The EFC met a total of 23 times during the academic year 2010-2011. The major activities of the EFC, in no particular order, are as follows.

- Drafted charges for and appointed new members to fill openings on the four standing EFC committees (AY2010-2011): Curriculum, Information Technology, Promotion & Tenure, and Teaching committees.

- Met with each standing EFC committee separately to introduce / discuss charges and answer questions.

- Reviewed and approved interim and final reports from all four standing committees. Again, met with each standing committee (with the exception of the P&T committee) to discuss the interim report submission. Met with the IT committee to discuss the final report.

- Approved the College of Engineering (CoE) voting faculty list for the academic year (AY) 2010-2011.

- Arranged for CoE faculty meetings in December 2010 and May 2011.

- Conducted the Faculty Perception of Administrators review for Professor Milan Sonka.

- Addressed the impact the influx of first year students would have on the EPS I course. Met with the project leaders to devise a plan in the short term (i.e., Fall 2011).

- Formed a committee (i.e., AY 2011-2012 EPS I committee) to address long-term solutions for EPS I.

- Filled open positions for AY 2011-12 on standing committees.

- Supervised the election of a new EFC member and the Faculty Secretary for AY 2011-12.
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, RECOMMENDATIONS AND RATIONALES
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.

Recommendations:

a) Instructors should receive a copy of the most recent CAR prior to the beginning of the semester. If this was routed through the Dean’s office it would reinforce the CAR’s perceived importance.

Rationale: In most cases instructors are not receiving a copy of the CAR until after they have completed the course. The instructor should know the desired outcomes of the course prior to teaching the course, and the history of changes and observations made in previous offerings of the course should help the instructor provide a more effective course.

b) The quantitative portion of the CAR should be removed.
Rationale: Only one core course had a current CAR with data that could even superficially be perceived as quantitatively assessing specific course outcomes. Even there, it is unclear that data from different semesters can be reasonably compared. Without systematic assessment of outcomes with prolonged semester-to-semester continuity, such data cannot be obtained. The numbers currently generated instead could possibly have a negative impact if mistaken for real data. There appears to be no use for the data external to the College. The qualitative portion of the CAR, detailing changes and observations about the course, appears to be universally valued. It is likely that this part of the CAR will be completed more promptly and thoroughly without the burden of supplying quantitative data.

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

Recommendations:

a) Develop a 1-hour LEap course sponsored by the Professional Development Center. Phil Jordan has agreed to teach the course. This course would be intended for the 2nd semester of a student’s sophomore year. The course would be a part of the coop/internship program and would cover topics in leadership, interviewing, ethics, and transition skills.

Rationale: The Dean wants to do this. Phil intends to offer the class next spring. Phil and William Eichinger will coordinate to create the course.

b) An emphasis be put on the standard format for problem solving developed by EPS I. This format or a variant should be used by core level courses.

Rationale: This is a long term effort to encourage professors to use the EPS1 format (or some equivalent). The EPS1 format was sent to all of the course coordinators last year and will continue to be sent.

c) We also recommend to the university the adoption of an Honor Commendation for Leadership. This commendation would recognize student activities (Concrete Canoe, SAE race cars, etc), regional meetings, leadership of professional organizations, and membership in College committees (Undergraduate Curriculum for example).

Rationale: Kelli Delfosse has been charged with supporting and promoting the honors commendations and related honors activities. That these activities are appropriate for honors commendations has been confirmed, and all a student must do is to discuss the activity with the honors program. The Honors Program makes the decision but Keri Hornbuckle has spoken with them. Our goal now is to make this more obvious and straightforward to our students.

This summer, the Student Development Center (SDC) is reorganizing the SDC website. The honors commendation procedures will be included in our redesign to better serve our students. In the meanwhile encourage students to apply their leadership activities to the Honors Program for commendation. You can also point them to Kelli for specific advice.
d) The committee would like to open a dialogue with the faculty during the spring meeting to begin an effort to emphasize professionalism in the classroom.

