CAL POLY
SAN LUIS OBISPO

B.S. in AEROSPACE ENGINEERING
(Astronautics Concentration)
Suggested 4-Year Academic Flowchart

2020-2021 Catalog

Updated 2/18/20

FRESHMAN			SOPHOMORE			JUNIOR			SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Aerospace Fundamentals **AERO 121 (2)**	*General Physics IA* **PHYS 141 (4)** * [Area B Elective]	*General Physics II* **PHYS 132 (4)** (PHYS 131, HNRS 131, or PHYS 141)	*Introduction to Aerospace Design* **AERO 215 (2)** (AERO 121; MATH 143; IME 144. Recom: CSC 111)	*Mechanics of Materials I* **CE 204 (3)[2]** (ME 211)	*Mechanics of Materials II* **CE 207 (2)[2]** (CE 204)	*Aerospace Fluid Mechanics* **AERO 302 (4)** (ME 212; AERO 300†. Recom: AERO 215; 299 or 301)	*Aerospace Gas Dynamics and Heat Transfer* **AERO 303 (4)** (AERO 299 or 301; 302)	*Aerospace Structural Analysis II* **AERO 431 (4)** (AERO 331)	*Experimental Stress Analysis* **AERO 433 (1)** (AERO 331; 431)	*Aerospace Systems Senior Laboratory* **AERO 465 (1)** (AERO 303; 320; 431; Sr Standing)	
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)	*Aerospace Systems Engineering & Integration* **AERO 220 (1)** (AERO 121)	*Aerospace Thermodynamics* **AERO 299 (4)** (ME 212; AERO 300†; Recom: AERO 215)	*Fundamentals of Dynamics and Control* **AERO 320 (4)** (AERO 300; ME 212. AERO 321†)	*Aerospace Structural Analysis I* **AERO 331 (4)** (AERO 300; CE 207 or 208; ME 212)	*Spacecraft Attitude Dynamics & Control* **AERO 421 (4)** (AERO 320; 351)	*Aerospace Engineering Professional Preparation* **AERO 460 (1)** (Sr Standing)	*Spacecraft Design II* **AERO 448 (3)** (AERO 447)	*Spacecraft Design III* **AERO 449 (3)** (AERO 448)
	General Chemistry for Physical Science & Engineering I **CHEM 124 (4)** * [B1 & B3]		*General Physics III* **PHYS 133 (4)** (PHYS 131 or 141, or HNRS 131; MATH 142. Recom: MATH 241)	*Materials Engineering* **MATE 210 (3)** (CHEM 111, 124, or 127. Recom: concur MATE 215)	*Aerospace Engineering Analysis* **AERO 300 (5)** (AERO 215; MATH 244; ME 211; PHYS 133)	*Experimental Sensors, Actuators & Control* **AERO 321 (1)** (AERO 320†)	*Fundamentals of Systems Engineering* **AERO 350 (2)** (AERO 220)	*Spacecraft Electrical & Electrical Systems* **AERO 446 (4)** (ME 212; EE 201 & 251; AERO 353 or 355)	*Spacecraft Design I* **AERO 447 (3)** (IME 144; AERO 215; 303; 351; 420 or 421; 431; 446. 402†)	**Astronautics Approved Electives (4)[1]**	**Astronautics Approved Electives (4)[1]**
Introduction to Design & Manufacturing **IME 144 (4)** (Recom: IME 140 or ME 129)			*Engineering Statics* **ME 211 (3)** (MATH 241†; PHYS 131 or 141)	*Engineering Dynamics* **ME 212 (3)** (MATH 241; ME 211 or ARCE 211)	*Electric Circuit Theory & Lab* **EE 201 (3)** (MATH 244; PHYS 133) **& EE 251 (1)**	*Statistical Methods for Engineers* **STAT 312 (4)** (MATH 142) [Upper-Division B]	*Space Environments I* **AERO 355 (3)** (AERO 300)	*Space Environments II* **AERO 356 (3)** (AERO 299 or 301; 355)	*Spacecraft Propulsion Systems* **AERO 402 (5)** (AERO 303; AERO 353 or AERO 355; CHEM 124)		
Expository Writing **ENGL 133/134 (4)**** [A2]			**Take concurrently: BIO 213 (2)* & BMED/BRAE 213 (2)*** [B2]	*Linear Analysis I* **MATH 244 (4)** (MATH 143)		*Introduction to Orbital Mechanics* **AERO 351 (4)** (AERO 300; ME 212)	**GE (4)** **	**GE (4)** **	**GE (4)** **	**GE (4)** **	**GE (4)** **
Oral Communication **COMS 101/102 (4)**** [A1]											**GE (4)** **
GE (4) **		**GE (4)** **									
	Technical Writing for Engineers **ENGL 149 (4)[1]** [A3] (Completion of GE A2 w/min C-, Recom: completion of GE A1) 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)					
18	16	16	17	14	15	17	17	19	14	12	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, 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.

† Course can be taken previously or concurrently.

[1] Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of postbaccalaureate studies and/or goals. Only 4 units of 300-level coursework is allowed as an approved elective.

[2] CE 204 & 207 can be replaced by taking 208

Legend:

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

- **Major (49)**
- **Support (61)**
- **Concentration (40)**
- **General Ed. (40)**