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

2022-2026 Catalog

CAL POLY
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Updated 6/6/2022

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)** (GE A w/min C-, B4 w/min C-; MATH 206 & 242, or MATH 241 & 244)	*Abstract Algebra I* **MATH 481 (4)** (MATH 306 or MATH 341)	*Vector Analysis* **MATH 304 (4)** (GE A w/min C-, B4 w/min C-; 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)[3]** *
	General Physics I **PHYS 141 (4)[1]** (MATH 141 w/min C-; Coreq: MATH 142 or 182; Recom: HS physics)	*General Physics II or III* **PHYS 142 or 143 (4)[1]*** [B1 & B3] *Fundamentals of Computer Science* **CSC/CPE 101 (4)[1]***	*Advisor Approved Elective* **(4)[4]** *	*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)	*Upper-Division Statistics* **STAT 301 or 305 (4)** *	*Combinatorial Math* **MATH 334 (4)** (GE Areas A & B4 w/min C-; CSC 248. MATH 206. or [Upper-Div B]	MATH Track Course **(4)[3]** *	*Senior Project Select One:[5]* **MATH 459 or MATH 460 or MATH 461 & 462 (4)** *	MATH Track Course **(4)[3]** *	MATH Track Course **(4)[3]** *
	Oral Communication **COMS 101/102 (4)**** [A1]				*Orientation to Mathematics Major* **MATH 202 (1)** (MATH 143)	*Advisor Approved Elective* **(4)[4]** *	*Numerical Analysis I* **MATH 451 (4)** (MATH 206 & 242, or MATH 241 & 244; intro program crs)	*Advisor Approved Elective* **(4)[4]** *	Upper-Div. Differential Equations **MATH 416[6] or 418 (4)**		
	Expository Writing **ENGL 133/134 (4)**** [A2]			Computer Science **MATH 350 or CSC/CPE 202 (4)[2]** *					*Complex Analysis I* **MATH 410 (4)** (MATH 242, or 241 & 244)		
GE (4) **	*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)** **	**GE (4)** **
GE (4) **		**GE (4)** **		**GE (4)** **							**GE (4)** **
			Free Elective (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, 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).
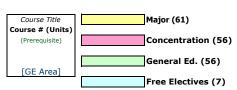
USCP requirement can be satisfied by some (but not all) courses within GE categories: Upper-Division B, C1, Upper-Division C, D1, D2, Upper-Division D, or E.

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

[2] MATH 350 only offered spring quarter.

[3] 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, 341, 406, 411, 414, 416, 418, 435, 437, 452, 453, 460, 461 & 462, 476, 482, 483.
  Track B: DATA 301, 401 & 403; MATH 335 or 435 or 453. Track B students should select their Approved Electives from the Statistics Category.
  (Note that DATA 401 and DATA 403 must be taken concurrently with DATA 402).

[4] 12 units Approved Electives. At least one course at 300-level or above. See catalog for course options. Consultation with advisor is recommended prior to selecting Approved Electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals. Other choices are also possible, and should be pre-approved in consultation with an academic advisor. Approved Electives are to be taken outside of the Mathematics department and should have significant applications to mathematics.

[5] Math 460 recommended for students in Applied Concentration.

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

Legend:

Course Title **Course # (Units)** (Prerequisite) [GE Area]	
Major (61)	
Concentration (56)	
General Ed. (56)	
Free Electives (7)	

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