CAL POLY
SAN LUIS OBISPO

B.S. in MATHEMATICS
(Applied Mathematics Concentration)
Suggested 4-Year Academic Flowchart

2020-2021 Catalog

Updated 3/10/2020

FRESHMAN			SOPHOMORE			JUNIOR			SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
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)	*Linear Algebra I* **MATH 206 (4)** (MATH 143)	*Differential Equations I* **MATH 242 (4)** (MATH 206 & 241)	*Linear Analysis II* **MATH 344 (4)** (MATH 206 & 242; or MATH 241 & 244)	*Abstract Algebra I* **MATH 481 (4)** (MATH 306 or MATH 341)	*Vector Analysis* **MATH 304 (4)** (MATH 206 or 244; MATH 241)	*Introduction to Analysis I* **MATH 412 (4)** (MATH 306)	*Introduction to Analysis II* **MATH 413 (4)** (MATH 412)	MATH Track Course **(4)[4]** *
	General Physics IA **PHYS 141 (4)[1]** (MATH 141 w/min C-; MATH 142 or 182. Recom: HS physics)	*General Physics II or III* **PHYS 132 or 133 (4)[1]*** [B1 & B3] *Fundamentals of Computer Science* **CSC/CPE 101 (4)[1]***	*Advisor Approved Elective* **(4)[5]** *	*Methods of Proof in Mathematics* **MATH 248 (4)** (MATH 143)	*Linear Algebra II* **MATH 306 (4)** (MATH 206 or 244; 241; 248 w/min C-, or Instr Consent)	*Advisor Approved Elective* **(4)[5]** *	*Combinatorial Math* **MATH 336 (4)** (MATH 248 or Jr Standing)	MATH Track Course **(4)[4]**	*Senior Project*[6] **MATH 459 or MATH 460 (4)** *	MATH Track Course **(4)[4]** *	
					Orientation to Mathematics Major **MATH 202 (1)** (MATH 143)	*Upper Division Statistics* **STAT 301 or 305 or 425 (4)[3]** *	*Numerical Analysis I* **MATH 451 (4)** (MATH 206 & 242 or MATH 241 & 244; a programming crs)	*Advisor Approved Elective* **(4)[5]** *	*Upper Div. Differential Equations* **MATH 416[7] or 418 (4)**		
					Computer Science **MATH 350 or CSC/CPE 202 (4)[2]** *				*Complex Analysis I* **MATH 408 (4)** (MATH 242, or 241 & 244)		
	Expository Writing **ENGL 133/134 (4)**** [A2]										
	Oral Communication **COMS 101/102 (4)**** [A1]										
GE (4) **	*Reasoning, Argumentation, & Writing* [A3] **COMS 126; COMS / ENGL 145; ENGL 148; PHIL 126 (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)** **	**GE (4)** **
GE (4) **		**GE (4)** **	**GE (4)** **	**GE (4)** **							**GE (4)** **
					Free Elective (3)	*Graduation Writing Requirement GWR** (Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year)					
16	**12**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**12**	**12**

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, B2, Upper-Division B, C1, C2, Lower-Division C Elective, Upper-Division C, D1, D2 (8), Upper-Division D, E, and GE Electives. Upper-Division B, 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).
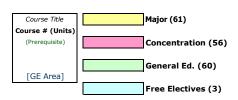
USCP requirement can be satisfied by some (but not all) courses within GE categories: Upper-Division B, C1, Upper-Division C, D1, D2, Uppe

[1] The PHYS/CSC course sequences may be taken in either order.

[2] MATH 350 only offered spring quarter.

[3] STAT 301 and 305 recommended before taking STAT 425

[4] Select 12 units from Track A or Track B. Only students who are pursuing a Data Science minor should select Track B.
  Track A: MATH 335, 406, 409, 414, 416, 418, 437, 452, 453, 460, 476, or 461 & 462
  Track B: DATA 301, 401; MATH 335 or 453. Track B students should select the Statistics Category for their Approved Electives.

[5] 12 units Approved Electives. At least one course at 300 level or above. See catalog for course options. Other choices are possible, and should be pre-approved in consultation with advisor. Bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.

[6] Math 460 recommended for students in Applied Concentration

[7] MATH 416 offered Fall of even academic years and Winter of odd academic years

Legend:

Course Title **Course # (Units)** (Prerequisite) [GE Area]	
	Major (61) (yellow)
	Concentration (56) (pink)
	General Ed. (60) (green)
	Free Electives (3) (cyan)