the receiving institution, with the total number not to exceed 46 semester hours. This provision does not relieve students of the obligation to complete specific academic program requirements or course prerequisites required by a receiving institution.
(F) A sending institution shall designate on or with the student transcript those courses that have met its general education requirements, as well as indicate whether the student has completed the general education program.
(G) A.A.S. Degrees.
(1) While there may be variance in the numbers of hours of general education required for A.A., A.S., and A.A.S. degrees at a given institution, the courses identified as meeting general education requirements for all degrees shall come from the same general education course list and exclude technical or career courses.
(2) An A.A.S. student who transfers into a receiving institution with fewer than the total number of general education credits designated by the receiving institution shall complete the difference in credits according
to the distribution as designated by the receiving institution. Except as provided in Regulation .03M of this chapter, the total general education credits for baccalaureate degree-granting public receiving institutions may not exceed 46 semester hours.
(H) Student Responsibilities. A student is held:
(1) Accountable for the loss of credits that:
(a) Result from changes in the student's selection of the major program of study,
(b) Were earned for remedial course work, or
(c) Exceed the total course credits accepted in transfer as allowed by this chapter; and
(2) Responsible for meeting all requirements of the academic program of the receiving institution.

## .05 Transfer of Non-general Education Program Credit.

A. Transfer to Another Public Institution.
(1) Credit earned at any public institution in the State is transferable to any other public institution if the:
(a) Credit is from a college or university parallel course or program;
(b) Grades in the block of courses transferred average 2.0 or higher; and
(c) Acceptance of the credit is consistent with the policies of the receiving institution governing native students following the same program.
(2) If a native student's "D" grade in a specific course is acceptable in a program, then a "D" earned by a transfer student in the same course at a sending institution is also acceptable in the program. Conversely, if a native student is required to earn a grade of " C " or better in a required course, the transfer student shall also be required to earn a grade of " C " or better to meet the same requirement.
B. Credit earned in or transferred from a community college is limited to:
(1) $1 / 2$ the baccalaureate degree program requirement, but may not be more than 70 semester hours; and
(2) The first 2 years of the undergraduate education experience.
C. Nontraditional Credit.
(1) The assignment of credit for AP, CLEP, or other nationally recognized standardized examination scores presented by transfer students is determined according to the same standards that apply to native students in the receiving institution, and the assignment shall be consistent with the State minimum requirements.
(2) Transfer of credit from the following areas shall be consistent with COMAR 13B.02.02. and shall be evaluated by the receiving institution on a course-by-course basis:
(a) Technical courses from career programs;
(b) Course credit awarded through articulation agreements with other segments or agencies;
(c) Credit awarded for clinical practice or cooperative education experiences; and
(d) Credit awarded for life and work experiences.
(3) The basis for the awarding of the credit shall be indicated on the student's transcript by the receiving institution.
(4) The receiving institution shall inform a transfer student of the procedures for validation of course work for which there is no clear equivalency. Examples of validation procedures include ACE recommendations, portfolio assessment, credit through challenge, examinations, and satisfactory completion of the next course in sequence in the academic area.
(5) The receiving baccalaureate degree-granting institution shall use validation procedures when a transferring student successfully completes a course at the lower-division level that the receiving institution offers at the upper-division level. The validated credits earned for the course shall be substituted for the upperdivision course.
D. Program Articulation.
(1) Recommended transfer programs shall be developed through consultation between the sending and receiving institutions. A recommended transfer program represents an agreement between the two institutions that allows students aspiring to the baccalaureate degree to plan their programs. These programs constitute freshman/sophomore level course work to be taken at the community college in fulfillment of the receiving institution's lower division course work requirement.
(2) Recommended transfer programs in effect at the time that this regulation takes effect, which conform to this chapter, may be retained.

## .06 Academic Success and General Well-Being of Transfer Students.

A. Sending Institutions.
(1) Community colleges shall encourage their students to complete the associate degree or to complete 56 hours in a recommended transfer program which includes both general education courses and courses applicable toward the program at the receiving institution.
(2) Community college students are encouraged to choose as early as possible the institution and program into which they expect to transfer.
(3) The sending institution shall:
(a) Provide to community college students information about the specific transferability of courses at 4year colleges;
(b) Transmit information about transfer students who are capable of honors work or independent study to the receiving institution; and
(c) Promptly supply the receiving institution with all the required documents if the student has met all financial and other obligations of the sending institution for transfer.
B. Receiving Institutions.
(1) Admission requirements and curriculum prerequisites shall be stated explicitly in institutional publications.
(2) A receiving institution shall admit transfer students from newly established public colleges that are functioning with the approval of the Maryland Higher Education Commission on the same basis as applicants from regionally accredited colleges.
(3) A receiving institution shall evaluate the transcript of a degree-seeking transfer student as expeditiously as possible, and notify the student of the results not later than mid-semester of the student's first semester of enrollment at the receiving institution, if all official transcripts have been received at least 15 working days before mid-semester. The receiving institution shall inform a student of the courses which are acceptable for transfer credit and the courses which are applicable to the student's intended program of study.
(4) A receiving institution shall give a transfer student the option of satisfying institutional graduation requirements that were in effect at the receiving institution at the time the student enrolled as a freshman at the sending institution. In the case of major requirements, a transfer student may satisfy the major requirements in effect at the time when the student was identifiable as pursuing the recommended transfer program at the sending institution. These conditions are applicable to a student who has been continuously enrolled at the sending institution.

