1. Call to order
2. Approve minutes from EFC meeting #3
3. Announcements / updates
4. Charges, membership, and chairpersons for EFC Standing Committees
5. Charge, membership for EFC ad hoc committee on first year experience
6. Charges for EFC – discuss addition of timing of reviews (raised by Alec during meeting #3)
Engineering Faculty Council 2018—2019
Meeting #03 September 11, 2018

DRAFT Minutes

Present (EFC): Profs. Saha, Stanier, Wilder

Present (Dean’s office and/or other visitors):
• Nicole Grosland, ex-officio
• Alec Scranton, ex-officio
• Larry Weber, ex-officio

1. Professor Stanier called the meeting to order at 11:03 a.m.
2. The minutes from Aug 21 EFC meeting #2 were approved with a friendly amendment and to move Item 8.1 (Clarification of policy on review of instructional faculty (probable typo with dropping of term primary faculty in some places)) to the Promotion and Tenure Committee.

3. We discussed the need to check if the Instructional Faculty Promotion process timeline was submitted to the College of Engineering faculty in the Spring 2018 faculty meeting.

4. We discussed the need to find committee members.

5. Dean Scranton mentioned that he will announcement enrollment status and demographics. He stated that the search process for a new Associate Dean needs to begin and Charles Stanier accepted the request to chair the search.

6. We reviewed the 2018-19 Charges for the EFC and the standing Committees (see edits below), approving the teaching committee membership and charges.

7. We discussed the charge, membership, and structure of the two ad hoc committees on the first year core.

8. We adjourned at noon.
Charges for 2018-19 Engineering Faculty Council

September XX, 2018

DRAFT

Specific Charges

1. Recommendation on whether FPOA review should be used as a tool for periodic formative evaluation of the Executive Associate Dean. (if we decide to change the procedure manual)
2. Whether the size or composition of the EFC should be changed to reflect the fact of six departments in the college.
3. Propose new language for the general charge of the curriculum committee, which differs between the 2015 procedure manual and the 2017-2018 EFC charge to the committee. The language in the procedure manual is overly broad. (Keep the 2015 procedure manual language)
4. Administer the faculty motion on first year core experience and classes (from May 2018)
5. Provide guidance on voting privileges for Instructional faculty.
Charges for 2018-19 Engineering Curriculum Committee

September XX, 2018

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<table>
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<tr>
<th>Members</th>
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<tr>
<td>Prof. Terry Braun (BME)</td>
<td>May 2019</td>
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<td>Yong Chen (ISE)</td>
<td>May 2019</td>
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<td>David Murhammer (CBE)</td>
<td>May 2019</td>
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<td>Vacant May</td>
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<td>Vacant May</td>
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EFC Liaison Member

Prof. David Wilder (BME)

General Charge

The Curriculum Committee shall be responsible for annual review and evaluation of all existing and proposed required undergraduate core courses taught within and outside the College of Engineering, and for making appropriate recommendations to the dean and the faculty.

Specific Charges

1. Continue work to develop, implement, and monitor a new CoE GEC policy
2. Monitor course quality for the mathematics, physics, and chemistry courses that are part of the engineering core curriculum

In addition, the following new charges are recommended to the 2018-2019 College Curriculum Committee.

3. Monitor course quality for engineering core courses, including Circuits, Thermodynamics and Statics.
4. Work with the ad hoc committee on first year core classes to meet their charge.
5. Assess student needs of “Be Creative” courses
Charges for 2018-19 Engineering Promotion and Tenure Policy Committee

September XX, 2018

DRAFT

Members

Associate Prof Craig Just (CEE) Chair
Prof. Tae-Hong Lim (BME)
Soura Dasgupta (ECE)
Prof. Fred Stern (ME)

Term Expiring
May 2019
May 2019
May 2020
May 2021

EFC Liaison Member
Prof. Punam Saha (ECE)

General Charge

The Promotion and Tenure Committee shall be responsible for reviewing and evaluating the criteria for and the appropriateness of all recommendations concerning faculty promotions, tenure, and new appointments in the college and for making such recommendations to the dean and the faculty as it deems necessary.