Rationale: Simply put, we believe that professors should emphasize the attitudes and practices that our graduates will maintain in their professional careers. For example, homework should be done to the standard that an engineering company would require. Requiring the kind of behavior in the classroom that they will be expected to deliver when they graduate is not only good preparation, but also an opportunity to raise the standards of the classroom.

3. Monitor the progress of and provide input to the Math Department as it considers ALEKS for math placement, especially taking into account the effects of mandatory placement on engineering student time-to-degree, transfer students, and AP credits.

**Recommendation:**

a) That ALEKS (Assessment and LEarning in Knowledge Spaces) replace the Math Placement Test (MPT).

Rationale: The College of Liberal Arts and Sciences (CLAS) is doing a pilot this year and all their students will take the ALEKS test. CLAS new students (except transfers) will be required to take the course they place into (or rather, cannot take a course at a higher level than they place).

College of Engineering incoming students are taking the old MPT this spring, not ALEKS. Megan Allen is retrieving the results for each student as soon as it is available and starting May 1 will inform students that do not place into Engineering Math I that they should take review courses over the summer and retake the MPT to try to get into Math I. We will evaluate the effectiveness of this approach this summer.

Next year, CoE incoming students will take ALEKS. The Associate Dean is comfortable with this. She has learned a lot about the ALEKS process. It is much better than the MPT process and will be more useful for our students. It also includes review and learning online modules. She looks forward to seeing how those work for CLAS this summer.

4. Continue to monitor the issue of instructor continuity and course quality for the math, physics, and chemistry courses in the College of Engineering curriculum.

**Recommendations:**

a) Add to the CAR of classes directly dependent on these classes a description of student preparedness in these areas.
Rationale: In a survey distributed to the appropriate instructors, insufficient numbers of responses were returned to make any meaningful assessments.

b) Obtain electronic copies of exams and syllabi from the math, chemistry and physics courses for review by the College of Engineering Curriculum Committee.

Rationale: We continue to hear stories from students who are comfortable with their skills in these classes, only to be surprised by the style of the exams. We would like to determine whether students must take a “high-stakes” multiple choice exam (with 7 questions in one case) or are they given an opportunity to show their work in the exams?

c) Work with the CoE Dean’s Office to determine how to capture information on how to keep the “best instructors” teaching math, physics, and chemistry courses.

Rationale: If we can determine the characteristics of the best instructors for those courses, the CoE can encourage the relevant departments to ensure their instructors have those characteristics.

5. Develop an action plan (timeline and tasks) to implement the recommendations to improve the Rhetoric experience of and usefulness for engineering students. Continue discussions with the Rhetoric Department and the Center for Technical Communication as part of shaping this plan.

Recommendations:

a) That the Director of the College of Engineering, Hansen Center for Technical Communication (CoE CTC) use his discretion in working with Rhetoric to optimize the Rhetoric experience of and usefulness for engineering students. At the end of every academic year, the CTC Director will report (to the CoE associate dean for academic programs) on the improvement of communication skills in the engineering students and to interact with Rhetoric as needed.

Rationale: The action plan has been developed and set in motion. We (David Wilder, Scott Coffel and Jennifer Ambrose of the CTC) met with Steve Duck (Interim DEO of Rhetoric and Communication Studies) and Cinda Coggins-Mosher to discuss the interaction between engineering students, rhetoric and the CoE CTC. Rhetoric were receptive to our proposal to speak at the orientation of their TA’s (PDP) about the engineering students as a unique constituency. They welcomed the opportunity because they value the opportunity to work with perspectives unique to engineering students. It is useful that both Coffel and Ambrose have a long-standing affiliation with rhetoric, having both been rhetoric instructors. In addition, Coffel and Ambrose understand the unique needs of goal-oriented communications that engineers practice. They promise to be an effective bridge and plan to continue working with Rhetoric.

b) Provide to Rhetoric examples of communications in the engineering arena
Rationale: The TA’s in Rhetoric do not have a background in communication in technical areas. Rhetoric would greatly appreciate examples of typical communications that occur between engineers, between engineers and non-engineers, between engineers and materials suppliers, etc.

