CAL POLY
SAN LUIS OBISPO

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

2020-2021 Catalog

Updated 11/4/2020

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)			*Design for Strength & Stiffness* **ME 328 (4)** (BMED 212 or ME 234; CE 207; CPE/CSC 101 or CSC 231 or 234; MATE 210; ME 212 & 251. IME 141†, ITP 341† or ME 161†)			*Thermal System Design* **ME 420 (4)** (ME 303; ME 347; ME 350)		
Orientation to ME **ME 163^ (1)** (Concur: ME 128)			*Measurement & Engineering Data Analysis* **ME 236 (3)** (Recom: CHEM 125, ENGL 149, & PHYS 132)								
	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 132)		*Mechanical Systems Design* **ME 329 (4)** (ME 328)				
					Fluid Mechanics I **ME 341 (3)** (MATH 242 or 244; ME 212)		*Thermodynamics II* **ME 303 (3)** (ME 302)				
			Intro to Detailed Design **ME 251 (2)** (ME 130 or 228. Recom: IME 143)			*Fluid Mechanics II* **ME 347 (4)** (ME 236; ME 341; ME 302)			**Take concurrently:** *Life Science for Engineers & Bioengineering Fundamentals* **BIO 213 (2) & BMED 213 (2)** (MATH 142. Recom: CHEM 124) [B2]		
Manufacturing Processes: Materials Joining **IME 142 (2)**											
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 350 (4)** (CPE/CSC 101 or CSC 231 or 234; MATE 360 & 380, or ME 236 & 302 & 341)					
Calculus I **MATH 141 (4)** * [B4]	*Calculus II* **MATH 142 (4)** (MATH 141 w/min C-) [B4]	*Calculus III* **MATH 143 (4)** (MATH 142 w/min C-) [Area B Elective]	*Calculus IV* **MATH 241 (4)** (MATH 143)	*Linear Analysis I* **MATH 244 (4)** (MATH 143)	*Linear Analysis II* **MATH 344 (4)** (MATH 206 & 242; or 241 & 244) [Upper-Division B]	*Mechanical Vibrations* **ME 318 (4)** (ME 212, MATH 344. Recom: EE 201)			*Senior Design Project I, II, and III* **ME 428 (2)[1]** (ME 329. Coreq: ME 318 & 350)	**ME 429 (2)[1]** (ME 428)	**ME 430 (2)[1]** (ME 429)
							Intro to System Dynamics **ME 322 (4)** (CPE/CSC 101 or CSC 231 or 234; EE 201; 251; ME 318; 341)				
	General Physics IA **PHYS 141 (4)** * [Area B Elective]	*General Physics II* **PHYS 132 (4)** (PHYS 131 or HNRS 131 or PHYS 141)	*General Physics III* **PHYS 133 (4)** (PHYS 131, 141, or HNRS 131; 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)	*Electric Circuit Theory and Lab* **EE 201 (3) & EE 251 (1)** (MATH 244, PHYS 133)	*Electronics and Electronics Lab* **EE 321 (3) & EE 361 (1)** (EE 201, EE 251)	*Energy Conversion* **ME 415 (4)** (ME 302)	**Technical Elective (4)** ***	**Technical Elective (3-4)** ***	**Technical Elective (4)** ***
	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 Engin. Stud.* **CSC 231 (2)** (MATH 142; PHYS 121, 131, or 141) **OR** *C & Unix* **CSC 234 (3)** (MATH 142)					**Select One:** *Implementation of Mech Controls* **ME 418 (4)** (ME 322) **OR** *Advanced Control Systems* **ME 419 (4)** (ME 322, ME 236)		
Expository Writing **ENGL 133 or 134 (4)**** [A2] Can be taken anytime during Freshman Year											
Oral Communication **COMS 101 or 102 (4)**** [A1] Can be taken anytime during Freshman Year											
GE (4) **	*Technical Writing* **ENGL 149 (4)** [A3] (Completion of GE A2 with a C- or better, Recom: Completion of GE A1) Can be taken anytime between Winter of Freshman and Winter of Sophomore Years				**GE (4)** **	**GE (4)** Rec: ECON 201 **			**GE (4)** **	**GE (4)** **	**GE (4)** **
						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)** **	**GE (4)** **
13-16	18	18	17	16	16-17	18	16	15	18	17-18	14
										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, C1, C2, Lower-Division C Elective, Upper-Division C, D1, D2, Area D Elective, E. 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. ME 470, ME 471, ME 570 and ME 571 are variable topics courses and may or may not count as ME electives. Please contact instructor for additional information. ME 400 and ME 500 are independent study classes and may be acceptable for technical elective credit. A course substitution form is required. Exceptions to this policy are possible through consultation with the department chair.

† 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, ENGR 460, and ENGR 461 (6 units) may substitute for ME 428, ME 429, and ME 430 (6 units).

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

Legend:

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

- **Major (55)**
- **Support (76-80)**
- **Concentration (25-26)**
- **General Ed. (40)**