## . 07 Programmatic Currency.

(A) A receiving institution shall provide to the community college current and accurate information on recommended transfer programs and the transferability status of courses. Community college students shall have access to this information.
(B) Recommended transfer programs shall be developed with each community college whenever new baccalaureate programs are approved by the degree-granting institution.
(C) When considering curricular changes, institutions shall notify each other of the proposed changes that might affect transfer students. An appropriate mechanism shall be created to ensure that both 2-year and 4-year public colleges provide input or comments to the institution proposing the change. Sufficient lead-time shall be provided to effect the change with minimum disruption. Transfer students are not required to repeat equivalent course work successfully completed at a community college.

## .08 Transfer Mediation Committee.

(A) There is a Transfer Mediation Committee, appointed by the Secretary, which is representative of the public 4year colleges and universities and the community colleges.
(B) Sending and receiving institutions that disagree on the transferability of general education courses as defined by this chapter shall submit their disagreements to the Transfer Mediation Committee. The Transfer Mediation Committee shall address general questions regarding existing or past courses only, not individual student cases, and shall also address questions raised by institutions about the acceptability of new general education courses. As appropriate, the Committee shall consult with faculty on curricular issues.
(C) The findings of the Transfer Mediation Committee are considered binding on both parties.

## .09 Appeal Process.

(A) Notice of Denial of Transfer Credit by a Receiving Institution.
(1) Except as provided in $\S \mathrm{A}(2)$ of this regulation, a receiving institution shall inform a transfer student in writing of the denial of transfer credit not later than mid-semester of the transfer student's first semester, if all official transcripts have been received at least 15 working days before mid-semester.
(2) If transcripts are submitted after 15 working days before mid-semester of a student's first semester, the receiving institution shall inform the student of credit denied within 20 working days of receipt of the official transcript.
(3) A receiving institution shall include in the notice of denial of transfer credit:
(a) A statement of the student's right to appeal; and
(b) A notification that the appeal process is available in the institution's catalog.
(4) The statement of the student's right to appeal the denial shall include notice of the time limitations in §B of this regulation.

A student believing that the receiving institution has denied the student transfer credits in violation of this chapter may initiate an appeal by contacting the receiving institution's transfer coordinator or other responsible official of the receiving institution within 20 working days of receiving notice of the denial of credit.

Response by Receiving Institution.
(1) A receiving institution shall:
(a) Establish expeditious and simplified procedures governing the appeal of a denial of transfer of credit; and
(b) Respond to a student's appeal within 10 working days.
(2) An institution may either grant or deny an appeal. The institution's reasons for denying the appeal shall be consistent with this chapter and conveyed to the student in written form.
(3) Unless a student appeals to the sending institution, the written decision in $\S C(2)$ of this regulation constitutes the receiving institution's final decision and is not subject to appeal.

Appeal to Sending Institution.
If a student has been denied transfer credit after an appeal to the receiving institution, the student may request the sending institution to intercede on the student's behalf by contacting the transfer coordinator of the sending institution.

A student shall make an appeal to the sending institution within 10 working days of having received the decision of the receiving institution.

Consultation Between Sending and Receiving Institutions.
(1) Representatives of the two institutions shall have 15 working days to resolve the issues involved in an appeal.
(2) As a result of a consultation in this section, the receiving institution may affirm, modify, or reverse its earlier decision.
(3) The receiving institution shall inform a student in writing of the result of the consultation.
(4) The decision arising out of a consultation constitutes the final decision of the receiving institution and is not subject to appeal.