6. Monitor the progress of and provide input to the committee developing a motion this semester for the College of Engineering Faculty to implement the Engineering Grand Challenge Scholars Program.

This has been implemented. We are now one of 11 certified programs in the United States and students have applied to it.

7. Propose new names for EPSI and EPSII that reflect course content and avoid misconceptions of sequential course material.

**Recommendation:**

a) Starting in the Fall of 2012, rename EPS-I to be “Introduction to Engineering Practice” (with a possible nickname of “IEP”) and EPS-II to be “Engineering Problem Solving” (with a possible nickname of “EPS”).

Rationale: This is to reduce confusion in advising (EPS-I and EPS-II sound as if they are sequential and that EPS-I is a pre-requisite for EPS-II).


a) Consider development and adoption of an Honor Code, especially with respect to cheating and ethics.
   b) Create Honors Sections for classes
   c) Follow up on implementation of prior charges

College of Engineering Information Technology Committee Final Report

May 11, 2011

Members
Anton Kruger (Chair)  Term Expiring
Geb Thomas  May 2012
Sarah Vigmostad  May 2011

Ex-officio Member
Doug Eltoft  Director of CSS

General Charge

The Information Technology Committee shall be responsible for reviewing and evaluating policies governing hardware, software, and computing services within the college, and for making appropriate recommendations regarding computer resources to the dean and the faculty.

IT Committee Response

The IT Committee (ITC) has met to perform work on the charges for the year. Responses to the Specific Charges for 2010—11 are indicated below.

Specific Charges

1. Continue to monitor the deployment by CSS of tools to track the usage rate for College-supported software. Work with the CSS Director to develop a process for compiling an annual list showing usage statistics for all College-supported software packages.

ITC Response

CSS continues to monitor the software usage based on application launch counts. The usage numbers along with the cost of ownership are used to identify high cost to launch software to examine for possible removal. The Appendix shows sample reports.

2. Maintain an ongoing liaison with the CSS Director to ensure that the IT Committee is consulted and actively engaged in all important decisions regarding College IT policies, computing resources/facilities, and software acquisitions.

ITC Response

The ITC discussed this specific charge in some detail. On the one hand, the ITC does maintain an on-going liaison with the CSS director Doug Eltoft, who attends the ITC meetings. Additionally, ITC chair, Anton Kruger, has visited with the CSS on several occasions.
On the other hand, the ITC feels that this specific charge is perhaps somewhat in conflict with the General Charge, which suggests a more advisory role for the ITC. The ITC respectfully requests that the EFC modify/clarify the charge.

3. Work with CSS and ITS to develop a plan for facilitating seamless use of classroom and conference room IT resources by College of Engineering faculty and staff. This plan should include provisions for faculty/staff training on the operation of IT equipment, clear procedures for obtaining rapid assistance with IT-related problems, and any other appropriate elements to enhance the effective use of classroom/conference room IT resources.

ITC Response

CSS and the ITS Help Desk currently cooperate as follows. When the ITS Help Desk cannot respond within 5 minutes to support call related to classroom and conference IT resources (within CS), ITS hands off the support request to CSS, and a CSS person will then respond. CSS has a call tree in place. CSS will reaffirm this arrangement.

The ITC recommends that CSS liaise with the ITS Help Desk to streamline support calls as follows: in an emergency, a user should have to answer at most two questions, namely “are you about to teach?”, and “what is the room number?” If the call is from a UI phone, then ITS should use caller-ID to identify and confirm the room.

Many users seem to find the menus on the LCD navigation screens for the computers and projectors confusing and inconsistent from one room/building to another. Further, it is easy to navigate oneself into a dead-end without an easy exit. The ITC recommends that CSS work with ITS to reprogram the menus over summer 2011 so that streamlined menus are in place before the start of fall classes. The ITC will ask faculty volunteers to provide input on an intuitive menu structure.

