

# GENERAL EDUCATION PROGRAM SCHOOL OF INDUSTRIAL ENGINEERING

## 1. The General Education Program for Engineering Students

While a comprehensive understanding of science and mathematics is central and foundational to effective engineering practice, real-world engineering problems are both complex and situated within dynamic social, political, and cultural contexts. Therefore, well-rounded engineering curricula must also include courses that encompass the breadth of human experience and culture, both past and present. Such courses may include, but are not limited to, those that explore individual behavior, social and political structures, aesthetic values, modes and dynamics of communication, philosophical and ethical thought, and cognitive processes. These types of courses provide engineering students with a framework for rational inquiry, critical evaluation, and judgment when dealing with issues that are non-quantifiable, ambiguous, and/or controversial. In addition, they offer engineering students the opportunity to develop interests and insights that will deepen their appreciation for the diversity of the world in which they live and work.

Based on these premises, the goals of the College of Engineering General Education Program are to

- Provide the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- Support and complement the technical content of the engineering curricula through coursework that emphasizes such skills as written communication, oral communication, information literacy, cultural awareness, leadership, innovation, entrepreneurship, and managing change.

These goals are consistent with the objectives of the College of Engineering's *Engineer of 2020*<sup>1</sup> initiative, as well as the objectives of Purdue University's *Undergraduate Outcomes-Based Curriculum*<sup>2</sup>.

## 2. Program Components

1. Foundational Learning Outcomes (FLOs)<sup>3</sup>
  - Students must select from the list of courses approved by the University Core Council (UCC) to satisfy all six of the Foundational Learning Outcomes (available below)
    - Written Communication
    - Oral Communication
    - Information Literacy
    - Humanities
    - Behavior/Social Science

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<sup>1</sup> Engineering Faculty Document 15-06 (April 9, 2007)

<sup>2</sup> University Senate Document 11-7 (February 20, 2012)

<sup>3</sup> The Science and Quantitative Reasoning Foundational Learning Outcomes are handled elsewhere in the engineering curricula.

- Science, Technology, & Society<sup>4</sup>
2. Students must earn a C- or better in order to receive credit towards meeting each Foundational Learning Outcome listed above and this General Education Program.
  3. At least 24 total credit hours are required.
  4. At least 12 credit hours must be taken from the College of Liberal Arts, the Krannert School of Management, and/or the Honors College provided such courses are not focused primarily on engineering, technology, the natural sciences, or mathematics.
  5. At least 6 credit hours must come from courses at the 30000-level or above, or from courses with a required prerequisite in the same department (e.g. SPAN 10200 requires SPAN 10100 as a pre-requisite).
  6. Courses from the Colleges of Engineering, and Science, and Purdue Polytechnic can only be used towards the general education program if they satisfy FLOs, or if they are approved by the IE Undergraduate Committee (or designee). A list of approved courses from these Colleges is provided in Section 4.
  7. If EPCS courses are used to fulfill a General Education requirement, they *may not* be used to fulfill a Technical Elective requirement in IE.
  8. Courses must be drawn from either the list of courses approved by the University Core Council (UCC) as meeting an FLO, or from the following Colleges/Schools/Departments\*:
    - College of Health and Human Sciences
    - College of Liberal Arts
    - Krannert School of Management
    - Entrepreneurship
    - Department of Agricultural Economics
    - Interdisciplinary Studies
  9. Credit is not allowed for language courses in the student's native tongue(s), although literature, culture, drama, and related courses are allowed.

*\*Special consideration may be given to courses outside of these Colleges/Schools/Departments at the discretion of the IE undergraduate committee (or their designee). Excluded courses from the above Colleges/Schools/Departments will be at the discretion of the IE undergraduate committee (or their designee).*

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<sup>4</sup> If a course taken to fulfill some other degree requirement has also been approved as satisfying one or more of these Foundational Learning Outcomes, then those Foundational Learning Outcomes need not be satisfied again within in the IE General Education Program.