## . 10 Periodic Review.

A. Report by Receiving Institution.
(1) A receiving institution shall report annually the progress of students who transfer from 2-year and 4-year institutions within the State to each community college and to the Secretary of the Maryland Higher Education Commission.
(2) An annual report shall include ongoing reports on the subsequent academic success of enrolled transfer students, including graduation rates, by major subject areas.
(3) A receiving institution shall include in the reports comparable information on the progress of native students.
B. Transfer Coordinator. A public institution of higher education shall designate a transfer coordinator, who serves as a resource person to transfer students at either the sending or receiving campus. The transfer coordinator is responsible for overseeing the application of the policies and procedures outlined in this chapter and interpreting transfer policies to the individual student and to the institution.
C. The Maryland Higher Education Commission shall establish a permanent Student Transfer Advisory Committee that meets regularly to review transfer issues and recommend policy changes as needed. The Student Transfer Advisory Committee shall address issues of interpretation and implementation of this chapter.
. 11 Exemption from Payment of Nonresident Tuition for Certain Armed Forces Personnel, Spouses, Dependents and Veterans. (Approved by the Maryland Higher Education Commission, September 29, 2004, to implement House Bill 172, which was signed into law as Chapter 325, Laws of Maryland 2004).
A. An individual who is an active duty member of the United States Armed Forces, the spouse of an active duty member of the United States Armed Forces or a financially dependent child of an active duty member of the United States Armed Forces who registers as an entering student in a public institution of higher education in the State is exempt from paying nonresident tuition at the institution if the active duty member of the United States Armed Forces is stationed in this State, resides in this State or is domiciled in this State.
B. A spouse or financially dependent child of an active duty member of the United States Armed forces who enrolls as an entering student in a public institution of higher education in the State and is exempt from paying nonresident tuition under section A . of this regulation shall continue to be exempt from paying nonresident tuition if the active duty member of the United States Armed Forces no longer meets the requirements of section A. of this regulation and the spouse or financially dependent child remains continuously enrolled at the institution.
C. An honorably discharged veteran of the United States Armed Forces who registers as an entering student in a public institution of higher education in the State is exempt from paying nonresident tuition at the institution if, within one year after the veteran's discharge, the veteran presents the institution with documentation evidencing
that the veteran attended a public or private secondary school in this State for at least three years and that the veteran graduated from a public or private secondary school in this State or received the equivalent of a high school diploma in this State.

## Administrative History

Effective date: December 4, 1995 (22:24 Md. R. 1901)
Regulation .02B amended effective July 1, 1996 (23:13 Md. R. 946)
Regulation .02-1 adopted effective April 6, 1998 (25:7 Md. R. 528)
Regulation . 03 amended effective July 1, 1996 (23:13 Md. R. 946)
Regulation .05A amended effective July 1, 1996 (23:13 Md. R. 946)

Des.gened5.fin Note: These guidelines are subject to change by the Maryland Higher Education Commission (MHEC).

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[^0]:    ${ }^{1}$ Not withstanding any other provision of this or any other University publication, UMES reserves the right to make changes in tuition, fees and other charges at any time such changes are deemed necessary by the University System of Maryland Board of Regents.
    ${ }^{2}$ All Fees are subject to annual adjustments.
    ${ }^{3}$ Students residing in the traditional Residence Halls and the Student Apartments are required to be on the board plan.
    ${ }^{4}$ Laboratory fees may vary by department.
    ${ }^{5}$ A transcript of a student's record will not be furnished to any student or alumni unless the student's financial obligations to the University have been satisfied.

[^1]:    Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Most majors require MATH 109 or higher. Math 109 requires grade of " C " or better in order to pass the course.
    ${ }^{3}$ MATH 101 does not satisfy the General Education Requirement or count towards graduation. Student must attain a grade of "C" or better to pass Math101.

[^2]:    ${ }^{1}$ Students must receive a grade of " C " or better in each course in this area.

[^3]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^4]:    ${ }^{1}$ A grade of "C" or better will be required in the courses taken to satisfy the Agriculture Education Concentration requirement.
    ${ }^{2}$ For additional program requirements for the Agriculture Education (Teaching) major, please refer to the Department of Education and the Teacher Education Handbook. UMES' Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the Maryland State Department of Education.
    ${ }^{3}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{4}$ 200-300 level agricultural courses.
    ${ }^{5}$ Does not count toward graduation.

[^5]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^6]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

[^7]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^8]:    ${ }^{1} \mathrm{~A}$ minimum grade of " C is required for Required Major courses.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{3}$ Student must select three (3) 400 level ANPT production courses.
    ${ }^{4}$ Student must select $300-400$ level courses from BUAD, ACCT, ECON, AGBU, or AGEC.

[^9]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^10]:    ${ }^{1} \mathrm{~A}$ minimum grade of " C " is required for each course.
    ${ }^{2}$ Student must select two (2) 400 level ANPT Production courses.