Specific Charges

1. Monitor the administrative burden on faculty in maintaining updated APR documents.
2. Monitor the implementation of the promotion and tenure timeline checklist in the university Workflow system.
3. Create timeline checklists for EFC review concerning instructional faculty undergoing promotion and implement in Workflow.
4. Implement 3-year review checklist in Workflow for tenure track faculty.
5. Develop best practices guide(s) for peer evaluations of teaching, particularly as relates to the use of innovative teaching methods in the classroom.
7. Submit an interim report by Dec 15, 2018 and a final report by April 1, 2019.
8. Clarify policy on review of instructional faculty (probable typo with dropping of term “primary faculty” in some places). Submit revised language to EFC depending on outcome of review.
Charges for 2018-19 Engineering Teaching Committee

September 11, 2018

APPROVED

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<th>Members</th>
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<tbody>
<tr>
<td>Prof. Hiroyuki Sugiyama (ME)</td>
<td>May 2019</td>
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<tr>
<td>Mark Andersland (ECE)</td>
<td>May 2020</td>
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<tr>
<td>Michael Mackey (BME, chair)</td>
<td>May 2020</td>
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EFC Liaison Member

Prof. Charles Stanier (CBE)

General Charge

The Teaching Committee shall be responsible for all matters relating to evaluation an improvement of the quality of instruction in the college, and for making appropriate recommendations to the dean and the faculty.

Specific Charges

1. Oversee the College Teaching Award nomination and selection process and revise as needed.

2. Continue to collect data regarding TA appointments for all ENGR. Using this data set and any other information you find useful, explore the impact of increased College enrollment on TA sustainability and the undergraduate and graduate educational experiences.


Charges for 2018-19 Engineering Technology Committee

September XX, 2018

DRAFT

Members                        Term Expiring
Prof. Michael Schnieders (BME), Chair     May 2019
Prof. Stephen Baek (ISE)       May 2021
Prof. Reinhardt Beichel (ECE)      May 2021
Prof. Ibrahim Demir (CEE)      May 2021
Dr. Chris Coretsopolous (CBE)      May 2020
Mr. Danny Tang (ETC), ex Officio non-voting

EFC Liaison Member

Prof. Sharif Rahman (MIE)

General Charge

The Engineering Technology Committee shall be responsible for prioritizing information technology needs for the college related to education and teaching, reviewing and evaluating policies governing hardware, software, shops and computing services within the college, evaluating the effectiveness of the Engineering Technology Center and technology infrastructure used by the college, and advocating for information technology needs to the university.

Specific Charges

1. Meet with the DEO of each Department to review current technology, services and infrastructure and review the College and Departmental lists of priorities. This will ensure that the needs of the departments are specifically recognized in the committee’s planning and advocacy.

2. Suggest that a catalog of teaching laboratory equipment and a replacement timeline/cost estimates be created to better understand how to make future replacement/maintenance plans.

3. Continue to monitor the University of Iowa’s OneIT process to ensure that IT services are consistent with the College expectations.

4. Continue to monitor the new annex teaching spaces, and the maker space for utilization and improvements that are needed in both technology and policy. Recommend improvements that will enable the new digitally-enabled collaborative learning space for team-based education

5. Monitor the implementation of the policy governing acceptable student behavior in the Engineering Computer Laboratories, and report on its effectiveness.


7. Submit an interim report by December 15, 2018 and a final report by April 1, 2019.
Draft charge for ad hoc first year course experience committees

Version (by Stanier, 8/21/2018)

Jointly with the EFC Curriculum Committee, make a recommendation to the [EFC? / Faculty?] regarding changes to the course IEPS / IEC that would retain the strengths of those courses, and improve them, giving strong consideration to the factors (expose students, develop skills, recruitment, retention, etc.) listed in the May 2018 faculty-approved motion (attached).

Deliverables:

- **Fall Semester**
  - Prepare a short (~2-3 page) history of the course, including teaching philosophy, learning objectives, resource allocation (sections, teaching assistances, faculty, staff support), and pedagogy.
  - Prepare a report on strengths, weaknesses, constraints, and opportunities
  - Suggested timeline
    - October – stakeholder meetings
    - Nov 1 – draft documents to curriculum committee
    - Dec 1 – draft documents to EFC
- **Spring semester**
  - Prepare a recommendation consisting of a summary and rationale of recommended changes to the course, a revised list of course objectives, and an implementation plan for implementation starting in F2021
    - Mar 15 – draft documents to curriculum committee
    - Apr 15 – draft documents to EFC, including a motion for presentation to the faculty

- In addition to the above, the IEPS committee shall deliberate and vote
  - on whether IEPS is to “Give exposure to different types of engineering to aid in major selection” or whether that role should be filled entirely by other means, such as first year seminars and advising.
  - Recommend the degree of linkage between IEPS projects and lecture
  - Recommend whether students select project sections with knowledge of the project content (as opposed to current practice of random matching between projects and students).

