



College of Engineering

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Date: 21 May 2013

To: Randy Smith  
Vice Provost, Office of Academic Affairs (OAA)

From: Ed McCaul  
Secretary, College of Engineering Committee on Academy Affairs (CCAA)

Subject: Proposed Change to Chemical Engineering's Undergraduate Program

CCAA reviewed and approved the attached proposal to revise our Chemical Engineering Undergraduate Program on the 21<sup>st</sup> of May 2013. I am forwarding it to you so that it can be approved by the Council on Academic Affairs. If you have any questions concerning this proposal please let me know.

**Proposal: Change to programming requirement for B.S. in Chemical Engineering**

**Current policy:**

Undergraduate chemical engineering students are required to complete one computer programming course: CSE 1222 (Introduction to Computer Programming in C++ for Engineers and Scientists, 3 credits). 133 credit hours are currently required for a B.S. in Chemical Engineering.

**Proposed new policy:**

Allow student to satisfy the programming requirement by taking either CSE 1222 or CSE/Engr 1221 (Introduction to Computer Programming in MATLAB for Engineers and Scientists, 2 credits). Change would reduce the required credits to 132 for those students choosing to complete the CSE 1221 option.

**Rationale:**

- 1) The proposed change provides greater scheduling and curricular flexibility to students.
- 2) The CSE/Engr 1221 option allows students to build upon the introduction to MATLAB incorporated in the Fundamentals of Engineering sequences. General feedback from students indicates they agree.
- 3) The demand for CSE 1222 is greater than the available seats so some students have been forced to delay taking the course due to the waitlists. Allowing students to choose between 1221 and 1222 therefore will address this problem.
- 4) The current total hours for the B.S. in Chemical Engineering is already one of the highest at the University. Reducing the total hours for degree to 132 would bring the program closer to the requirements of other Engineering degree programs.
- 5) Given the eighteen credit maximum per semester, this reduction in one credit will also give students more flexibility when scheduling research credits, minor courses, etc.
- 6) CBE faculty members have discussed the proposal and agreed that, for a majority of chemical engineering students, programming in an environment such as MATLAB is more beneficial than C++ given the type of computational work performed by practicing chemical engineers. Students wishing to learn C++ programming will still have the option to complete CSE 1222.

In terms of ABET accreditation, the department feels this change is justified based on the above rationale. This policy change is beneficial to the students and does not affect the minimum required math and basic science credits.

The CBE department faculty voted and unanimously approved the policy change on February 8<sup>th</sup>, 2013.