

ELECTIVES FOR ENGINEERING CURRICULA

Civil Engineering Electives: Any three CE courses selected by the student with prior approval of advisor.

Civil Engineering Restricted Science Elective: One required, select from:

- BIOL 10100 – Introductory Biology
- BIOL 29500 – Intro to Biology for Non Majors (cross listed SCI 10300 – Survey of the Biological World)
- BIOL 29500 – Intro to Environmental Biology (cross listed SCI 10400 – Intro to Environmental Biology)
- BIOL 22100 – Intro to Microbiology (Prereq: BIO10100 or AP Biology from High School)
- BIOL 31600 – Basic Microbiology (Prereq: BIO10100 or AP Biology from High School)

Computer Engineering Computer Electives: Five required, select from the following:

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| ECE 35400 – Software Engineering Design I | ECE 46810 – Operating Systems |
| ECE 37500 – Digital Integrated Circuits | ECE 47600 – Digital Signal Processing |
| ECE 45100 – Industrial Automation | ECE 54400 – Digital Communications |
| ECE 45400 – Software Engineering Design II | ECE 54700 – Introduction to Computer Communication Networks |
| ECE 45900 – Advanced Digital System Design | |
| ECE 46400 – Computer Architecture & Organization | CS 33200 – Algorithms |
| | CS 44200 – Database Design |

Other graduate-level courses allowed with prior approval of advisor.

Electrical Engineering ECE Electives: Any four ECE courses selected by the student with prior approval of advisor.

Electrical Engineering ENGR Elective: One required, select from:

- ME 27100 – Basic Mechanics I (Statics)
- ME 30500 – General Thermodynamics I
- MSE 20000 – Materials Science

Electrical Engineering ENGR/Science Elective: One required, select from:

- Any-of the Engineering or Science courses from the list of Acceptable Technical Elective Courses plus
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| BIOL 10100 or 10200 – Introductory Biology | CHEM 26100 – Organic Chemistry |
| BIOL 21300 – Human Anatomy & Physiology I | |

Electrical Engineering Mechatronics Electives: Two required, select from:

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| ECE 45100 – Industrial Automation | ME 30500 – General Thermodynamics I |
| ECE 48300 – Digital Control Systems-Analysis & Design | ME 31200 – Fluid Mechanics |
| | ME 32000 – Kinematic Analysis and Design |

Mechanical Engineering Electives: Any four ME or MSE courses selected from the following:

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| ME 30600 – General Thermodynamics II | ME 48600 – Introduction to Manufacturing Engineering |
| ME 42600 – Heating and Air Conditioning Analysis and Design | ME 40400 – Introduction to Finite Element Analysis and Design |
| ME 48500 – Linear Control Systems | MSE 34400 – Materials in Engineering |

Mechanical Engineering ENGR Elective: Any Engineering (CE, ECE, ME, or MSE) course 30000 or above plus ECE 20200.

Mechanical Engineering Mechatronics Elective. One required, select from:

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| ECE 42600 – Electric Drives | ME 48600 – Intro. to Manufacturing Engineering |
| ECE 45100 – Industrial Automation | ME 40400 – Introduction to Finite Element Analysis and Design |
| ME 30600 – General Thermodynamics II | |
| ME 42600 – Heating and Air Conditioning Analysis and Design | MSE 34400 – Materials in Engineering |

ACCEPTABLE TECHNICAL ELECTIVES

Acceptable technical elective courses include:

1. Any Engineering (CE, ECE, ENGR, ME, or MSE) or Computer Science course 20000 or above that is required in another engineering curricula, or is an elective in any engineering curricula (and that has not been used to meet another requirement) except CE 20100.
2. Any Engineering (CE, ECE, ENGR, ME, or MSE) or Computer Science course 49500 and above with prior approval of advisor.
3. Any of the following courses:

CHEM 11600 – General Chemistry II

MGMT 31000 – Financial Management

MA 31500 – Intro. To Abstract Math.

MGMT 32400 – Marketing Management

MA 34500 – Coding and Information Theory

MGMT 33300 – Total Quality Management

MA 34800 – Discrete Mathematics

PHYS 31100 – Quantum Physics I

MA 47200 – Introduction to Applied Math.*

PHYS 32200 – Intermediate Optics

PHYS 34200 – Modern Physics

Other courses, including BIOL, CHEM, MA, MGMT, PHYS, and STAT course 50000 and above may be used with approval of the Undergraduate Curriculum Committee. Approval requests must be sent by email to the chair of the Undergraduate Curriculum Committee, Edward S. Pierson, at pierson@purduecal.edu.

* Students who take MA 47200 can receive a Minor in Applied Mathematics

ACCEPTABLE HUMANITY AND SOCIAL SCIENCE ELECTIVE COURSES

Required:

PHIL 32400 Ethics for the Professions

POL 30500 Technology and Society

The balance (6 credits) is selected by the student and advisor to give the student an opportunity to explore areas within the humanities and social sciences. Credit for ECON 21000 is not allowed.

Subject areas not acceptable are skills courses such as writing and speaking, accounting, industrial management, personal finance, ROTC, and personnel administration. Credit is not allowed for a student's native language.