### 3. Course Listing for Foundational Learning Outcomes

The courses used for meeting the Foundational Learning Outcomes is maintained by the Undergraduate Curriculum Council and maintained on the following webpage:

[List of Approved GE courses for Foundational Learning Outcomes](#)

### 4. List of Colleges/Schools/Departments eligible for GE courses

The following is a listing of the Colleges, Schools, and Departments and the course IDs associated with each. Unless a course is specifically excluded from the GE program within an otherwise approved college/school/department, any course is eligible within the below lists provided it does not focus primarily on engineering, technology, the natural science, or mathematics. Contact the IE advising office if you have concerns about a course qualifying as a GE.

- College of Health and Human Sciences:
  - American Sign Language (ASL)
  - Consumer Science & Retailing (CSR)
  - Human Development & Family Studies (HDFS)
  - Health & Human Sciences (HHS)
  - Health & Kinesiology (HK)
  - Health Sciences (HSCI)
  - Hospitality & Tourism Management (HTM)
  - Nursing (NUR)
  - Nutrition Science (NUTR)
  - Psychology (PSY)
  - Speech, Language & Hearing Science (SLHS)
  - Youth Development & Ag Education (YDAE)
  
- Krannert School of Management:
  - Economics (ECON)
  - Management (MGMT)
  - Organizational Behavior & Human Resources (OBHR)
  
- College of Liberal Arts:
  - African American Studies (AAS)
  - Art & Design (AD)
  - Afro-American Studies (AFRO)
  - American Studies (AMST)
  - Anthropology (ANTH)
  - Arabic (ARAB)
  - Asian American Studies (ASAM)
  - Classics (CLCS)
  - Comparative Literature (CMPL)
  - Communication (COM)
  - Dance (DANC)
  - English (ENGL)

- Foreign Languages & Literatures (FLL)
- French (FR)
- Film & Video Studies (FVS)
- German (GER)
- Greek (GREK)
- Hebrew (HEBR)
- History (HIST)
- Honors (HONR)
- Interdisciplinary Studies (IDIS)
- Italian (ITAL)
- Japanese (JPNS)
- Jewish Studies (JWST)
- Latin American & Latino Studies (LALS)
- Latin (LATN)
- Languages & Cultures (LC)
- Linguistics (LING)
- Medieval & Renaissance Studies (MARS)
- Military Science & Leadership (MSL)\*
- Music History & Theory (MUS)
- Naval Science (NS)\*
- Philosophy (PHIL)
- Political Science (POL)
- Portuguese (PORT)
- Religious Studies (REL)
- Russian (RUSS)
- Sociology (SOC)
- Spanish (SPAN)
- Theatre (THTR)
- Women, Gender & Sexuality Studies (WGSS)

*\* MSL or NS courses must be worth at least 3 credit hours*

- Other Approved Catalog Listings:
  - Entrepreneurship (ENTR)
  - Department of Agricultural Economics (AGEC)
  - Engineering Project Community Service (EPCS)—*3 credit hours required*

#### **4.1 List of Prohibited Courses**

This is not an exhaustive list and will be updated at least once per academic year.

- MGMT 20010
- MGMT 30400/31000
- MGMT 30500
- MGMT 30600
- MGMT 36100
- MGMT 40500
- ECON 36000
- PSY 20100
- PSY 20300
- PSY 30600
- SOC 38200
- SOC 38300

#### **4.2 List of Approved Courses from the Colleges of Engineering, Science, or Purdue Polytechnic**

\* This list only includes courses that are not useful in satisfying Foundational Learning Outcomes.

- ME 49700 (Intercultural Teamwork)
- ME 29700 (Chinese Culture)

**IT IS THE RESPONSIBILITY OF THE STUDENT TO MAKE SURE THAT THE PROVISIONS FOR THE GENERAL EDUCATION PROGRAM ARE SATISFIED AS A CONDITION OF GRADUATION.**