[^11]:    ${ }^{1}$ A minimum grade of "C" is required for all Required Major Courses.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

[^12]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^13]:    ${ }^{1}$ A minimum grade of "C" is required for all Required Major Courses.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

[^14]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^15]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses

[^16]:    ${ }^{1}$ Child Development majors are strongly encouraged to take NUDT 210 (Elements of Nutrition) to satisfy their GEN ED CURR AREA III (non laboratory science) requirement.
    ${ }^{2}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^17]:    ${ }^{1}$ EXSC 111 cannot be repeated for credit.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{3}$ Child Development majors must complete HUEC 400 for three (3) credits and HUEC 450 for five (5) credits respectively.
    ${ }^{4}$ HUEC 400 and HUEC 450 meet the out-of-class experience. Students should consult their advisor to select four (4) additional credits to meet the 12 credit hours requirement.
    ${ }^{5}$ Child Development majors are strongly encouraged to take NUDT 210 (Elements of Nutrition) to satisfy their Gen Ed Curriculum Area III (non-laboratory science) requirement.

[^18]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses ${ }^{1}$
    ${ }^{3}$ Child Development majors are strongly encouraged to take NUDT 210 (Elements of Nutrition) to satisfy their GEN ED CURR AREA III (non-laboratory science) requirement.

[^19]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses ${ }^{1}$
    ${ }^{3}$ Child Development majors are strongly encouraged to take NUDT 210 (Elements of Nutrition) to satisfy their GEN ED CURR AREA III (non-laboratory science) requirement.

[^20]:    ${ }^{1}$ Chesapeake College recommends HTH 111 vs. HTH 180/ECD 180. Students planning to transfer to UMES are strongly encouraged to complete ECD 180. ${ }^{2}$ Chesapeake College transfer students may earn credit for these courses through a departmental credit by examination (CBE) per the UMES-CC Articulation Agreement.
    ${ }^{3}$ Child Development majors must complete HUEC 400 for three (3) credits and HUEC 450 for five (5) credits respectively.
    ${ }^{4}$ Chesapeake students must complete ECD 270 to satisfy requirement for HUEC 400 at UMES.

[^21]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses

[^22]:    ${ }^{1}$ EXSC 111 cannot be repeated for credit.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{3}$ Dietitics students may substitute NUDT 475 for three (3) credits.
    ${ }^{4}$ NUDT 471 and NUDT 475 meet the out-of-class experience.

[^23]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses

[^24]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^25]:    ${ }^{1}$ EXSC 111 cannot be repeated for credit.
    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{3}$ Students who select a minor must complete a minimum of 18 credit hours.
    ${ }^{4}$ HUEC 400 meets the out-of-class experience. Please consult your advisor to select nine (9) additional credits to meet the 12 credit hours requirement.

[^26]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses

[^27]:    ${ }^{1}$ EXSC 111 cannot be repeated for credit.
    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{3}$ Course does not count towards graduation.
    ${ }^{4}$ FCS Education majors must complete EDCI 480 and 490 as part of their Professional Education courses in lieu of HUEC 399, 400 and 409. ${ }^{5}$ EDCI 480 and EDCI 490, six (6) credits each, meet the out-of-class experience criteria.

[^28]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses

[^29]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{2}$ EXSC 111 cannot be repeated for credit.

[^30]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses

[^31]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102HONORS. ${ }^{2}$ EXSC 111 cannot be repeated for credit.
    ${ }^{3}$ HUEC 400 meets the out of class experience requirement for three credits.

[^32]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses
    ${ }^{3}$ Students attending FIT take AC 141, which satisfies requirement for ENGL 305

[^33]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ EXSC 111 cannot be repeated for credit.
    ${ }^{3} \mathrm{AC} 231$ is equivalent to ENGL 305.
    ${ }^{4}$ Students may substitute IC 298/498 for HUEC 399 and 400 for 4 credits.
    ${ }^{5}$ FM 114 is equivalent to FMCT 141.

[^34]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Honor students substitute Honors courses

[^35]:    ${ }^{1}$ HUEC 203 cannot be used to satisfy the General Education Requirement.
    ${ }^{2}$ FCS students must substitute NUDT 214.

[^36]:    ${ }^{1}$ It is a 5 -year BS/MS combined program. Details are given later; also consult the UMES Graduate Catalog for clarification of the combined BS/MS degree programs.
    ${ }^{2}$ Minimum Maryland Higher Education Committee (MHEC) requirements for a Bachelor of Science degree.
    Biology Teaching: Students in the major must complete a total of $131^{1}$ credit hours of University courses. This includes a minimum of 42 semester hours of General Education Requirements, 21 semester hours of Departmental Core courses, 7 semester hours of program electives, 42 semester hours of professional Education courses, and 19 semester hours of supportive courses.
    ${ }^{1}$ The higher than 120 cr . hr. requirement for graduation is to meet the standards of NCATE (National Council for Accreditation of Teacher Education) and NSTA (National Science Teachers Association).

