Final Report
2017-2018 Curriculum Committee
College of Engineering
April 20, 2018

Members       Term Expires
Shaoping Xiao (ME), Chair      May 2018
Colby Swan (CEE)                May 2018
Guadalupe Canahuate (ECE)      May 2018
Terry Braun (BME)               May 2019
Yong Chen (IE)                  May 2019
David Murhammer (CBE)           May 2019
Engineering Faculty Council Liaison: Amaury Lendasse

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 for the 2017-2018 Academic Year

1. Discuss the possibility to offer a new version of STAT:2020 (Statistics and Probability for Engineers) course in College of Engineering

The committee discussed internally offering the “STAT:2020 Statistics and Probability for Engineers” course in the College of Engineering.

- ADAP John Kuhl (JK) and Prof. Yong Chen (YC) gave the historical background about the existing STAT:2020 course and the reasons why the college was considering offering this course internally.
- YC and Prof. Guadalupe Canahuate (GC) mentioned the concerns raised by IE and ECE faculty members because the students were not prepared well by STAT:2020 for advanced courses. The reason is that the instructors of STAT:2020 don’t have engineering background and didn’t spend enough time on the topics relative to advanced engineering courses.
- JK also emphasized the students’ complains about inconsistent teaching between multiple sections of STAT:2020. This issue has existed for many years due to the difficulty of communications between the College of Engineering and the Statistics Department. The main reason is the absence of a course coordinator in the Statistics Department and the variety of instructors from year to year.
- The committee members exchanged the status of STAT:2020 at each program. Currently, STAT:2020 is a required core course in ME, IE, ECE, CBE and CEE programs. BME allows students to take Biostatistics as an equivalent to STAT:2020.
The subcommittee was formed with YC and GC. They held a few meetings with IE and ECE faculty members to discuss the potential textbook as well as the syllabus. YC and GC also checked probability and statistics course offering in other 14 BIG Ten + schools and found that most of them (11 out of 13) offered basic probability and statistics courses within their engineering colleges.

The current textbook, “Applied Statistics and Probability for Engineers” will be kept. YC mentioned that this is a good textbook but the statistics departmental instructors don’t have engineering background to use this book efficiently.

The new course will be categorized as an engineering core course led by the IE Department. A few IE faculty members and lecturers are excited to teach this course. A course committee will be formed to ensure continuous improvement.

The new statistics course will be initially offered in Fall 2018 and then in all semesters thereafter. The course will consist of two lecture sections plus six discussion sections for each of the Fall and Spring semesters, plus one summer section (without a discussion section) which is not an online course.

YC and GC has prepared the report to the EFC. The report was submitted to the EFC in the week of Nov 13. The EFC has approved the report and scheduled a faculty meeting during the final week of Fall semester 2017 to discuss and vote.

On the CoE faculty meeting in December 2017, the faculty voted to postpone offering STAT:2020 internally due to current funding issue.

2. Continue work to develop, implement, and monitor a new CoE GEC policy.

The committee has evaluated and approved a handful of new courses that were petitioned for being listed as “Be Creative” courses. Those courses include

- Printmaking and the Politics of Protest and Representation
- SCP:2810 Undergraduate Sculpture I
- Lighting design for engineers and dancers
- RHET:3250: Persuasive Writing for Science and Healthcare Professionals
- RHET: 3260: Persuasive Speaking for Science and Healthcare Professionals
- UICB:4415 Calligraphy I: Foundational Hands
- UICB:4100 Paperworks
- UICB:2110:0001 Introduction to Book Arts: Thinking through Making
- UICB:2110:0002 Introduction to Book Arts: Japanese and Western Hand Printmaking
- UICB:3280 Elements of Book Arts
- UICB:3380 Elements of Letterpress
- UICB:4340 Digital Design for Artists’ Books
- TDSN:4250 Fabrication & Design: Hand-build bicycle

The committee denied the request of listing “CS:4980 Topics in computer science II Section 2: Virtual Reality” as one of “Be Creative” courses. The committee conceded that this course was a “technical” course, which could potentially be an EFA course for engineering students. However, it is not a “be creative” course for engineering students. The committee also denied the request of listing “ABRD:3445/DRAW:3310 A studio art course travelling to
Delhi, India” as one of “Be Creative” courses. The committee thought that this course lacks of creative process of “doing art”. The committee rejected the request to use leadership courses, offered by engineering college or any engineering department, as GEC courses.