- In addition to the above, the IEC committee shall deliberate and vote
  - on the programming language(s) taught in the course, and the feasibility of student choice in selecting language(s) of focus through enrolling in language specific sections or projects

**Recommended committee size: 4-5 members**, recognizing that the ad hoc committees can be assisted by the curriculum committee, and can invite additional stakeholders to specific meetings to give information relevant to the course adjustments under consideration.

Potential members, based on suggestions made in 2017-2018 EFC deliberations, those involved in the 2017-2018 discussions of the core, current DUGS, and past instructors of the courses in question.
EFC will seek a balance of those with experience in the relevant courses, and those with fresh perspectives possible from limited perspective in the 1st year core.

Possible members of either unless marked by * (IEPS only) or † (IEC only)

A. Bhatti
J. Kuhl
A. Bradley*
R. Valentine*
DUGS - Nicole Kallelmeyn (BME)
DUGS - Paul Hanley (CEE)
DUGS - Mark Andersland / Gary Christensen (EE / CSE)
DUGS - James Buchholz (ME)
C. Coretsopoulos*

Stakeholders but ineligible due to membership on other committees
- DUGS - David Murhammer (CBE) --- also on curriculum committee
- DUGS - Yong Chen (ISE) --- also on curriculum committee
- David Wilder, IEPS Course Coordinator (on EFC)
- Terry Braun, IEC Course Coordinator (on EFC Curriculum Committee)

Additional stakeholder groups or sources of information:
- Undergraduate students
- Staff (i.e. tutoring, computing support, shops, library, maker spaces, outreach, recruitment, advising, diversity)

IEPS Lecture Instructors Since 2014

Allen Bradley (2014 to 2018)
Ibrahim Demir 2018
Salam Rahmatalia 2018
Keri Hornbuckle 2017
Jerry Schnoor 2016
Michelle Scherer 2015

Project Sections:

Ruben Beltran 2017
Arun Pennathur 2015-2018
David Wilder 2014-2018 (honors)
Richard Valentine 2014-2018
Jennifer Fiegel 2015, 2017-2018
Er Wei Bai 2015-2018
Shaoping Xiao 2018
Chris Coretsopoulos 2014-2018
Just Garvin 2016
Julie Jessop 2014, 2016
Sureh Raghavan 2015
Jacob Odgaard 2014
Gene Parkins 2014
Uday 2014
Gary Fischer 2014
Chris Stoakes 2016-2017

IEC Instructors Since 2014

Justin Garvin 2014-2018
Ed Dove 2014, 2016
Gary Christensen 2015-2018 (Honors section in 2016)
Terry Braun, 2016, 2018
Joe Reinhardt 2017-2018
Gheorghi Guzun 2017
David Kristensen 2017
Mona Garvin 2017-2018
Relevant Background:

1. Faculty approved motion
2. Discussion during May 10, 2018 faculty meeting
Review of Undergraduate Engineering Core Curriculum

Motion
The College of Engineering shall review its undergraduate engineering core curriculum with the goal of starting implementation of changes recommended after the next ABET visit in 2020.

Guidance
Modifications to the curriculum should consider the factors such as
1. Expose students to disruptive breakthroughs, big ideas that changed society, and entrepreneurial success stories by engineers.
2. Expose students to real engineering projects to help motivate and frame their math and science courses.
3. Develop skills universally needed by all our students (oral, written, and graphical communications, numerical computations).
4. Give exposure to different types of engineering to aid in major selection.
5. Help with student recruitment, retention, and diversity.
6. Maintain the College's ability to integrate transfer students.
7. Maintain student's ability to change major during the first few semesters.
8. Be consistent with the College's financial resources and infrastructure.
9. Empower students to use College-wide resources (library, shops, computing, advising, tutoring).
10. Feedback from alumni and from external advisory boards on what constitutes shared engineering knowledge across all engineering disciplines.

Timeline
2018-19 – Proposals for the first year of engineering: The EFC, in conjunction with the curriculum committee and two ad hoc committees (one for Introduction to Engineering Problem Solving (IEPS) and one for Introduction to Engineering Computing (IEC)), to consider the first year experience for engineering students and develop specific proposals for these two courses.

