

University of Maryland Eastern Shore (UMES)
Department of Engineering and Aviation Science
Engineering Advisory Council (EAC)

As part of the Fall 2022 EAC Meeting Series, the department has two major information gathering objectives. The first is feedback on the Program Educational Objectives (PEO). The PEOs are defined in another document and the request for comments on that document was issued separately. The second objective to collect feedback from industry on trends in engineering and the work place that impact UMES engineering graduates, and what the department should be considering as they plan the curriculum of the future.

We seek your thoughts on trends in the engineering work place, work styles, software tools, analytical methods, work management, ethics, and educational needs that impact all engineers and especially our engineering alumni, present and future. Our EAC is composed of engineering leadership from many local and regional agencies and companies. We are excited to get their independent opinions. Many of our EAC members are UMES Engineering alumni. We are excited to hear their thoughts since they now range from recent graduates (0 to 3 years), so seasoned professionals (4 to 10 years).

We will discuss some initial thoughts at the first 2022 EAC Meeting, but we can only scratch the surface in that short meeting. We plan a second call shortly thereafter for a more complete exploration of this specific topic area. It should be a positive, fun, and insightful exploration of the modern engineering profession. Our goal is to look from this point forward for continuous process improvement in our engineering program. To prepare for these discussion, please consider the following items to collect your thoughts:

What engineering software tools do you use and do you find that new engineers have experience with them?

How well are newer engineers able to communicate their ideas, designs, decision logic, assessments of risk, and other important topics, and where could they improve?

In a post-pandemic environment, how much remote engineering work is still being done, do you find newer engineers are able to make progress in non-traditional work arrangements, and if not where can educational programs improve that?

Compared to the engineering needs your organization has, do you perceive any gaps in skill sets or experiences from newer engineers in general, and what gaps should educational programs seek to close in the future?

How soon after being hired would you expect new engineers to be autonomous in their decision making and are they achieving that timeline?

With your years of experience, what engineering, science, or mathematical topics do you wish you could now take again and what topics or skills should educational programs emphasize?

How does your organization manage work flow and assignments throughout the engineering lifecycle, and do you perceive that newer engineers understand the design, production, and support continuum?

As your organization seeks, recruits, and hires new engineers what are the major differentiators that you look for in candidates?

What engineering skill sets are in shortest supply in your industry and on what areas are you having to provide initial training to bring candidates up to speed for your needs?

Reflecting on your own engineering experience and the needs of your organizations, are there other recommendations that you can offer to UMES to enhance the quality of future engineering graduates?

Certainly feel free to provide other observations on the engineering career field and the trends in engineering education you see that are not otherwise covered above.

When we meet to discuss these topics the UMES engineering faculty and I will be feverously writing to capture your ideas and feedback. If possible, a written summary of your thoughts would be helpful from a data collection and assimilation perspective. Feedback can be anonymous if you prefer. The Department thanks you in advance for your support of the UMES Engineering Program and the EAC process. I do too.

Best Regards,



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