[^37]:    ${ }^{1}$ The higher than 120 cr. hr. requirement for graduation is to meet the standards of NCATE (National Council for Accreditation of Teacher Education) and NSTA (National Science Teachers Association).

[^38]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ HIST $101 / 101$ H, HIST $102 / 102$ H and PHIL 201 can be used to satisfy only 1 of the Curriculum Area I and II course requirements.

[^39]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^40]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^41]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102
    ${ }^{2}$ CSDP 220 may be substituted for CSDP 121 or BUED 212
    ${ }^{3}$ Students may take BIOL 498 and BIOL 499 for 1 to 3 and 1 to 4 cr . hr., respectively, a semester; but they must repeat the courses to accumulate as many credits as required in the core program.

[^42]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^43]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ CSDP 220 may be substituted for CSDP 121 or BUED 212.
    ${ }^{3}$ Students in the Honors program are required to enroll in all sections designated "H". If also following pre-Medicine or pre-Dentistry tracks, they are required to take the Medical College Admission Test (MCAT) or Dental Admission Test (DAT) during the Spring semester of the academic year preceding the year in which admission to medical school is sought. Applications to medical/dental schools should be made no later than the fall of the senior year. Cell Biology,
    Comparative Vertebrate Anatomy, Physiology, Embryology and Histology are strongly recommended.
    ${ }^{4}$ Students may take BIOL 498 and BIOL 499HONORS for 1 to 3 and 1 to 4 cr . hr., respectively a semester; but they must repeat the courses to accumulate as many credits as required in the core program.

[^44]:    Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^45]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102 ${ }^{2}$ CSDP may be substituted for CSDP 121 or BUED 212
    ${ }^{3}$ Students may take BIOL 498 and BIOL 499 for 1 to 3 and 1 to 4 cr . hr., respectively, a semester; but they must repeat the courses to accumulate as many credits as required in the core program, which are 3 cr . and 4 cr respectively.

[^46]:    ${ }^{1}$ The higher than 120 cr . hr. requirement is to meet the standards of NCATE (National Council for Accreditation of Teacher Education) and NSTA (National Science Teachers Association).

[^47]:    ${ }^{1}$ The higher than the 120 cr . hr. requirement is to meet the standards of NCATE (National Council for Accreditation of Teacher Education and NSTA (National Science Teachers Association).
    ${ }^{2}$ Students must pass ENGL 101 and 102 with a grade of "C" or above before taking ENGL 203.

[^48]:    ${ }^{1}$ Students in the Honors Program should take Honors Courses.
    ${ }^{2}$ Undergraduate Research with advisor can be taken either during junior or senior years, and has to be completed in two semesters.

[^49]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ EDCI 201 - Praxis Preparation does not count toward graduation.
    ${ }^{3}$ Students may take BIOL 499 for 1 to 4 cr . hr., a semester; but they must repeat the course to accumulate as many credits as required in the core program. ${ }^{4}$ EDCI 400, EDCI 480 and EDCI 490 are taken concurrently during the last semester of the senior year. EDCI 201-Praxis Preparation does not count towards graduation.
    ${ }^{5}$ The higher than 120 cr . hr. requirement is required to meet the standards of NCATE (National Council for Accreditation of Teacher Education) and NSTA (National Science Teachers Association).

[^50]:    ${ }^{1}$ To obtain an ACS-certified chemistry degree, students are required to adhere to ACS guidelines in the submission of their CHEM 499 requirements. The student's research advisor will provide the ACS guidelines.

[^51]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{2}$ CSDP 220 may be substituted for CSDP 121 or BUED 212 and 1 credit may be used as a Free Elective credit.
    ${ }^{3}$ To obtain an ACS-certified chemistry degree, students are required to adhere to ACS guidelines in the submission of their CHEM 499 requirements. The student's research advisor will provide the ACS guidelines.

[^52]:    ${ }^{1}$ The higher than the 120 cr . hr. requirement is to meet the standards of NCATE (National Council for Accreditation of Teacher Education and NSTA (National Science Teachers Association).

[^53]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{2}$ CSDP 220 may be substituted for CSDP 121 or BUED 212.
    ${ }^{3}$ Credit does not count toward graduation.
    ${ }^{4}$ Students may take CHEM 499 for 1 to 4 cr . hr., respectively, a semester; but they must repeat the courses to accumulate as many credits as required in the core program
    ${ }^{5}$ The higher than 120 cr . hr. requirement is to meet the standards of NCATE (National Council for Accreditation of Teacher Education) and NSTA (National Science Teachers Association).