Regarding provisions for faculty/staff training on the operation of IT equipment, CSS will honor training requests from individuals and will provide training sessions for groups of interested faculty. The ITC recommends that CSS hosts, perhaps in concert with ITS, a few training sessions in the week prior to start of classes, starting fall 2011. Additionally, the ITC recommends that CSS make training material available on the CSS website; a short video clip showing how to use the equipment may prove very useful.

Regarding equipment, in response to faculty requests to improve the presentation environments in Seamans Center conference rooms, Dean Butler in June of 2010 allocated funding for that purpose. CSS and the Electronics Shop were directed to implement technology upgrades in several conference rooms including 3111 SC, 2310 SC, 2320 SC, 4511 SC and 4505 SC. New high-resolution Cannon projectors and micro adjust ceiling grid mounts were specified, purchased, and installed. Also three new lecterns were ordered for 2310 SC, 4505 SC and 4511 SC. Newer Windows 7 computers were put out in these lecterns which were then locked. The locked lecterns have minimized cable rewiring by users which would leave the computers inoperable for other users. USB extender cables were brought out of the top of each lectern for easy access to the USB ports for thumb drives. To accommodate effective use, local accounts were created and assigned to each
conference room computer. These local accounts and passwords are displayed in each conference room. One can also log in using Engineering College credentials.

4. Recommend specific charges for the 2011-12 Information Technology Committee.

**ITC Response**

Please see the committee’s response to Charge 2.


The ITC submitted both the interim and final reports.
Appendix
Sample Reports

MS Windows Application Count 2010
College of Engineering Teaching Committee Final Report
May 12, 2011

Members: Gary Christensen (chair), Michelle Scherer, Pavlo Krokhmal

Charge 1: Examine the issue of instructor evaluation and develop an action plan that will overcome problems associated with low response rates for the current electronic ACE forms.

The main problem with the low response rate continues to be that there is no accountability. There is no way to know which students have completed the survey and which have not. There are no rewards for students completing the survey or penalties for not completing the survey.

The 2010-11 Teaching committee recommended the following to further increase the ACE completion rate.

1. Provide instructors access to the list of students that have completed the survey for their class provided that enough students have replied to maintain student anonymity. Recommend that the instructors adopt a method to reward students that have completed their survey. Rewards can take on the form of extra credit or some other type of positive reinforcement. In the past, awarding extra credit has been shown to increase the response rate dramatically.
2. Continue to implement and monitor the recommendations from the 2009-2010 teaching committee recommendations.
3. Remove the limit on small class size on ACE survey.

Charge 2: Re-examine the feasibility of coordinating Sustainability courses to offer an interdisciplinary EFA/certificate in sustainability. Review previous teaching committee’s recommendation and suggest implementation by examining options including:

1. The UI certificate in sustainability as a potential common EFA
2. Formulating a CoE common EFA in sustainability (including topics such as energy, water, air quality etc.) by getting around constraints imposed by pre-requisites.

The committee re-examined the feasibility of coordinating the Sustainability courses to offer a common CoE EFA in sustainability. Currently, four out of six programs in the College have EFAs directly related to energy and sustainability topics: Energy and Environment EFA (ME), Energy and Environment EFA (CBE), Engineering for a Sustainable World EFA (CEE), and Sustainability EFA (ECE). Each of the established EFAs has its own emphasis, aligned with the corresponding engineering discipline. The four EFAs offerings in the College of Engineering are complemented by the UI Certificate in Sustainability.

The committee felt that using the UI Certificate in Sustainability as a platform for establishing a common inter-program CoE EFA in sustainability may present difficulties associated with resolving the prerequisite constraints for each program and maintaining them in the long run, as well as other special requirements imposed by the Certificate.
program. In particular, it may be difficult for engineering students to satisfy the required 24sh without taking additional course work due to prerequisites while ensuring that no more than three courses may be taken from a single department.

