



GENERAL ENGINEERING

PROGRAM DESCRIPTION

General engineering is unique among Cal Poly engineering majors in that it allows students to build their own course of study. This flexibility is critical for those students seeking careers in some of today's most exciting fields, where the required skills do not fit within a single major. Working with a faculty advisor, general engineering students build their own unique interdisciplinary curriculum by taking classes from among those offered by any Cal Poly engineering department, as well as courses outside the College of Engineering. These technical elective courses are selected to support each student's sharply defined career goal. A study plan is submitted by the student prior to the end of their second year.

OUR MISSION

Provide the highest quality technical and professional engineering education, with a particular emphasis in new or evolving interdisciplinary areas, while allowing students to participate in designing their own unique curricula.

EXAMPLES OF ENGINEERING CLUBS

- **Audio Engineering Society** — calpolyaudio.club
- **Cal Poly Robotics Club** — calpolyrobotics.com
- **Engineers Without Borders** — ewb.calpoly.edu
- **General Engineering Club**
- **QL+ (Quality of Life Plus)** — cpqlplus.com
- **Renewable Energy Club**
- **Sales Engineering Club**
- **Society of Automotive Engineers** — calpolyracing.org
- **Society of Women Engineers** — swe.calpoly.edu
- **Supermileage** — supermileage.calpoly.edu
- **White Hat** — thewhitehat.club
- **Women Involved in Software and Hardware (WISH)**
— calpoly.edu/~wish



CONCENTRATIONS

General (or Multidisciplinary) Engineering Concentration:

The general concentration is a broad-based engineering program that covers several major engineering disciplines in detail. It provides an outstanding foundation in engineering for students who may be pursuing a career in management, patent law, education and many other broad fields.

Individualized Course of Study (ICS) Concentration:

The ICS concentration allows students to create a plan of study with the GENE director in order to reach their academic and professional goals. The curriculum includes more than 40 units of technical electives to give students room to study their area of interest.

128
undergraduate
students

enrolled in
general engineering

EXAMPLES OF INDIVIDUALIZED COURSES OF STUDY

General engineering students have chosen many paths when designing their own curriculum. Paths include:

- Sustainable Energy
- Product Design
- Entrepreneurship
- Chemical Engineering
- Mechatronics
- Marine Engineering
- Humanitarian Engineering
- Pre-Law
- Pre-MBA
- Pre-Med
- Audio Engineering
- Sales Engineering
- Systems Engineering
- Product Design
- K-12 Education



B.S. IN GENERAL ENGINEERING

Suggested Four-year Academic Flowchart • 2022-2026 Catalog

Updated 5/16/2022

FRESHMAN			SOPHOMORE			JUNIOR			SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Introduction to Engineering ENGR 110 (2)	Introduction to Design & Manufacturing IME 144 (4)		Engineering Statics ME 211 (3) (MATH 241†, PHYS 131 or 141)	Engineering Dynamics ME 212 (3) (MATH 241; ME 211 or ARCE 211)	Choose one: Engin. Economics IME 314 (3) (MATH 241) OR Financial Decisions... IME 315 (3) (MATH 142)	Thermodynamics I ME 302 (3) (ME 212; PHYS 142)	Fluid Mechanics I ME 341 (3) (MATH 242 or 244; ME 212)	Heat Transfer ME 343 (4) (CPE/CSC 101 or CSC 231 or 234; ME 236, 302, & 341)	Interdisciplinary Senior Design Project I ENGR 459 (2)³ (Sr Standing)	Interdisciplinary Senior Design Project II ENGR 460 (2)³ (ENGR 459)	Interdisciplinary Senior Design Project III ENGR 461 (2)³ (ENGR 460)
	Fundamentals of Computer Science CSC/CPE 101 (4)²*										
	General Physics I PHYS 141 (4)¹ (MATH 141 w/min C-, MATH 142† or 182†) [Area B Elective]	General Physics II PHYS 142 (4) (PHYS 141; MATH 142 or 182)	General Physics III PHYS 143 (4) (PHYS 141; MATH 142. Recom: MATH 241)	Mechanics of Materials I CE 204 (3) (ME 211)	Electric Circuit Theory & Lab EE 201 (3) & EE 251 (1) (MATH 244; PHYS 143)	Materials Engineering & Lab I MATE 210 (3) & MATE 215 (1) (CHEM 111, 124, or 127)	Individual Course of Study (4)***	Individual Course of Study (4)***	Individual Course of Study (4)***	Individual Course of Study (4)***	Individual Course of Study (4)***
Calculus I MATH 141 (4)¹* [B4]	Calculus II MATH 142 (4)¹ (MATH 141 w/min C- or Instr. Consent) [B4]	Calculus III MATH 143 (4)¹ (MATH 142 w/min C- or Instr. Consent) [Area B Elective]	Calculus IV MATH 241 (4) (MATH 143)	Linear Analysis I MATH 244 (4) (MATH 143)	Math or Stat Elective MATH 344, STAT 312, or STAT 350 (4)^{1*} [Upper-Division B]	Physical Science Elective (4) *	Individual Course of Study (4)***	Ethnic Studies course: ES 350 (4) OR ES 351 (4) *	Individual Course of Study (4)***	Individual Course of Study (4)***	Individual Course of Study (4)***
Choose one path: General Chemistry I CHEM 124 (4)^{1*}* [B1 & B3]		General Chemistry II CHEM 125 (4)^{1*}*									
OR											
General Chemistry I CHEM 127 (4)^{1*}* [B1 & B3]	General Chemistry II CHEM 128 (4)^{1*}*								Individual Course of Study (4)***		
Oral Communication COMS 101/102 (4)** [A1]			GE (4)**	GE (4)**	GE (4)**	GE (4)**	GE (4)**	GE (4)**	GE (4)**	GE (4)**	GE (4)**
Expository Writing ENGL 133/134 (4)** [A2]											
Reasoning, Argumentation, & Writing [A3] COMS 126, 145, ENGL 145, 147, ES 145, PHIL 126, or WGQS 145 (4)** (Completion of GE A2 with a C- or better) Can be taken anytime between Winter of Freshman and Winter of Sophomore Years.											
14	16	16	15	18	15	15	15	16	18	14	14
										TOTAL:	186

Notes:

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

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: C1, Upper-Division C, D1, D2, Upper-Division D, or E.

* Refer to current catalog for prerequisites.

** One course from each of the following GE areas must be completed: A1, A2, A3, B2, C1, C2, Lower-Division C Elective, Upper-Division C, D1, Area D Elective, Lower-Division E, and F. Upper-Division C should be taken only after Junior standing is reached (90 units).

*** Concentration form required and should be submitted prior to junior year. Concentration courses should total 40 units (a minimum of 29 units need to be 300-400 level).

† Course can be taken previously or concurrently.

¹ Required in Support; also satisfies GE.

² Students with an approved Individualized Course of Study may substitute CSC 231 (2 units) plus an additional 2 units of other advisor approved coursework for CSC/CPE 101 (4 units).

³ ENGR 459, 460, 461 (6 units) or 6 units of Senior Project in appropriate engineering discipline.

Legend:

Course Title	
Course # (Units)	Major (46)
(Prerequisite)	Support (52)
[GE Area]	Concentration (40)
	General Ed. (48)