CAL POLY
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# B.S. in INDUSTRIAL ENGINEERING
Suggested 4-Year Academic Flowchart

**2015-2017 Catalog**

Updated 3/22/2016

| FRESHMAN | | | SOPHOMORE | | | JUNIOR | | | SENIOR | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fall | Winter | Spring | Fall | Winter | Spring | Fall | Winter | Spring | Fall | Winter | Spring |
| *Introduction to Industrial and Manufacturing Engineering* **IME 101 (1)** | *General Physics IA* **PHYS 141 (4)** (MATH 141 w/min C-, MATH 142 or 182†) [Add'l Area B] | *Introduction to Design and Manufacturing* **IME 144 (4)** (Recom: IME 140, ME 129/151) | *Process Improvement Fundamentals* **IME 223 (4)** (MATH 141, Recom: IME 101) | *Industrial Costs and Controls* **IME 239 (3)** (IME 223) | *Engineering Economics* **IME 314 (3)** (MATH 241) | *Operations Research I* **IME 301 (4)** (MATH 244) | *Human Factors Engineering* **IME 319 (3)** (PSY 201/202 or Instr. Consent; Jr Standing) | *Data Management and System Design* **IME 312 (4)** (CSC 232) | *Operations Research II* **IME 305 (4)** (IME 301 or STAT 321) | *Simulation* **IME 420 (4)** (IME 305; 326 or 327) | *Facilities Planning and Design* **IME 443 (4)** (IME 144; 223; 314; & 305/405 or 342. Recom: IME 319 & 420) |
| *Mfg. Proc: Net Shape* **IME 141 (1)** | *General Chem for Physical Sci & Engineering I* **CHEM 124 (4)** * [B3/B4] | *Electronics Manufacturing* **IME 156 (2)** | *General Physics III* **PHYS 133 (4)** (PHYS 131, HNRS 131, or PHYS 141; MATH 142; Recom: MATH 241) | *Computer Programming for Scientists and Engineers* **CSC 232 (3)** (MATH 118 or equiv.) | **Take concurrently: BIO 213 (2) and BMED 213 (2)** (MATH 142, Recom: CHEM 124) [B2] | *Project Organization and Management* **IME 303 (4)** (IME 314 & Jr. Standing) | *Engineering Test Design and Analysis* **IME 326 (4)** (STAT 321 w/min C-) | **Approved Technical Elective (3)[1]** | *Quality Engineering* **IME 430 (4)** (IME 326, 327, 503, STAT 302, or 312) | *Senior Project Design Laboratory I* **IME 481 (2)** (Sr. Standing, Instr. consent) | *Senior Project Design Laboratory II* **IME 482 (3)** (IME 481) |
| *Graphics Comm. & Modeling* **IME 140 (2)** | | | | | | | | | | | |
| *Calculus I* **MATH 141 (4)** * [B1] | *Calculus II* **MATH 142 (4)** (MATH 141 w/min C-) [B1] | *Calculus III* **MATH 143 (4)** (MATH 142 w/min C-) [Add'l Area B] | *Calculus IV* **MATH 241 (4)** (MATH 143) | *Linear Analysis I* **MATH 244 (4)** (MATH 143) | *Probability & Statistics for Engineers & Scientists* **STAT 321 (4)** (MATH 142) [B6] | *Electric Circuit Theory and Lab* **EE 201(3) & 251(1)** (MATH 244 & PHYS 133) | *Electronics* **EE 321 (3)** (EE 201 ) | **Approved Technical Elective (4)[1]** | *Ergonomics Laboratory* **IME 429 (1)** (IME 319; & 326 or 327) | *Production Planning and Control Systems* **IME 410 (4)** (IME 342 or 305/405) | *Supply Chain and Logistics Management* **IME 417 (4)** (IME 342, 410, or Instr. consent) |
| *General Psychology* **PSY 201 or PSY 202 (4)** [D4] | | *General Physics II* **PHYS 132 (4)** (PHYS 131, HNRS 131, or PHYS 141) | | *Engineering Statics* **ME 211 (3)** (PHYS 131 or 141, MATH 241†) | *Engineering Dynamics* **ME 212 (3)** (MATH 241; ME 211 or ARCE 211) | *Mechanics of Materials I* **CE 204 (3)** (ME 211) | *Materials Engineering and Lab* **MATE 210(3) & 215(1)** * | **GE (4)** ** | **Approved Technical Elective (3)[1]** | **GE (4)** ** | **GE (4)** ** |
| | | **GE (4)** ** | | **GE (4)** ** | | | **GE (4)** ** | | **GE (4)** ** | | |
| *Expository Writing* **ENGL 133 or 134 (4)**** [A1] Can be taken anytime during Freshman Year | | | | | | | | | | | |
| *Oral Communication* **COMS 101 or 102 (4)**** [A2] Can be taken anytime during Freshman Year | | | | | | | | | | | |
| | *Technical Writing for Engineers* **ENGL 149 (4)** [A3] (Completion of GE A1 with a C- or better, Recom: Completion of GE A2) Can be taken anytime between Winter of Freshman and Winter of Sophomore Years | | | | | **Graduation Writing Requirement GWR*** (Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year) | | | | | |
| 16 | 16 | 18 | 16 | 17 | 14 | 15 | 18 | 15 | 16 | 14 | 15 |

**TOTAL: 190**

## Notes:

**MOST GENERAL EDUCATION COURSES CAN BE TAKEN IN ANY ORDER AS LONG AS PREREQUISITES ARE MET**

* Refer to current catalog for prerequisites.

** One course from each of the following GE areas must be completed: A1, A2, C1, C2, C3, C4, D1, D2, D3. C4 should be taken only after Junior standing is reached (90 units).

Refer to online catalog for GE course selection, United States Cultural Pluralism (USCP) and Graduation Writing Requirement (GWR).

USCP requirement can be satisfied by some (but not all) courses within GE categories: C3, C4, D1, or D3.

† Course can be taken previously or concurrently.

[1] 10 units Technical Electives required. At least 6 units upper level (300-level or above) engineering/computer science. Max 4 units 300-level+ from outside College of Engineering or lower level (100 or 200) engineering/computer science. IME 400/500 require special problems and substitution forms; no more than 4 units permitted. Consultation with advisor recommended prior to selecting courses.

## Legend:

*Course Title*
**Course # (Units)**
(Prerequisite)
[GE Area]

**Major (79)**
**Support (75)**
**General Ed. (36)**