On the other hand, the committee agreed that while it may be difficult to maintain feasibility with respect to Certificate requirements across all programs, it is not impossible to do so, with a careful course work planning, for individual students. Thus, the committee recommends that the UI Certificate in Sustainability be used as a basis for a tailored EFA that can be individually planned and pursued by engineering students, alongside the existing sustainability-related program EFAs.

Attached is a spread sheet summarizing the Sustainability courses offered in the college, the semester offered, pre-requisites and co-requisites.

**Charge 3:** Review the mechanisms by which different departments handle the nomination process for CoE and University teaching awards. Suggest improvements to the process (such as streamlining the application process) so that departments can be encouraged to nominate faculty (if they do not do so already) for these awards. What is the departmental/college record of success with regard to these important awards in the past five years? Suggest improvements to the process where necessary.

The teaching committee did not complete this charge. It is recommended that this charge assigned to next year’s teaching committee.

**Charge 4:** Report on progress on development of the automated system to check for satisfaction of pre-requisites at the time of registration. When will this facility come on line for our students?

The teaching committee did not complete this charge. It is recommended that this charge assigned to next year’s teaching committee.

**Charge 5:** Assess and recommend approaches to apply universal design in learning in courses taught in the college. These efforts should address inclusive pedagogy which would promote success of:
- Students with disabilities
- Students with language differences
- Students with cultural differences
- Students with learning differences
- Students that may need to miss class for various reasons.
Resources for such evaluation include:
Universal Design in Learning: [www.education.uiowa.edu/universalaccess](http://www.education.uiowa.edu/universalaccess)
Critical Cultural Competence: [www.uiowa.edu/~socialwk/CCCC/index.shtml](http://www.uiowa.edu/~socialwk/CCCC/index.shtml)

The teaching committee did not complete this charge. It is recommended that this charge assigned to next year’s teaching committee.

**Charge 6:** Recommend specific charges for the 2011-12 Teaching Committee.

We recommend the following charges for next year’s committee:
1. Examine issues related to the growing number of international students. Discuss strategies for helping them assimilate better into the college community and engaging them more in the classroom environment. Address issues of international students regarding English competency and ethical behavior. Suggest recommendations of what kind of help to provide to instructors to help them understand and address the needs of the growing population of international students.

2. Continue to examine the ACE completion rate. If the strategies recommended by this committee are implemented, evaluate their effect. If necessary, recommend additional strategies for increasing the completion rate.

3. Review the mechanisms by which different departments handle the nomination process for CoE and University teaching awards. Suggest improvements to the process (such as streamlining the application process) so that departments can be encouraged to nominate faculty (if they do not do so already) for these awards. What is the departmental/college record of success with regard to these important awards in the past five years? Suggest improvements to the process where necessary.

4. Report on progress on development of the automated system to check for satisfaction of pre-requisites at the time of registration. When will this facility come on line for our students?

5. Assess and recommend approaches to apply universal design in learning in courses taught in the college.
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<td>David Anderson</td>
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<td>K.K. Choi</td>
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<td>Bill Eichinger</td>
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EPS I Committee (AY 2011 – 2012)
Proposed Membership list

David Wilder (BME)
ErWei Bai  (ECE)
Allen Bradley (CE)
Pavlo Krokhmal (MIE)
David Rethwisch (CBE)
Student Representative(s) - TBD
General Charge
The committee shall be responsible for reviewing and evaluating the Engineering Problem Solving I course, specifically the sustainability thereof. Are the current course objectives being met? If so, how best do we sustain the course long term with the increased enrollment? If not, provide recommendations for improvement. Specifically, work with / advise Associate Dean Hornbuckle regarding the following:

Specific Charges

i. Consider the logistical constraints (i.e., faculty and facility resources) and suggest improvements.
ii. Assess the consistency of the student workload across projects and compare to other 3 sh courses.
iii. Evaluate the effectiveness and findings of current student learning outcome assessments.