



244F Hitchcock Hall  
 2070 Neil Avenue  
 Columbus, Ohio 43210-1278

Phone: 614-292-0573  
 FAX: 614-247-6255  
 Gustafson.4@osu.edu

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Bernadette Vankeerbergen  
 Program Manager, Curriculum and Assessment  
 Arts and Sciences  
 The Ohio State University  
 154D Denny Hall  
 164 W 17<sup>th</sup> Ave.  
 Columbus

RE: Questions of CCI regarding Engineering Sciences Minor and Technological Studies Minor

I apologize for not getting back to you sooner regarding the questions you raised in your February 8 email. I will try to respond to each below.

- 1) A rationale concerning the renumbering of courses that used to be at the 200 level to courses at the 1000 level (CSE 1113, 1211, 1221, 1222, 1223)

The intent of the minor for this category is to have courses that include use of the computer as a computational tool in problem solving and computer programming. The course would be expected to have a prerequisite mathematics requirement that would imply reasonable rigor from a quantitative skills perspective. At the time of development of the Minor transition plan, not all the syllabi and details on the courses to be offered were available. Since that time, more information has become available. The following table was developed from the course syllabi now in the College of Engineering system. Using these criteria, the courses in this category should be limited to the following three courses.

Course	Title	Prerequisites	Replaces
CSE 1113	Introduction to Computer Assisted Problem Solving for Business	Math 116, 130, 148	CSE 200
CSE 1221; ENGR 1221 (Crosslisted)	Introduction to Computer Programming in Matlab for Engineers and Scientists	ENGR 1181 or 1281 or Math 151 and Physics 151	CSE 205
CSE 1222; ENGR 1222 (Crosslisted)	Introduction to Computer Programming in C++ for Engineers and Scientists	Math 1151 or 1161	CSE 202

A review of courses in CSE now to be at the 2000-level shows they are primarily intended for CSE majors and that they have prerequisites at the 1000 level. They would not be appropriate for this minor, and have prerequisites that would be prohibitive to none CSE majors.

- 2) Syllabi for new courses at 1000-level that have been added to the minors: ENG 1281.01(H), .02(H), .03(H)

I have attached a file with the syllabi for the three versions of ENGR 1281 and ENGR 1282. I can see in retrospect that the proposal does not clearly show how these courses fit in. Please accept my apologies for this. I will attempt to clarify.

Honors students have the option of replacing ENGR 1181 (2 credits) and ENGR 1182 (2 credits) with ENGR 1281.xx (H) (5 credits) and ENGR 1282.XX (H) (3 credits). The first course also satisfies the requirements for ENGR/CSE 1222 (3) *Introduction to Computer Programming in C++ for Engineers and Scientists*. Therefore a student who has taken the first course of the Honors course track for the "Core" requirement will also fill the "Computational Technologies" requirement as well.

- 3) An explanation of how these 100-level courses in 1) and 2) have "content appropriate to the objectives and audience of the minor."

The rationale for the inclusion of 100 level courses (now to be 1000 level) courses in the original minors as approved was "**Deviation from College Policy of Minor – 100 Level Courses**

This proposal is seeking concurrence from approval bodies for a deviation from one specification with the College of Engineering's Undergraduate Minor Program Policy (as Revised 9 February 2005). That is "Although numbered at the 100 level, these courses have content appropriate to the objectives of the proposed minors and are rigorous in their approach and could be justifiably renumbered as 200 level courses for the minor. However, this would not be desirable for the engineering curriculum structure. The math prerequisites help assure the students have the quantitative skills needed to address the topics in a rigorous fashion. " At the time this dealt specifically with ENG 181 and 183 now ENGR 1181 and 1182. This argument would seem to still be appropriate for ENGR 1181, 1182. It would also seem appropriate for the courses converted from 200 numbers to 1000 numbers; CSE 1113, CSE/ENGR 1221, and CSE/ENGR 1222.

Again, review of courses in CSE now to be at the 2000-level are primarily intended for CSE majors, would not be appropriate for this minor, and have prerequisites that would be prohibitive to none CSE majors.

- 4) A clarification of who the audience of the minors is.

#### Engineering Sciences Minor

As described in the Minor Sheet, "This minor is designed for non-engineering students with an interest in learning more about technology's important role in today's society; and who may be working with engineers and technology based opportunities in the future." This is generally students from the sciences and business who have the mathematical proficiency and training to be successful in the Introduction to Engineering sequence, engineering sciences segment, and the capstone design segment.

Students known to be currently enrolled in the minor are distributed across programs; 3 in MPS, 1 in USBS, 3 in UAGR, 1 in UBUS, 1 in UHUM.

#### Technological Studies Minor

As described in the Minor Sheet “This minor has the goal of allowing students to learn about technology and to become more technologically literate persons.” The primary intended audience for this minor would be a broad range of students across the Arts and Sciences and other colleges who are seeking a more general understanding of technology a level that will help make them be more informed citizens and perhaps more attractive to employers. They may not have the mathematical proficiency required for the Engineering Sciences Minor. Since we have not been able to initiate the core courses for this minor, we do not yet have a track record of person completely or enrolled in the minor.

Thanks for the additional observations on the Technological Studies Minor. These will be helpful as we edit the description to utilize developing information for the semester system and courses.

If you have additional questions, please contact me again.

Respectfully,

A handwritten signature in cursive script that reads "Robert J. Gustafson". The signature is written in black ink and is positioned below the word "Respectfully,".

Robert J. Gustafson, P.E., PhD  
Honda Professor for Engineering Education  
Director, Engineering Education Innovation Center  
Professor, Food, Agricultural and Biological Engineering  
The Ohio State University