

TO: The Faculty of the College of Engineering

FROM: The First-Year Engineering Curriculum Committee

RE: Change in Requirements for Completion of First-Year Engineering

The First-Year Engineering (FYE) Curriculum Committee has approved a revised set of requirements for completion of FYE. This action is submitted to the Faculty of the College of Engineering with a recommendation for approval.

Old requirements: (for Fall 2013 and earlier entry to Purdue)

Required courses	Course Numbers
Calculus I	MA 16100 or 16500
Calculus II	MA 16200 or 16600 or 17300
General Chemistry I	CHM 11500
Transforming Ideas to Innovation I <i>or</i> *Honors Innovation and Creativity in Engineering Design I	ENGR 13100 or *ENGR 14100
Transforming Ideas to Innovation II <i>or</i> *Honors Innovation and Creativity in Engineering Design II	ENGR 13200 or *ENGR 14200
English Composition	ENGL 10600 or 10800
First-Year General Education Elective	Varies, COM 11400 strongly recommended
Physics I	PHYS 17200
Science Selective	Options include General Chemistry II (CHM 11600), Computer Programming (CS 15900), or Biology: (BIOL 11000, BIOL 11100, <i>both</i> BIOL 12100 <i>and</i> BIOL 13500, or BIOL 13100)
* ENGR 14100 and ENGR 14200 will also count for the Science Selective.	

A cumulative GPA of at least 2.00 and EAI of at least 2.00 are required to complete FYE. The EAI does not include the First-Year General Education Elective course.

New requirements: (for Fall 2014 and later entry to Purdue)

I. Courses: To complete FYE and be eligible for consideration for entry into an Engineering degree program, a student must complete the following courses:

1. ENGR 13100, ENGR 14100, or (EPCS 11100 **and** EPCS 12100)
2. ENGR 13200, ENGR 14200, or ENGR 13300
3. MA 16100 or MA 16500
4. MA 16200, MA 16600, or MA 17300
5. CHM 11500 or [CHM 11100 **and** CHM 11200]
6. PHYS 17200
7. A science selective course, chosen from:
 - a. CHM 11600
 - b. CS 15900
 - c. BIOL 11000
 - d. BIOL 11100
 - e. BIOL 13100
 - f. BIOL 12100 **and** BIOL 13500
 - g. ENGR 14100 **and** ENGR 14200 for students who entered Purdue prior to Fall 2015 only
8. A course that meets the Written Communication foundational outcome (typically ENGL 10600 or ENGL 10800)
9. A course that meets the Oral Communication foundational outcome (typically COM 11400)

II. Minimum Grades: Earned grades must be C– or better for any course used to meet the requirements above, if the grade posts to the Purdue transcript.

III. Grade Average: To complete FYE, the student's cumulative GPA must be of 2.00 or greater, and an Engineering Admissions Index (EAI) must be 2.00 or greater. Calculation of the EAI is equivalent to the calculation of GPA for courses used to meet all FYE requirements 1-9 above. If a student meets a requirement in more than one way, only one will be used to calculate the EAI. The FYE Curriculum Committee will be responsible for keeping an updated, clear, and universal set of rules for determining which course is used in EAI for these situations. The FYE Advising Office will make these rules available to students.

VI. Total Number of Credits: Students must earn a total of at least 30 credits.

Special notes:

- h. ENGR 14100 and ENGR 14200 (7 credits total), taken together, meet both the introductory engineering requirements (requirements 1 and 2 above) and the science selective for students who entered Purdue prior to Fall 2015 only
- 1) (requirement 7 above); Other pathways to meet these three requirements are typically 7 or 8 credits total.
- 2) The FYE Program will accept the entirety of lists, and any potential future changes to lists, of courses that meet the Oral Communication and Written

Communication Foundational Outcomes, as determined by the university's Undergraduate Curriculum Council.

