

Dear FEC members -

At Friday's meeting, I revisited a question I posed in the very first meeting of the year, regarding the prevalence of Matlab in our current undergraduate curriculum. The question is only being posed for informational purposes right now, but it will play an important role in shaping how CEE/MAE M20 (Introduction to Programming in Matlab) might evolve in the future. Matlab as the basis of M20 has served the dual purpose of providing a language for basic programming instruction and preparing students for the use of Matlab in later courses. Several departments allow students to take either M20 or CS 31 to satisfy the programming requirement, and at least one (CBE) requires M20. (ECE and CS do not allow M20 to satisfy the programming requirement.)

It is potentially useful to teach M20 in other (free, open source) languages with similar scientific analysis capabilities such as Python or Julia, particularly because of the widening prevalence of cloud-based computing options for these languages. But such a change would have a big impact on downstream courses. Full disclosure, I am one of the instructors in charge of M20.

I would like to form a subcommittee of the FEC that addresses this, but I think **it would be best to get help from all of you**, because ideally, we need at least one person from each department. It need not take much work. I have a list of survey questions below that could be used, meant for instructors in charge of classes in the undergraduate curriculum. In order to prevent this from becoming a long exercise, **I would like to complete this study by the next FEC meeting, April 26**. You can send me the responses in whatever form you want. Thank you for your help!

[Obviously it would be easiest to determine a priori which classes likely use Matlab. The list could be narrowed considerably by asking SEASnet which classes have requested activating Matlab as a resource.]

Questions for instructors in charge (to be completed by April 24):

If you require the use of Matlab for a class, please complete the following questions for a study being carried out by the HSSEAS FEC. It should take less than 5 minutes:

1. What course number are you addressing (e.g. MAE 107)?
2. Do you expect that students have already gotten experience in using Matlab prior to entering your class? If so, from where?
3. Why is Matlab essential for your class?
4. Have you considered using alternative tools, e.g. Python-based, in place of Matlab? If so, is there a reason they might not be a suitable replacement for Matlab?
5. Other comments on Matlab or alternatives?

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