CAL POLY
SAN LUIS OBISPO

B.S. in MECHANICAL ENGINEERING
(Mechatronics Concentration)
Suggested 4-Year Academic Flowchart

2022-2026 Catalog

Updated 9/1/2022

FRESHMAN			SOPHOMORE			JUNIOR			SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Intro to ME I **ME 128^ (1)** (1st qtr freshman year. Concur: ME 163)	*Intro to ME II* **ME 129^ (1)** (ME 128; 2nd quarter)	*Intro to ME III* **ME 130^ (1)** (ME 129; 3rd quarter)	*Philosophy of Design* **ME 234 (3)** (Soph Standing)			*Thermodynamics II* **ME 303 (3)** (ME 302)	*Design for Strength & Stiffness* **ME 328 (4)** (BMED 212 or ME 234; CE 207 or 208; MATE 210; ME 212. Coreq: CPE/CSC 101, CSC 231, or 234; ME 251)	*Mechanical Systems Design* **ME 329 (4)** (ME 328)	*Thermal System Design* **ME 448 (4)** (ME 303; ME 343; ME 347)		
Orientation to ME **ME 163^ (1)** (Concur: ME 128)			*Measurement & Engineering Data Analysis* **ME 236 (3)** (Recom: CHEM 125, GE Area A3, & PHYS 142)								
	Sub. Manuf. I **IME 145^ (1)** (Concur: ME 129)	*Sub. Manuf. II* **IME 146^ (1)** (IME 145; Concur: ME 130)	*Engineering Statics* **ME 211 (3)** (MATH 241†, PHYS 131 or 141)	*Engineering Dynamics* **ME 212 (3)** (MATH 241; ME 211 or ARCE 211)	*Thermodynamics I* **ME 302 (3)** (ME 212; PHYS 142)	*Fluid Mechanics I* **ME 341 (3)** (MATH 242 or 244; ME 212)	*Mechanical Vibrations* **ME 318 (4)** (ME 212; MATH 344. Recom: EE 201)	*Introduction to System Dynamics* **ME 322 (4)** (CPE/CSC 101, CSC 231, or 234; EE 201; EE 251; ME 318; ME 341)			
Manufacturing Processes: Materials Joining **IME 142 (2)**			*Intro to Detailed Design* **ME 251 (2)** (ME 130 or 228. Recom: IME 143 or 146)			*Fluid Mechanics II* **ME 347 (4)** (ME 236; ME 341; ME 302)					
Manufacturing Processes Elective **IME 141 (1) OR ITP 341 (4) OR ME 161 (2)** *				*MATE & Laboratory I* **MATE 210 (3) & MATE 215 (1)** (CHEM 111, 124, or 127)			*Heat Transfer* **ME 343 (4)** (CPE/CSC 101 or CSC 231 or 234; ME 236, 302, & 341)				
Calculus I **MATH 141 (4)** * [B4]	*Calculus II* **MATH 142 (4)** (MATH 141 w/min C- or Instr. Consent) [B4]	*Calculus III* **MATH 143 (4)** (MATH 142 w/min C- or Instr. Consent) [Add'l Area B]	*Calculus IV* **MATH 241 (4)** (MATH 143)	*Linear Analysis I* **MATH 244 (4)** (MATH 143)		*Linear Analysis II* **MATH 344 (4)** * [Upper-Div B]			*Senior Design Project I, II, and III* **ME 428 (2)[1]** (ME 329. Coreq: ME 318; ME 343 or ME 350; IME 141, IME 142, IME 143, IME 146, ME 161, or ITP 341)	**ME 429 (2)[1]** (ME 428)	**ME 430 (2)[1]** (ME 429)
	General Physics I **PHYS 141 (4)** * [Add'l Area B]	*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)[2]** (ME 211)	*Mechanics of Materials II* **CE 207 (2)[2]** (CE 204)		*Electronics & Electronics Lab* **EE 321 (3) & EE 361 (1)** (EE 201; EE 251)		**Select one: IME 356, IME 416, ME 423, ME 506, ME 507 (3-4)[3]** *		
					Electric Circuit Theory and Lab **EE 201 (3) & EE 251 (1)** (MATH 244; PHYS 143)					*Advanced Control Systems* **ME 419 (4)** (ME 322; ME 236)	
		Gen. Chem. For Phys Sci & Engineering I **CHEM 124 (4)** * [B1 & B3]	*Gen. Chem. For Phys Sci & Engineering II* **CHEM 125 (4)** (CHEM 124)	**Select one:** *Programming for Engineering Students* **CSC 231 (2)** (MATH 142; PHYS 121, 131, or 141) **OR** *C & Unix* **CSC 234 (3)** (MATH 142)				*Intermediate Dynamics* **ME 326 (4)** (ME 212; CPE/CSC 101, CSC 231, or 234; Coreq: MATH 244†)	*Introduction to Mechatronics* **ME 305 (4)** (EE 201; EE 251)	*Mechatronics* **ME 405 (4)** (EE 321; EE 361; ME 305; ME 329†; or CPE 316 or CPE/EE 329 or CPE/EE 336)	
Oral Communication **COMS 101 or 102 (4)**** [A1] Can be taken anytime during Freshman Year					**GE (4)** **				**GE (4)** **	**GE (4)** **	**GE (4)** **
Expository Writing **ENGL 133 or 134 (4)**** [A2] Can be taken anytime during Freshman Year											
GE (4) **	*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.				**GE (4)** Rec: ECON 201 **	**Graduation Writing Requirement GWR*** (Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year)			**GE (4)[4]** Rec: STS Minor Courses	**GE (4)** **	**GE (4)** **
13-16	18	18	17	17	16-17	16	16	16	17-18	14	18

TOTAL: 196-201

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, 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).

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 course selection.

† Course can be taken previously or concurrently.

^ Transfer students and change of major students take ME 228, 263, & 264 in lieu of ME 128, 129, 130, and 163; and IME 143 in lieu of IME 145 and 146.

[1] ENGR 459, 460, and 461 (6 units) or ENGR 463, 464, and 465 (6) may substitute for ME 428, ME 429, and ME 430 (6).

[2] CE 208 may be taken in place of CE 204 and CE 207.

[3] Elective based on interests of students. ME 400 and ME 500 are independent study classes and may be acceptable for technical elective credit. A course substitution form is required.

[4] The ME Department recommends the following courses that examine topics related to engineering, science, technology, and society: PHIL 322, PHIL 323, PHIL 327, PHIL 328, PHIL 339, PHIL 340, ISLA 303. Completion of these courses contribute to the Science, Technology, and Society Minor and meet GE requirements for upper division C.

Legend:

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

- **Major (55)**
- **Support (68-72)**
- **Concentration (25-26)**
- **General Ed. (48)**