[^54]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^55]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^56]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{2}$ CSDP 121 or BUED 212 may be substitute for CSDP 220 and 1 cr . made up somewhere else ${ }^{3}$ Students must choose a Program Elective.
    ${ }^{4}$ Students may take CHEM 498 and CHEM 499 for 1 to 3 and 1 to 4 cr . hr., respectively, a semester; but they must repeat the courses to accumulate as many credits as required in the core program.

[^57]:    ${ }^{1}$ Students in the Honors Program are to enroll in courses designated by "H".
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{3}$ BUED 212 or CSDP 121 may be substituted with CSDP 220.
    ${ }^{4}$ Students must choose a Program Elective.
    ${ }^{5}$ Students may take ENVS 498 and ENVS 499 for 1 to 3 and 1 to 4 cr . hr., respectively, a semester; but they must repeat the courses to accumulate as many credits as required in the core program.

[^58]:    ${ }^{1}$ Students must pass ENGL 101 and 102 with a grade of "C" or above before taking ENGL 203.

[^59]:    ${ }^{1}$ Requires MATH 112 - Calculus I as prerequisite
    ${ }^{2}$ ENGL 001 is English proficiency exam

[^60]:    **The total adds up to 154 cr . which includes MATH 211 ( 4 cr .). MATH 211 is required getting admission into the MEES program but it does not count toward credits for M.S. degree in Environmental Sciences

[^61]:    ${ }^{1}$ Students are strongly encouraged to research the pre-requisites required for admission into selected pharmacy schools and supplement the above curriculum accordingly. This program is not a major.

[^62]:    ${ }^{1}$ Student must select three courses to satisfy this requirement for a total of twelve (12) credits.
    ${ }^{2}$ Select one additional course at or above the 300 level in Chemistry.
    ${ }^{3}$ Student must select three additional courses from the Biology Program Electives for a total of eight (8) credits.
    ${ }^{4}$ Student may select any other courses above the 200 level to satisfy this course for a total of two (2) credits.

[^63]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above
    before taking ENGL 203

[^64]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Most majors require MATH 109 or higher. Math 109 requires grade of "C" or better in order to pass the course.
    ${ }^{3}$ MATH 101 does not satisfy the General Education Requirement or count towards graduation. Student must attain a grade of "C" or better to pass Math101.

[^65]:    ${ }^{1}$ See Graduate Catalog
    ${ }^{2}$ A minimum grade of "C" is required for each course.

[^66]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.
    ${ }^{2}$ MATH 101 does not meet the General Education Requirement and does not apply toward graduation requirements.

[^67]:    ${ }^{1}$ EXSC 111 cannot be repeated for credit.
    ${ }^{2}$ Students must select a minimum of 15 credit hours from the supportive courses listed: BUED 212, CSDP 220, PSYC 100, PSYC 271, SOCI 101, SOCI 201, SOCI 202.
    ${ }^{3}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{4}$ Students may take any course at the University for which they meet the prerequisites.
    ${ }^{5}$ Students may select any 300 or 400 Level CRJS course except CRJS 300, 326, 370, 401, and 495.

[^68]:    ${ }^{1} \mathrm{~A}$ minimum grade of "C" is required for each course.

[^69]:    ${ }^{1}$ Consult the UMES Graduate Catalog for details.

[^70]:    ${ }^{1}$ Other Specialty courses are required by specific programs

[^71]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^72]:    *Requires Teacher Candidacy status
    \# Does not count towards graduation.

[^73]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^74]:    ${ }^{1}$ Student must choose from GEN ED CURR AREA II:A
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{3}$ Student must choose from GEN ED CURR AREA II:B
    ${ }^{4}$ Course cannot be repeated for credit.
    ${ }^{5}$ Student must select a course from ENGL 204, ENGL 205, ENGL 206, ENGL 207, ENGL 215, or TELC 214.
    ${ }^{6}$ Students planning to minor in telecommunications should take TELC 214 , a pre-requisite for telecommunications courses.
    ${ }^{7}$ English electives include courses with prefixes ENGL, TELC, and THAR.
    ${ }^{8}$ Course will fulfill requirement for GEN CURR AREA VI.
    ${ }^{9}$ Or more credits; combinations of 1 , 2 or 3 credit courses are acceptable to complete required credit count.

[^75]:    ${ }^{1}$ Student must select from GEN ED CURR AREA I:A.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{3}$ Student must select one science course and one laboratory course.
    ${ }^{4}$ Student must select from GEN ED CURR AREA I:B.
    ${ }^{5}$ English electives include 200-400 level courses offered by the department, including courses with prefixes ENGL, TELC, and THAR.
    ${ }^{6}$ Student must select a course from ENGL 204, ENGL 205, ENGL 206, ENGL 207, or ENGL 215.

[^76]:    ${ }^{1}$ For additional program requirements for the Art Education (Teaching) major, please refer to the Department of Education and the Teacher Education Handbook. UMES' Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the Maryland State Department of Education.
    ${ }^{2}$ Does not count toward graduation.

