

REQUEST TO COLLEGE CURRICULUM COMMITTEE FOR CURRICULAR IMPROVEMENTS

DEPARTMENT: IEE&EM **PROPOSED EFFECTIVE SEMESTER:** Fall 2015 **COLLEGE:** CEAS

PROPOSED IMPROVEMENTS

Academic Program

- ☐ New degree*
- ☐ New major*
- ☐ New curriculum*
- ☐ New concentration*
- ☐ New certificate
- ☐ New minor
- ☐ Revised major
- ☐ Revised minor
- ☐ Admission requirements
- ☐ Graduation requirements
- ☐ Deletion ☐ Transfer
- ☐ Other (explain**)

Substantive Course Changes

- ☐ New course
- ☒ Pre or Co-requisites
- ☐ Deletion (required by others)
- ☐ Course #, different level
- ☐ Credit hours
- ☐ Enrollment restriction
- ☐ Course-level restriction
- ☐ Prefix ☐ Title and description
(attach current & proposed)
- ☐ General education (select one)
Not Applicable
- ☐ Other (explain**)

Misc. Course Changes

- ☐ Title
- ☐ Description (attach current & proposed)
- ☐ Deletion (not required by others)
- ☐ Course #, same level
- ☐ Variable credit
- ☐ Credit/no credit
- ☐ Cross-listing
- ☐ COGE reapproval
- ☐ Other (explain**)

**** Other:**

Title of degree, curriculum, major, minor, concentration, or certificate: Industrial & Entrepreneurial Engineering

Existing course prefix and #: IEE 3010 **Proposed course prefix and #:** **Credit hours:** 3

Existing course title: Entrepreneurial Engineering II

Proposed course title:

Existing course prerequisite & co-requisite(s): IME 2010 or Instructor Approval

Proposed course prerequisite(s) Junior Standing or Senior Standing or Instructor Approval

If there are multiple prerequisites, connect with "and" or "or". To remove prerequisites, enter "none."

Proposed course co-requisite(s)

If there are multiple corequisites, they are always joined by "and."

Proposed course prerequisite(s) that can also be taken concurrently:

Is there a minimum grade for the prerequisites or corequisites?

The default grades are D for undergraduates and C for graduates.

Major/minor or classification restrictions: Included – IEEJ, ENTN

List the Banner 4 character codes and whether they should be included or excluded.

For 5000 level prerequisites & corequisites: Do these apply to: (circle one) undergraduates graduates both

Specifications for University Schedule of Classes:

a. Course title (maximum of 30 spaces):

b. Multi-topic course: ☐ No ☐ Yes

c. Repeatable for credit: ☐ No ☐ Yes

d. Mandatory credit/no credit: ☐ No ☐ Yes

e. Type of class and contact hours per week (check type and indicate hours as appropriate)

- | | | |
|---|--|--|
| 1. <input type="checkbox"/> Lecture | 3. <input type="checkbox"/> Lecture/lab/discussion | 5. <input type="checkbox"/> Independent study |
| 2. <input type="checkbox"/> Lab or discussion | 4. <input type="checkbox"/> Seminar or <input type="checkbox"/> studio | 6. <input type="checkbox"/> Supervision or practicum |

CIP Code (Registrar's use only):

Chair/Director Shirley Butt Date 10/1/14

Chair, College Curriculum Committee _____ Date _____

Dean _____ Date: _____ Graduate Dean: _____ Date _____

Curriculum Manager: Return to dean ☐ Date _____ Forward to: _____ Date _____

Chair, COGE/ PEB / FS President _____ Date _____

FOR PROPOSALS REQUIRING GSC/USC REVIEW:

* ☐ Approve ☐ Disapprove Chair, GSC/USC _____ Date _____

* ☐ Approve ☐ Disapprove Provost _____ Date _____

1. Explain briefly and clearly the proposed improvement.

The proposed prerequisite changes and restriction changes align the course for use in the Entrepreneurship minor, as well as the major in Industrial & Entrepreneurial Engineering.

2. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.)

This amendment provides more flexibility to the Instructor to include our visiting international students and any students enrolled in the Entrepreneurship minor.

3. Effect on other colleges, departments or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.

The proposed amendment will have an extremely positive effect on visiting International Students and students in the proposed Entrepreneurship Minor. There will be no effect on any other department.

4. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.

The proposed change will increase enrollment in this course, IEE 3010. This is being done to accommodate the addition of this course in the Entrepreneurship minor.

5. Effects on enrolled students: Are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time. If a required course will be offered during summer only, provide a rationale.

The proposed change will make it easier for our IEE students to enroll in this course since more than one section will need to be offered each year (current schedule – only one section in the Fall).

6. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?

Current enrollment is 28 students. Demand from the International Student visitors fluctuates from year to year. The demand from the proposed Entrepreneurship minor could be as high as an additional 60 students.

7. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? How often will course(s) be offered? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)

Space used for the current section of IEE 3010 will be available to accommodate the additional sections/enrollment. The same faculty members within the IME department responsible for the course will continue to work with the new sections. The course is currently team taught by four faculty members. Individual faculty member sections could be designed, if required.

8. General education criteria. For a general education course, indicate how this course will meet the criteria for the area or proficiency. (See the General Education Policy for descriptions of each area and proficiency and the criteria. Attach additional pages as necessary. Attach a syllabus if (a) proposing a new course, (b) requesting certification for baccalaureate-level writing, or (c) requesting reapproval of an existing course.)

This is not a general education course.

9. List the learning outcomes for the proposed course or the revised or proposed major, minor, or concentration. These are the outcomes that the department will use for future assessments of the course or program.

The learning outcomes will not change for this course. They are the following:

- a.) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
 - b.) an understanding of the entrepreneurial process including how to design, develop and bring new products and processes to market
 - c.) an ability to communicate effectively
 - d.) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
10. Describe how this curriculum change is a response to assessment outcomes that are part of a departmental or college assessment plan or informal assessment activities.

The impetus for this change is to accommodate the growing demand from our International student visitors. This meets our college and university's objective to be globally engaged. We have already noted a huge positive change in the product development cycle with the introduction of the international students in the course. The benefits of adding students to the course from other colleges through the Entrepreneurship minor will also bring different perspectives to product development aspects of the course. The current prerequisite course contains introductory concepts that the students entering the course from none IEE programs have received in their own respective major programs.

11. (Undergraduate proposals only) Describe, in detail, how this curriculum change affects transfer articulation for Michigan community colleges. For course changes, include detail on necessary changes to transfer articulation from Michigan community college courses. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section.

This change will have no effect on any articulation agreements.

Old Catalog Copy

IME 3010 - Entrepreneurial Engineering II

This course will discuss, through a series of case studies, the operational characteristics of startup companies. Topics covered include SWOT analysis, market research, product concept and design, risk analysis for innovative products, with emphasis on product development strategies for new designs and distribution alternatives.

Prerequisites & Corequisites: Prerequisite: IME 2010 or instructor approval

Credits: 3 hours

Restrictions: Restricted to majors in Industrial Engineering or Industrial and Entrepreneurial Engineering.

Lecture Hours - Laboratory Hours: (3 - 0)

New Catalog Copy

IME 3010 - Entrepreneurial Engineering II

This course will discuss, through a series of case studies, the operational characteristics of startup companies. Topics covered include SWOT analysis, market research, product concept and design, risk analysis for innovative products, with emphasis on product development strategies for new designs and distribution alternatives.

Prerequisites & Corequisites: Prerequisite: junior standing or senior standing or instructor approval

Credits: 3 hours

Restrictions: Restricted to majors in Industrial and Entrepreneurial Engineering or minors in Entrepreneurship.

Lecture Hours - Laboratory Hours: (3 - 0)