The committee reviewed a petition/substitution request. An engineering student requested using MUS:3482 (String Chamber Music) as a “be creative” course. The committee recognized that there was no evidence demonstrating the creative process of “doing art” in course MUS:3482. The committee denied the request but noted that MUS:3482 belongs to Category 3 of the new CoE GEC policy. The committee also discussed another “Be Creative” petition from a student, named Seth Clark. Seth submitted a petition about taking “ARTS:1060 Elements of Digital Photography” as a “Be Creative” course. Currently, ARTS:1060 is not listed as a “Be Creative” course. The committee reviewed the course description of ARTS:1060 and approved Seth’s petition.

ADAP Nicole Grosland (NG) asked for criteria for listing as “Be Creative” courses. The committee reviewed the general principles, approved by curriculum committee on 9-14-2015, for course eligibility to meet the “Be Creative” requirement in the engineering undergraduate general education curriculum. The committee voted to modify the fourth principle as “The curriculum committee monitors changes to the list of acceptable courses”, in which ADAP approves the list of acceptable courses in consultation with The Engineering Registrar. The new criteria document is attached.

3. Monitor course quality for the mathematics, physics, and chemistry courses that are part of the engineering core curriculum.

Prof. Shaoping Xiao (SX) talked to Josh Atcher (JA)) who is the coordinator of CoE tutor program. Math courses look good so far as well as Chemistry courses. However, in physics courses, more supplementary supports are needed based on the concerns from students and tutors. This is due to the difficulty level of course materials. JA agrees to collect more information about Physics courses. In the Spring of 2018, a concern raised from students/tutors is about Circuits (ENGR:2120), in which one section is not consistent with the others in terms of homework assignments. Josh will talk to the course coordinator, and will provide updates later.

SX met with the Math department chair, Prof. Maggy Tomova (MT), and obtained updates as noted below.

- Historically, the Math Department doesn’t return midterm exams to students, and the same (or similar) midterms have been used for many years. This has resulted in unfairness because some students had copies of previous exams. The Math Department plans to release previous midterm exams to students and tutors and will use new midterms each year.
- The Math Department is working with the Center of Teaching and Learning to improve student learning in engineering math I. The center will train TAs for leading discussion sections so that students can have the similar experiences in the discussion sections.
A summer program hosted by the Math department will start in Summer 2018. This program is open to in-coming freshman, especially minority and low income students. The summer program will review algebra 2 and pre-calculus to prepare students for the math placement test.


The interim report was submitted on December 5, 2017.

The final report is submitted with one supplementary document:
- Criteria for listing as a General Education Component “Be Creative” course.


The following charges will be remained in the list for the 2018-2019 College Curriculum Committee.
- Continue work to develop, implement, and monitor a new CoE GEC policy
- 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.
- Monitor course quality for engineering core courses, including Circuits, Thermodynamics and Statics.
- Seek a solution to improve EPSI, which currently has a lack of connection between lecture sections and lab sections.
- Assess student needs of “Be Creative” courses
Criteria for Listing as a General Education Component ‘Be Creative’
Course
April 20, 2018  (approved by Curriculum Committee 4-20-2018)

The following are general principles for course eligibility to meet the “Be Creative” requirement in the engineering undergraduate general education curriculum. Courses to be considered must meet these criteria as established by the College of Engineering Curriculum Committee1.

Principle: The course focuses on the arts
- Eligible courses are offered by the following Departments and Schools in the College of Liberal Arts and Sciences (CLAS): Art and Art History; Cinematic Arts; Dance; Music; English (Creative Fiction and Creative Nonfiction); and Theater Arts. Additional departments in the University of Iowa may be considered eligible if the course is consistent with the criteria listed below.

Principle: The course embodies the creative process of “doing art” with the following:
- A hands-on approach for experiencing the creative processes;
- Projects that provide interactions among engineers and artists;
- Training and access to tools and/or techniques used to create art.

Principle: The course is equivalent to one listed by the Engineering Curriculum Committee
- Courses that are substantially equivalent to those on the list (determined in collaboration with the instructor) are acceptable.

Principle: The Curriculum Committee monitors changes to the list of acceptable courses
- The Engineering Registrar and/or Associate Dean for Academic Programs may seek advice and consultation on possible additions;
- The Engineering Registrar and/or Associate Dean for Academic Programs will approve and publish the list of acceptable courses and address questions from students and faculty2.

Principle: The course is recognized and supported by the home department
- The course is approved by the home department DEO
- The course will be developed with engineering students in mind. Ideally seats will be reserved in sections that are designed to promote creative collaboration between engineers and arts majors.

2 http://www.engineering.uiowa.edu/current-students/academic-support/advising/general-education-component