[^77]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ Student must select from GEN ED CURR AREA II: A.
    ${ }^{3}$ Does not count toward graduation
    ${ }^{4}$ Students must select from GEN ED CURR AREA II: B
    ${ }^{5}$ Students must select from GEN ED CURR AREA I: HISTORY

[^78]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Recommended

[^79]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Students must select either ARTS 412 or ARTS 330.

[^80]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ Students must select from GEN ED CURR AREA II:A.
    ${ }^{3}$ Students must select from GEN ED CURR AREA II:B.

[^81]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Recommended

[^82]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ Students must select from GEN ED CURR AREA I: B, C, or D.
    ${ }^{3}$ Students must select from GEN ED CURR AREA II: A.
    ${ }^{4}$ Students must select from GEN ED CURR AREA II: B.
    ${ }^{5}$ Course cannot be repeated for credit.
    ${ }^{6}$ Students must repeat ARTS 499K for credit.

[^83]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ Recommended

[^84]:    Internship must be in the area of Sequential Arts.

[^85]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ Student must select GEN ED CURR AREA I: B, or D.
    ${ }^{3}$ Student must select GEN ED CURR AREA II: A
    ${ }^{4}$ Internship must be in the area of Sequential Arts.
    ${ }^{5}$ Student must select GEN ED CURR AREA II: B

[^86]:    ${ }^{1}$ Students must select either MUSI 113, MUSI 114, or MUSI 116

[^87]:    ${ }^{2}$ Course does not count toward graduation.
    ${ }^{3}$ Students must select either EDCI 423C or EDCI 423D
    ${ }^{4}$ Students must select either EDCI 450C or EDCI 450D

[^88]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ Course cannot be repeated for credit.
    ${ }^{3}$ Course does not count toward graduation.

[^89]:    ${ }^{1}$ MUSI 11X $=$ MUSI 113, MUSI 114, or MUSI 116

[^90]:    ${ }^{1}$ Please consult the UMES Graduate Catalog for further information.

[^91]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^92]:    ${ }^{1}$ ARTS, MUSI, HIST, POLI, ENGL, SOCI, and CRJS courses must be related to the field of African and African American Studies. Majors should check with their advisor to be sure that a course fulfills requirement.
    ${ }^{2}$ Course cannot be repeated for credit.
    ${ }^{3}$ Students must select a lecture and laboratory course to total four (4) credits.
    ${ }^{4}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

[^93]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^94]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^95]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{2}$ EXSC 111 cannot be repeated for credit.

[^96]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ Course does not count toward graduation.
    ${ }^{3}$ Course cannot be repeated for credit.
    ${ }^{4}$ Student must be admitted into the Teacher Education Program.

[^97]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^98]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^99]:    ${ }^{1}$ Student must select from GEN ED CURR AREA I:A.
    ${ }^{2}$ Student must select from GEN ED CURR AREA II:A.
    ${ }^{3}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{4}$ Student must select from GEN ED CURR AREA I:B.
    ${ }^{5}$ EXSC 111 cannot be repeated for credit.
    ${ }^{6}$ Student must select from GEN Ed CURR AREA II: B.
    It is strongly recommended that if students are not taking a minor they should take courses in sociology; criminal justice; political sciences; philosophy; history.
    Students must complete SOCI 221; 222; 231 and 232 before registering for SOCI 431.

[^100]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^101]:    ${ }^{1}$ Student must select from GEN CURR AREA I:C - Foreign Language.
    ${ }^{2}$ Student must select from GEN CURR AREA II:A.
    ${ }^{3}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{4}$ Course will satisfy GEN CURR AREA II:B
    ${ }^{5}$ Student must select from GEN CURR AREA III:B - Sciences.

[^102]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^103]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^104]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102 H .

[^105]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^106]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

[^107]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^108]:    + Does not count toward graduation.

[^109]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ Course does not count towards graduation.
    ${ }^{3}$ Required until PRAXIS is passed.

[^110]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^111]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^112]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.

[^113]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^114]:    Students must take five courses and one laboratory from one of the areas of specialization.

[^115]:    ${ }^{1}$ Student must select Gen Ed MATH as defined by placement test results. Students must complete 6 credits of MATH with at least 3 credits at or above the level of MATH 109 to meet General Education Requirements. MATH 101 does not count toward graduation requirements.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{3}$ Students take AVSC 170, ENGE 170 or BUED 212 to meet support requirements
    ${ }^{4}$ Student take AVSC 390, MATH 210, BUAD 252 or MATH 211 depending on concentration to meet support requirements.

[^116]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{2}$ Student should select TMGT 130 to satisfy this Elective.