- 3) Correspondence to Foundational Outcomes: The typical student will meet the following Core Curriculum Foundational Outcomes as part of the FYE curriculum:
 - Quantitative Reasoning: via MA 16100 or MA 16200 (or equivalent)
 - Science (two courses required): via CHM 11500 and PHYS 17200 (or equivalents)
 - Oral Communication: typically via COM 11400
 - Written Communication: typically via ENGL 10600 or ENGL 10800
 - Information Literacy: typically via ENGL 10600 or ENGR 13100/14100 (pending approval)
- 4) On occasion, experimental and/or variable title courses may be approved as substitutes for certain requirements. These substitutions will be approved by the FYE Curriculum Committee and will be published on the FYE Website. These substitutions may or may not meet Foundational Outcomes; it is the student's responsibility to meet all Foundational Outcomes before graduation.
- 5) In a few cases, course exist on the Purdue-West Lafayette campus, or on other Purdue campuses, that may be substituted for one of the courses in the list above, but that are intended for students in another College or at another campus (these include, for example, MA 18100, CHM 12500, CHM 12600, CHM 12901, CHM 13500, CHM 13600, and CS 15800). These courses may be used to meet FYE requirements for students who take the course prior to entry into Engineering at Purdue-West Lafayette. Students already in FYE should take the courses listed above. A complete list of acceptable substitutions will be maintained by the FYE Advising Office. Students should consult with an FYE Advisor for details.
- 6) Completion of the coursework typically requires 29-33 credits, depending on specific course selections. Students who complete FYE requirements with 29 credits will need to earn one more credit to complete FYE and move to a professional school – there are no restrictions on this credit.

Reasons:

There are many drivers for these changes:

- 1) The new requirements are explicitly designed to be coherent with the Foundational Outcomes of the Purdue University Core Curriculum. This is the driver behind the revision of the English Composition requirement and the FY General Education Elective. The typical student who finishes the FYE curriculum will meet at least five of the eight Foundational Outcomes (see special note 3 above).
- 2) The new requirements will provide a common structure that can integrate with new General Education policies that will be developed by the Schools and Divisions in response to the new College General Education policy (EFD 43-13); specifically, the

courses that used to be defined as “general education” are now defined based on the Core Curriculum Foundational Outcomes.

- 3) Minimum grade of C– in all FYE courses: This requirement currently exists for a student to use any course to meet any Foundational Outcome (which in this case would include Calculus I, Calculus II, CHM 11500, PHYS 17200, Oral Communication courses, and Written Communication courses). Additionally, it currently exists as a *de facto* requirement (in the form of a pre-requisite requirement for later required courses) for ENGR 13100 and MA 16100/16500. In the interest of simplicity and consistency, the FYE Curriculum Committee recommends making the policy a blanket policy across all courses taken to meet FYE requirements.
- 4) The new requirements open a new permanent pathway for students through the sequence of ENGR courses in the FYE curriculum (ENGR 13300). This builds off of the successful pilot launch of the EPICS Learning Community structure.
- 5) The 30-credit rule is intended to keep students on track for four-year graduation, and complements the State of Indiana’s “15-to-finish” initiative (which encourages students to complete at least 15 credits per semester to be on track to a four-year graduation), and new scholarship rules which require students to earn at least 30 credits by the end of the first year to retain the full scholarship.
- 6) Recent changes in courses have caused the FYE requirements to evolve in a piecemeal fashion, and there is not currently a complete, definitive list of FYE requirements in the EFD archive. This document provides this definitive list. Much of the “Grade Average” requirement and the special notes represent current practice, but many of these items are not readily or explicitly stated in any existing EFD.

Individual Plans of Study will vary widely, and students should consult with an FYE Advisor to make the best personal plan. However, a typical plan of study may be:

Fall (13-15 credits total)

ENGR 13100 (2 cr)
 MA 16100 or MA 16500 (4-5 cr)
 CHM 11500 (4 cr)
 ENGL 10600 or COM 11400 (3-4 cr)

Spring (16-19 credits total)

ENGR 13200 (2 cr)
 MA 16200 or MA 16600 (4-5 cr)
 PHYS 172 (4 cr)
 ENGL 10600 or COM 11400 (3-4 cr)
 Science Selective (3-4 cr)



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APPROVED FOR THE FACULTY
 OF THE SCHOOLS OF ENGINEERING
 BY THE ENGINEERING
 CURRICULUM COMMITTEE

ECC Minutes 4/7/14

Date 4/7/14

Chairman ECC [Signature]