2019-20 – Proposals for second year of engineering, including Statics, Electrical Circuits, and Thermodynamics: The EFC, in conjunction with appropriate committees, to develop specific proposals related to these courses.

2020 - ABET review.

Fall 2021 - Offer courses based on the proposed revisions.
Rationale

The last major revision to the College’s undergraduate curriculum was initiated in February 1997 when Dean Miller appointed a Curriculum Advancement Task Force (CATF). The CATF produced a draft document *Preparing Engineers Beyond Technology: Engineering Education at the University of Iowa* in October 1997 which was endorsed by a faculty vote of 51-4 in April 1998. An Ad Hoc Core Curriculum Committee (AHC3) was appointed in December 1997 to develop a three-semester core curriculum based on the principles laid out in the CATF document. In February 1999 the AHC3 proposed the three-semester core curriculum with a list of core concepts and skills. The faculty endorsed this document in May 1999 by a vote of 35-11-1. The final curriculum was approved by the College’s faculty in a series of motions in May 2001.

Since 2001 the curriculum has evolved through the normal continuous-improvement cycles but there has not been a comprehensive look at the curriculum. At the same time over these past 20 years or so the College has changed in several significant ways. The in-coming student body to the college has increased from around 200 to around 500. With the addition of Engineering Annex the college has seen significant growth in space that is available for incorporating innovations in teaching. With rapid advancement in technology and vast quantity of easily accessible information (both reliable and unreliable) the needs and expectations of our students are vastly different now than 20 years ago.

Actions completed

2017-18 Broad core vision

1. Several Lunch & Learn Sessions During the Fall 2017  
2. EFC looked at several peer institutions (Big10 Plus)  
3. EFC met with DEOs to understand core needs of departments
From Draft May 10, 2018 College Faculty Meeting Minutes:

Professor Bhatti presented the EFC MOTION: Review of Undergraduate Engineering Core Curriculum. “The College of Engineering shall review its undergraduate engineering core curriculum with the goal of starting implementation of changes recommended after the next ABET visit in 2020” plus the supporting text on factors to consider in the review, timeline for review, rationale for review, and the initial work completed during the 2017-2018 year. The first actions of the review will be for two ad hoc committees (one on IEPS and one on IEC) be formed in fall 2018, and together with the curriculum committee, be charged to review and revised these courses while also considering the first year engineering experience as a whole.
  
a. Discussion focused not on the motion itself, but on the supporting text:
   i. Faculty mentioned the course titles are no longer EPS 1 and EPS 2, but rather IEPS and IEC – this was incorporated into the supporting text as a friendly amendment.
   ii. Professor Christensen commented that wide stakeholder involvement is needed, and in particular ECE involvement in the review of EIC, since this is the first in their sequence of required courses.
   iii. Professor Reinhardt recommended that the list of factors to be considered in the review be separated from the motion itself; furthermore, the list should suggested rather than prescribed. This was incorporated into the motion as a friendly amendment.
   iv. Professor Fiegel explained that it will be a challenge to evaluate IEPS because the course will be evolving during F2018 to adopt the new Annex spaces.
   v. Professor Bradley noted that the 2000 review of the core was very broad, while the proposed review seemed focused on individual courses. Professor Stanier responded that EFC was interested in a somewhat broader review, and proposed as a friendly amendment that the timetable refer to review of the first year experience, and the 2nd year experience, in addition to referencing the individual ENGR courses such as IEPS and IEC.
   vi. Professor Peeples also recommended broad stakeholder involvement, particularly in making sure that student retention continues to be addressed in the first year experience.
   vii. Several faculty noted that the recommendation that the core should “empower students to use College-wide resources (library, shops...)” was potentially problematic and could result in hollow words without the resulting actions and resources needed for true empowerment. For example, balancing student access to machine shops, safety, liability, and expense, can be difficult. Stanier commented that he felt the review / core redesign might be able to empower students without resulting in unlimited or 24/7 access to shop facilities. Dean Scranton explained that more resources are available now than 20 years ago for IEPS (such as space in the new Annex).
   viii. Professor Fiegel noted that the supporting text mentioned that the review was to consider how IEPS and IEC “give exposure to different types of engineering to aid in major selection.” She explained that in IEPS there is an explicit effort to avoid educating about individual majors; instead, this is left to the first year seminar. Other faculty mentioned that the project sections often do involve a disciplinary focus.
  
b. The motion was approved by voice vote.