General Charge

The Curriculum Committee shall be responsible for reviewing and evaluating all existing and any proposed curricula within the college, for reviewing and evaluating all existing and any proposed courses taught within the college or required in any of its curricula, and for making appropriate recommendations to the dean and the faculty.

Specific Charges

1. Review Course Activity Reports (CAR) for the College of Engineering core curriculum courses (59: xxx & non-college courses) in coordination with the core course coordinators. Include an analysis of the format and the level of detail that should be required in the CARs. If specific problems need addressing, either with the overall process or with individual courses, report these to the EFC.

Course Assessment Reports (CARs) for 59-labeled courses are found at the URL www.engineering.uiowa.edu/YAC. The latest CAR postings are for either Fall 2010 (EPS-I 59:005) or Spring 2011 (EPS-II 59:006, Statics 59:007, Electrical Circuits 59:008, and Thermodynamics I 59:009). Monitoring is summarized below

- EPS-I:
  - ABET a)-k) contribution assignments are referenced in the CAR
  - Revisions include an increase in the number of lectures to 4, and a change in the format of the course in response to student feedback
Course Learning Goals (CLGs) are assessed using the MCE model (Mastery, Competence, Exposure)

- EPS-II:
  - CLGs are assessed with the MCE model
  - ABET a)-k) contribution assignments are referenced in the CAR
  - Revisions include a strengthened academic misconduct policy, CodeBlocks systems was adopted in selected sections

- Statics:
  - ABET a)-k) contribution assignments are referenced in the CAR
  - CLGs are assessed with the MCE model
  - Comments include identifying a possible issue with inadequate math background

- Electrical Circuits
  - ABET a)-k) contribution assignments are referenced in the CAR
  - Revisions include removal of SPICE as the circuit analysis program
  - CLGs are assessed with the a model that assesses Competency

- Thermodynamics
  - ABET a)-k) contribution assignments are included in the CAR
  - No major revisions

**Recommendations:**

a) Remove identification and referencing of ABET a)-k) from the CAR. This is a result of the recent motion approved by the College faculty to remove assessment of ABET a)-k) from the CARs.

b) Post CARs before the beginning of the next semester, or in the case of Fall semester CAR, before the end of the first week of Spring semester class. This was recommended by the CoE CC last year.

c) The minimum information in a CAR should be:
   - Course Learning Goals
   - Syllabus for present semester
   - Revisions since last offering
   - Recommendations for next offering

**Suggested motions:**

“Whereas the College of Engineering faculty voted to eliminate assessment of ABET a)-k), The College Curriculum Committee moves that all reference to ABET a)-k) be removed from Course Assessment Reports for 59-numbered engineering courses.”

“The College Curriculum Committee moves that the minimum information in Course Assessment Reports for 59-numbered engineering courses be: (1) Course learning goals, (2) Syllabus for present offering, (3) Revisions, if any, of the syllabus since last offering, and (4) Recommendations, if any, for the next offering.”

2. Continue to monitor course quality for the math, physics and chemistry courses in the College of Engineering Curriculum.
Final exams and syllabi for Math, Chemistry and Physics were requested. Responses were received from all Chemistry and Math and from Physics II but not Physics I. A summary analysis follows:

- Math I: Questions were all multiple choice. There was some coverage of derivatives of trigonometric functions and one integral that would have required a trigonometric change of variables.
- Math II: Coverage was good. However, all but an “extra credit” question were multiple choice.
- Math III: Generally very good coverage. One exception: though the syllabus had quadratic forms, there were no questions on it. Some of our control courses need quadratic forms.
- Math IV: Generally very good. There was however one section whose final exam had no questions on Laplace Transform.
- Chemistry I: Very good.
- Chemistry II: Very good.
- Physics II: Very good, but all multiple choice.

