

**Final Report for the Curriculum Committee**  
**College of Engineering**  
15APR04

<b>Member</b>	<b>Term Expiring</b>
Prof. David Murhammer, CBE	May 2004
Prof. Steve Collins, ECE	May 2004
Prof. Ray Han, ME	May 2005
Prof. Madhavan Raghavan, BME	May 2005
Prof. Larry Weber, CEE	May 2006
Prof. Gary Fischer, IE, Chair	May 2006
Dean Alec Scranton, <i>ex officio</i> and nonvoting	NA
Student member, Greg Higgins, ME	May 2004

**General:**

The Curriculum Committee met 10 times, once with members of EFC. The Charges provided by EFC were divided among the CC members to investigate and develop responses. The description that follows summarizes the Charges, actions taken, and, where appropriate, recommendations to EFC.

**2003/2004 Charges & Actions:**

- 1. Some program majors need more flexibility in the GEC definition in order to define some EFAs within the normal 128 semester hour allocation. Consider the advantages and disadvantages of allowing a Department to define their own acceptable General Educational Component courses for a given Elective Focus Area consistent within ABET accreditation criteria for their own Department.***

*Discussion:*

Action assignment: D. Murhammer

After several weeks of deliberation CC voted to approve a revised GEC requirement. The new requirement preserves 9 s.h. of the humanities/social sciences content of the current GEC structure and specifies 6 s.h. to be “acceptable GEC courses for each Collegiate Program determined by the respective Department and consistent with ABET criteria.” The new requirement was recommended to the EFC for further action. The proposal comprises the following features:

- Every student must take a minimum of 15 semester hours (s.h.) of GEC courses.
- Among the 15 s.h., at least 3 s.h. must be from the pool of courses designated as social sciences courses.
- Among the 15 s.h., at least 3 s.h. must be from the pool of courses designated as humanities courses.
- Among the 15 s.h., at least 3 s.h. must be an intermediate (100-level) course in the same department as a lower level social sciences or humanities course completed by the student.

e. The remaining 6 s.h. can be any GEC courses, with the definition of acceptable GEC courses for each Collegiate Program determined by that program consistent with ABET criteria.

2. ***Recently, the CoE has made significant changes to the required undergraduate mathematics curriculum. Develop and implement a longitudinal apparatus for data collection and analysis that will provide the CoE with insight as to whether or not these changes have been effective in developing the mathematical abilities of our students.***

*Discussion:*

Action assignment: M. Raghavan & L. Weber

CC discussed possible metrics for assessing the success of the new math sequence. The following two may be worth particular consideration: 1) student EASY evaluations of courses with math as pre-requisite and 2) rating of students' math background by instructors teaching courses with math as pre-requisite. Further discussions centered on identifying which courses should be targeted for assessment, based on a close pre-requisite relationship with the courses in the math sequence. Possible choices include: 1) Engineering core courses: Statics, Circuits, and Thermodynamics; 2) All 057 and 059 courses; 3) Department core courses. One question to be debated further is, when would we get the most accurate feedback from students; is it during the 5th semester (math would be fresh in their memory) or during the 8th semester (when they would have had an opportunity to use most of their math skills)? Some recommended subsequent steps are: 1) identify the specific skills taught in each of the math courses; 2) Identify the specific math skills used in the courses that have math as a pre-requisite; 3) Identify the appropriate student-set to target (i.e., sophomore versus junior versus senior); 4) Prepare skill-specific questionnaire rather than course specific questionnaire.

3. ***The new course Engineering Problem Solving I will have completed two full semesters by the end of Fall 2003. Develop a multi-year process to determine whether or not EPSI has been successful in achieving the retention goals set for this course during its development. Suggest any modifications to the course you believe are appropriate.***

*Discussion:*

Action assignment: S. Collins & G. Fischer

After discussing this charge, S. Collins submitted a memo to CC requesting that we get clarification on the charge or to drop it, as appropriate. The difficulty in pinpointing any relationship between EPS-I and retention was noted, since there are many (not well understood) factors that influence retention. The charge, its meaning and general retention factors were further discussed with D. Andersen, EFC. By e-mail notification, EFC dropped the Charge.

4. ***Work with the Student Development Center to make sure any overlap of content between the Freshman Seminar 59:090 and other CoE core courses are appropriate.***

*Discussion:*

Action assignment: R. Han & A. Scranton

The current First Year Seminar requirements and structure were discussed with N. Schneider (SDC). Comments were also obtained from faculty and students. CC voted to approve a

single meeting time for the freshmen, rather than the three-meeting format currently used), which offers several advantages, including simplified scheduling and providing the opportunity to invite nationally significant speakers. Arrangements have been made to institute the single-session program for Fall 2004. A draft schedule and topics' list have been developed. The feasibility of including some First Year Seminar topics in future offerings of EPS-I was also be discussed, but no changes in the EPS-I course are being recommended at this time.

**5. *Provide an interim report to the EFC by January 17, 2004 and the final report by April 15, 2004.***

The interim and final reports were provided as scheduled.

**6. *Recommend specific charges for the 2004-2005 Curriculum Committee.***

The following list of suggested Charges for the 2004/2005 has been developed:

- a. Develop an assessment process for the math sequence that can be used for continual improvement of the courses in the sequence and to better understand the effectiveness of the preparation of our students for courses that depend on the skills learned in the math sequence.
- b. Develop a vision statement for the GEC courses that are required in the CoE curriculum for all engineering students.
- c. Establish appropriate learning goals and develop a plan that will enhance the global awareness of our engineering students.

**7. *Other topics:***

Course credit options – D. Kellogg discussed with CC various options that students can get course credit (AP/CLEP/IB). Our current practice is to allow credit for only two CLEP exams. There are other humanities/social sciences areas that the University allows CLAS students to get credit for that the College might consider for engineering students. Also, CLAS students can get credit by fulfilling the International Baccalaureate (IB) program requirements. CC sent a memo to EFC requesting they review the credit-by-exam options.

Thermo course coordinator – Professor Beckermann resigned as the Thermodynamics Course Coordinator and was replaced by Bill Eichinger (CEE). A rotational appointment procedure will be used in the future for the Course Coordinator appointment, among the Departments interested in the course (namely, CEE, ME and CBE).

Vision statement (philosophy) to justify the GEC requirement – EFC asked CC to develop an overarching philosophy statement to justify the GEC requirement in the engineering undergraduate curriculum and to provide guidance to help in the selection and approval of GEC courses.

Increased global awareness – In response to a vision statement offered by Dean Butler, EFC asked CC to determine ways that we can increase the awareness and experience of our students with respect to global awareness.