CAL POLY
SAN LUIS OBISPO

B.S. in CHEMISTRY
(Polymers and Coatings Concentration)
Suggested 4-Year Academic Flowchart

2022-2026 Catalog

Updated 5/26/2022

FRESHMAN			SOPHOMORE			JUNIOR				SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Summer	Fall	Winter	Spring
				Undergraduate Seminar I **CHEM 203 (1)** (CHEM 126)			*Undergraduate Seminar II* **CHEM 303 (1)** (CHEM 203; CHEM 218)			*Undergraduate Seminar III: Senior Project* **CHEM 403 (1)** (CHEM 303 and CHEM 352)		
Gen Chem for Physical Science & Engineering I **CHEM 124 (4)** * [B1 & B3]	*Gen Chem for Physical Science & Engineering II* **CHEM 125 (4)** (CHEM 124 or AP Chem score of 5)	*Gen Chem for Physical Science & Engineering III* **CHEM 126 (4)**[2] (CHEM 125 w/min C- or Instr. Consent)	*Organic Chemistry I* **CHEM 216 (5)** (CHEM 126 or 129 w/min C- or Instr. Consent)	*Organic Chemistry II* **CHEM 217 (3)** (CHEM 216 w/min C- or Instr. Consent. Coreq: CHEM 221)	*Organic Chemistry III* **CHEM 218 (3)** (CHEM 217 w/min C- or Instr. Consent. Coreq: CHEM 324)	*Physical Chemistry I* **CHEM 351 (3)** (CHEM 126 or 129; MATH 143; PHYS 122 or 142)	*Physical Chemistry II* **CHEM 352 (3)** (CHEM 351)	*Physical Chemistry III* **CHEM 353 (3)** (CHEM 352)		*Inorganic Chemistry* **CHEM 481 (3)** (CHEM 352 and CHEM 231/331)	*Instrumental Analysis* **CHEM 439 (5)** (CHEM 231/331; CHEM 356. Recom: CHEM 353)	
Calculus I **MATH 141 (4)** * [B4]	*Calculus II* **MATH 142 (4)** (MATH 141 w/min C- or Instr. Consent) [GE Elective]	*Calculus III* **MATH 143 (4)** (MATH 142 w/min C- or Instr. Consent)	*Calculus IV* **MATH 241 (4)** (MATH 143)	*Organic Chemistry Laboratory II* **CHEM 221 (2)** (Coreq: CHEM 217)	*Organic Chemistry Laboratory III* **CHEM 324 (2)** (Coreq: CHEM 218)	*Biochemical Principles* **CHEM 369 (5)** (Jr Stdg; GE Areas A w/min C-, B1, & B4 w/min C-; BIO 161; CHEM 217 or 317) [Upper-Div B]	*Physical Chemistry Lab* **CHEM 356 (2)** (Jr Stdg; GE Area A w/min C-; CHEM 231/331. Coreq: CHEM 352) [GWR]	*Physical Chemistry III Lab* **CHEM 357 (1)** (Coreq: CHEM 353)		*Inorganic Chemistry Laboratory* **CHEM 484 (2)** (CHEM 481)	**Physics Elective (200-level and above) (3)** *	
		Introduction to Cell & Molecular Biology **BIO 161 (4)** (Recom: CHEM 110, 124, or 127) [B2 & B3]	*General Physics I* **PHYS 141 (4)** *	CSC / MATH / STAT Elective **CSC 232, 234, MATH 206, 244, STAT 218, or 312 (3-4)** *	*Quantitative Analysis* **CHEM 331 (5)**[2] (CHEM 126 or 129)			*Polymers and Coatings Laboratory III* **CHEM 451 (2)**[3] (CHEM 447 or 547. Coreq: CHEM 450. Recom: CHEM 445 or 545; CHEM 448 or 548; CHEM 446)	OR	*Polymers and Coatings Internship* **CHEM 449 (2)**[3] (CHEM 444)		
Oral Communication **COMS 101/102 (4)**** [A1]				*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)	*Polymers and Coatings Laboratory I* **CHEM 447 (2)** (Coreq: CHEM 444)	*Polymers and Coatings Laboratory II* **CHEM 448 (2)** (CHEM 447. Coreq: CHEM 445)	*Surface Chemistry of Materials* **CHEM 446 (3)** (CHEM 125 or 128; CHEM 351, MATE 380, or ME 302)				
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.					*Polymers & Coatings I, II, & III* **CHEM 444 (3)** (CHEM 212/312 or 216/316)	**CHEM 445 (3)** (CHEM 217/317 and CHEM 444)	**CHEM 450 (3)** (CHEM 444 or 544)		**GE (4)** **	**GE (4)** **	**GE (4)** **
GE (4) **	**GE (4)** **						**GE (4)** **	**GE (4)** **		**GE (4)** **	**GE (4)** **	**GE (4)** **
Free Elective (1)[1] Recom: CHEM 101	**Free Elective (1)**[1]	**Free Elective (1)**[1]		**Free Elective (3-4)**[1]		**Graduation Writing Requirement GWR*** (Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year)						**Free Elective (3)**[1]
17	17	17	13	16	15	14	14	14-16	0 - 2	14	16	11
											TOTAL:	180

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, C1, C2, Lower-Division C Elective, Upper-Division C, D1, D2, Upper-Division D, Lower Division E, F, and GE Elective. Upper-Division C and Upper-Division D 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: Upper-Division B, C1, Upper-Division C, D1, D2, Upper-Division D, or

[1] A total of 9-10 Free Elective credit are required for this concentration. The Chemistry Department strongly recommends that you take CHEM 101, offered only in Fall quarter, and SCM 150 for Math and Science elective credit in your first year.

[2] Students should take CHEM 331 during their second year, and as soon as possible after completing CHEM 126 or CHEM 129.

[3] Choose either CHEM 451 - Polymers and Coatings Laboratory III in Spring or CHEM 449 - Polymers and Coatings Internship over Summer. For CHEM 449 - selected students will spend up to 12 weeks with an approved polymers and coatings firm engaged in production or related business.

[4] If a General Education (GE) course is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the the degree.

Legend:

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

- **Major (62)**
- **Support (38-39)**
- **Concentration (18)**
- **General Ed. (52)**
- **Free Electives (9-10)**[4]