Recommendation and Observations:
(a) The curriculum committee is concerned that the primary instructor for Physics I did not respond to its request for final exam and syllabus.
(b) The Curriculum committee also feels that there should be at least a few questions in Math I and Math II that are not of the multiple choice variety (in Math II all but an extra credit question were multiple choice). Students should be tested for their ability to develop an answer as much as for their ability to present a final answer.
(c) Laplace Transform is an important topic in Math IV. While most sections tested for it in the final exam, one section did not.
(d) Finally, the curriculum committee noted that for each of Math I and Math II only the supervising instructor was a tenure track faculty member. The rest were all Graduate Students. These courses are essential to the preparation of engineering students, and it is wise to assign seasoned instructors to them, as was promised at the inception of the new Engineering Math sequence.
(e) The curriculum committee recommends that the Dean’s office informally address these issues with the DEOs of Mathematics and Physics.

3. Work with the reformed Leadership, Ethics, and Professionalism (LEAP) committee to implement the recommended strategies within the College Core Course Curriculum. Continue monitoring the results of the strategies for sustainability and effectiveness of the initiative.

The CoE CC met with the Engineering Faculty Council to discuss LEAP. It was decided that, since LEAP-like programs were being pursued through other channels in the CoE, this charge should be dropped. Discussions within the CoE CC indicate that faculty strongly supports a sound LEAP program. One of the recommended charges by the 2010/2011 CoE CC to the 2011/2012 CoE CC was “Consider development and adoption of an Honor Code, especially with respect to cheating and ethics.”
4. Recommend ways to promote and increase student participation in the College of Engineering Honors Program.

The CoE CC met with Kelli Delfosse, in charge of the CoE Honors Program, and Art Spisak, in charge of the University level Honors Program. Discussions immediately revealed little knowledge of the program by both students and faculty.

**Recommendations:**

a) Better advertising: use the computer screens around the college; add sophomore and professional seminars; involve student organizations.

b) A special section for honors students in the research open house that the College sponsors each April.

c) Encouraging students, through the office of Engineering Professional Development, to use part of their internship experience as their honors thesis topic.

d) Give honors students priority for undergraduate RA and TA positions offered by the College or by Departments.

e) Add another awards board near the Dean’s office noting those students graduating with honors.

f) Emphasizing joining the honors program during faculty advising. The Student Records Manager (Megan Allen) should send each advisor a note indicating students that are eligible and encourage advisors to talk to them about signing up for the honors program.

g) Raise awareness among the faculty by announcing details of the program at Departmental meetings; this could be done by the Associate Dean. Reach especially those people in each Department that are active with students and/or regularly employ them as Research Assistants.

5. Monitor progress of the implementation of the machine shop for students.

The three service entities of CoE (Machine Shop, Electronic Shop, and Computer Systems & Support) are being rebranded as "Engineering Technology Centers" under the centralized management of Doug Eltoft. As part of this process, funds from the computer fee will be used to support all three centers. The CoE CC attended the faculty/staff focus group meeting for the machine shop on February 7, 2012 and visited the machine shop with Machine Shop manager Steve Struckman on February 9, 2012. Much equipment has been replaced to accommodate a shift from professional staff to student users, in-shop space for student projects has been established, and a 7-user computer room for project design has been equipped adjacent to the shop. Students are currently able to access the shop on a case-by-case basis; a formal protocol for shop access is anticipated for the fall 2012 semester, though details of this protocol are currently unclear. Training has been identified as the main limitation to machine shop operation. Some ideas being considered for facilitating training, which the CoE CC recommends, include:

a) Establish permanent lines of student assistantship, in which a few graduate or upper-division undergraduate students work part-time in shop with standard maintenance and training duties.
b) Install kiosks with tutorials on each piece of equipment where students can have examples of machine operation

c) Set up a website with procedures for certification, machine information, tutorials, reservation schedules, etc.

d) Implement 1-credit hour courses for students to learn specific machine skills.


   a) Assess if changes are needed in the current set of College of Engineering core courses, including how each of these courses serve the needs of the Departments.

   b) Recommend a method for the Engineering Faculty Council to promote, implement, and maintain an active faculty involvement with respect to the Honors Program and the professionalism and ethics training of undergraduates.


Respectfully submitted,

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