[^117]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^118]:    ${ }^{1}$ Course cannot be repeated for credit.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{3}$ Student must select one science course from GEN ED CURR AREA III.
    ${ }^{4}$ Student must select one science laboratory course from GEN ED CURR AREA III.
    ${ }^{5}$ Student must select from GEN ED CURR AREA II:A.
    ${ }^{6}$ Student must select from GEN ED CURR AREA II:B

[^119]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.
    ${ }^{2}$ Course does not count toward graduation.

[^120]:    ${ }^{1}$ Student must select course from GEN ED CURR AREA II:A or B.
    ${ }^{2}$ EXSC 111 cannot be repeated for credit.
    ${ }^{3}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{4}$ Course does not count toward graduation.

[^121]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^122]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^123]:    ${ }^{1}$ Please consult the UMES Graduate Catalog for further details.

[^124]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^125]:    ${ }^{1}$ Course satisfies GEN ED CURR AREA IV.
    ${ }^{2}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{3}$ Course satisfies GEN ED CURR AREA II:A.
    ${ }^{4}$ Courses satisfy GEN ED CURR AREA III.
    ${ }^{5}$ Course satisfies GEN ED CURR AREA II:B
    ${ }^{6}$ Students must select from BUAD 132, 300, 304, 412, FINA 340, 441, 442 or MKTG 308.
    ${ }^{7}$ BUAD 302 is the prerequisite for BUAD 304, 306 and 412.

[^126]:    ${ }^{1}$ These are community college level courses; they, or appropriate substitutions, should be completed before enrolling at UMES.
    ${ }^{2}$ Students must complete a minimum of 18 credit hours.
    ${ }^{3}$ Students must complete a minimum of 6 credit hours.

[^127]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203

[^128]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203.

[^129]:    ${ }^{1}$ Course satisfies GEN ED CURR AREA V. Students must pass English Composition I with a grade of "C" or better before taking ENGL 203.
    ${ }^{2}$ Course satisfies GEN ED CURR AREA V. Students must pass English Composition II with a grade of "C" or better before taking ENGL 203.
    ${ }^{3}$ Course satisfies GEN ED CURR AREA IV.
    ${ }^{4}$ Course satisfies GEN ED CURR AREA I.
    ${ }^{5}$ Course satisfies GEN ED CURR AREA II:A. ${ }^{6}$ Course satisfies GEN ED CURR AREA V.

[^130]:    ${ }^{1}$ Course satisfies GEN ED CURR AREA V.
    ${ }^{2}$ Course satisfies GEN ED CURR AREA IV. If student needs MATH 101, he/she must take the course before MATH 109.
    ${ }^{3}$ Course satisfies GEN ED CURR AREA I:A.
    ${ }^{4}$ Course satisfies GEN ED CURR AREA III.
    ${ }^{5}$ Course does not count towards graduation.
    ${ }^{6}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102.
    ${ }^{7}$ Course satisfies GEN ED CURR AREA II:A.
    ${ }^{8}$ Course satisfies GEN ED CURR Requirement.

[^131]:    ${ }^{1}$ Student must select a Technical elective.

[^132]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ MATH 101 or 109 does not satisfy the General Education Requirement or count towards graduation. Student must attain a grade of "C" or better to pass MATH 101.

[^133]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{2}$ EXSC 111 cannot be repeated for credit.
    ${ }^{3}$ Students must complete 180 hours of Internship.

[^134]:    ${ }^{1}$ Students must pass ENGL 101 and ENGL 102 with grade of "C" or above before taking ENGL 203
    ${ }^{2}$ MATH 101 does not satisfy the General Education Requirement or count towards graduation. Student must attain a grade of "C" or better to pass MATH 101.

[^135]:    ${ }^{1}$ The English Proficiency Examination is given at the end of the semester. A student must enroll in ENGL 001 prior to enrolling in ENGL 102. ${ }^{2}$ EXSC 111 cannot be repeated for credit.
    ${ }^{3}$ Students must complete 180 hours of Internship.

[^136]:    ${ }^{1}$ Please consult the Graduate School Catalog for details.

[^137]:    ${ }^{1}$ A grade of " C " or better is required in all prerequisite courses (lecture and laboratory) to continue with sequence classes in Biology.

[^138]:    ${ }^{1}$ A grade of " C " or better is required in all prerequisite courses (lecture and laboratory) to continue with sequence classes in Biology and Chemistry. ${ }^{2}$ Students may take BIOL 498/H and BIOL499/H for 1 to 3 and 1 to 4 cr . hr., respectively, a semester; but they must repeat the courses to accumulate as many credits as required in the core program.

[^139]:    ${ }^{1}$ Career and Technology Education Certification and Endorsement course.

