CAL POLY
SAN LUIS OBISPO
B.S. in COMPUTER SCIENCE
(Artifical Intelligence and Machine Learning Concentration)
Suggested 4-Year Academic Flowchart

2022-2026 Catalog

Updated 5/10/2022

FRESHMAN			SOPHOMORE			JUNIOR			SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Introduction to Computing **CPE/CSC 123 (4)[5]** (Basic computer literacy)	*Fundamentals of Computer Science* **CSC/CPE 101 (4)** *	*Data Structures* **CSC/CPE 202 (4)** (CPE/CSC 101 w/min C- or Instr. Consent)	*Proj-Based Object-Oriented Programming & Design* **CSC/CPE 203 (4)** (CSC/CPE 202 w/min C- or Instr. Consent)	*Discrete Structures* **CSC 248 (4)** (CSC/CPE 202 & 203 w/min C- or Instr. Consent)	*Design & Analysis of Algorithms* **CSC 349 (4)** (CPE/CSC 102 & 103 or 202 & 203; MATH 142; & CSC 248, 348, or MATH 248)	*Intro to Database Systems* **CSC 365 (4)** (CSC 248 or 348; or CPE/CSC 102 & 103 and MATH 248; or CPE/CSC 202 & 203 & MATH 248)	*Programming Languages* **CSC 430 (4)** (CSC 349)		*Introduction to Operating Systems* **CSC/CPE 453 (4)** (CSC/CPE 357; 225 or CPE/EE 229 or 233)		
			Introduction to Computer Organization **CSC 225 (4)** (CSC/CPE 202)			*Professional Responsibilities* **CSC 300 (4)** (Area A3; CSC/CPE 357; Jr Standing)	**CHOOSE ONE** OR	*Ethics, Science & Tech* **PHIL 323 (4)** *	*Theory of Computation I* **CSC 445 (4)** (CSC 248 or 348)	**Choose One Series:** *Senior Project Lab I & II* **CSC 491 (2)** (CSC 307 or 309; Instr. Consent)	**CSC 492 (2)** (CSC 491; Instr. Consent)
		Life Science Support Elective **(4)^[1,6]** [B2]	*Additional Science Support Elective* **(4)^[2,6]** [Area B Elective]	*Systems Programming* **CSC/CPE 357 (4)** (C- or better in CSC/CPE 102 & 103, or 202 & 203, or Instr. Consent; CSC 225 or CPE/EE 229 or 233)				*Introduction to Software Engineering* **CSC 307 (4)[3]** (CSC 248 or 348; CPE/CSC 357)	**Choose one:** **CSC 321(4) CSC 323 (4) CSC 325 (4)** *	OR *Research Senior Project I & II* **CSC 497 (2)** (CSC 307 or 309; Instr. Consent)	**CPE 498 (2)** (CSC 497; Instr. Consent)
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) [Area B Elective]	**Choose one:** Linear Math **MATH 206 (4)** (MATH 143) OR **MATH 244 (4)** (MATH 143)		**Choose one:** Philosophical Classics **PHIL 230 OR PHIL 231 (4)** [C2] (Completion of GE Area A w/ min C-)		**Choose one:** Ethnic Studies/Women, Gender & Queer Studies **ES/WGQS 350 OR 351 (4)** *		*Intro to Networked, Distributed, & Parallel Computing* **CSC 364 (4)** (CPE/CSC 203)		*AIML Concentration Elective* **(4)^[4]** *
			Physical Science Support Electives (12 units)^[6] *General Physics I, II, & III* **PHYS 141 (4)** *	**PHYS 142 (4)** * OR	**PHYS 143 (4)** * [B1 & B3]	*Statistical Methods for Engineers* **STAT 312 (4)** * [Upper-Division B]	*Applied Linear Models* **STAT 334 (4)** (STAT 252, 302, 312, 313, or IME 326; MATH 206 or 244)	*Knowledge Discovery from Data* **CSC 466(4)** (CSC 349; STAT 252, 302, 312, 321, or 350)	*Artificial Intelligence* **CSC 480 (4)** (CSC/CPE 102 & 103 w/ min C- or Instr. Consent; or CSC/CPE 202 w/ min C- & Jr. standing)	*Deep Learning* **CSC 487 (4)** (CSC 349; MATH 206 or 244. Recom: CSC 466 or 480)	*AIML Concentration Elective* **(4)^[4]** *
Oral Communication **COMS 101/102 (4)** ** [A1]				*Chemistry I, II, & III* **CHEM 124 (4)** *	**CHEM 125 (4)** *	**CHEM 126 (4)** * [B1 & B3]					
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.				**GE (4)** **	**GE (4)** **	**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)** **										
16	**16**	**16**	**16**	**12**	**16**	**16**	**12**	**16**	**16**	**14**	**14**

	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, Lower-Division C Elective, Upper-Division C, D1, Area D Elective, Lower-Divison E, and Lower-Division 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.

^ Cannot double count units.

† Course can be taken previously or concurrently.

[1] Select 4 units from the following "Life Science" Support Electives: BIO 111, 161, 213 & BMED 213; BOT 121; MCRO 221.

[2] Select 4 units from the following "Additional Science" Support Electives: BIO 111, 161; BOT 121; CHEM 124; MCRO 221; PHYS 141.

[3] Students in the Artificial Intelligence and Machine Learning Concentration are advised to take CSC 307 instead of CSC 308 and 309.

[4] Select 8 units total from the following Artificial Intelligence and Machine Learning Concentration Electives: CPE/EE 428; CSC 481, 482, 566, 580, 581, 582, 587; DATA 301; EE 509; STAT 434.

[5] Although new students are strongly encouraged to take CSC/CPE 123, an additional 4 units of CPE/CSC Technical Electives within your selected concentration may substitute for CSC/CPE 123.

[6] No double-counting is allowed between Additional Science Support Elective and Life Science Support Elective or Physical Science Support Elective.

[7] 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 degree.

Legend:

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

- **Major (68)** (yellow)
- **Support (48)** (orange)
- **Concentration (24)** (pink)
- **General Ed. (40)[7]** (green)