CAL POLY
SAN LUIS OBISPO

B.S. in Architectural Engineering

Suggested 4-Year Academic Flowchart

Updated 2/17/2015

FRESHMAN			SOPHOMORE			JUNIOR			SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Design and Visual Communication 1.1 **ARCH 131 (4)** (Concurrent: EDES 101)	*Design and Visual Communication 1.2* **ARCH 132 (4)** (ARCH 131)	*Design and Visual Communication 1.3* **ARCH 133 (4)** (ARCH 132)	*Structures I* **ARCE 211 (3)** (PHYS 141, MATH 142)	*Structures II* **ARCE 212 (3)** (ARCE 211 with min C-)	*Structures III* **ARCE 227 (2)** (ARCE 212 or ARCE 222 w/min C-)	*Structural Analysis* **ARCE 302 (4)** (ARCE 223, 227 with min C-. Concur: ARCE 352)	*Matrix Analysis of Structures* **ARCE 306 (3)** (ARCE 302 w/min C-. Concur: ARCE 353)	*Dynamics of Framed Structures* **ARCE 412 (3)** (ARCE 225 w/min C- or ME 212, MATH 244, ARCE 306 w/min C-. Concur: ARCE 354)	*Seismic Analysis and Design* **ARCE 483 (4)** (ARCE 372, 412 w/min C-)	*Concrete Structures Design and Constructability Lab* **ARCE 452 (3)** (ARCE 257, 444, and ARCE 372 or 451 w/min C-)	**Advanced Structural Elective (3-4)[2]**
Introduction to Architecture and Environmental Design **EDES 101 (2)**	**Choose one: ARCE 106 (2) OR CM 113 (2)** *		*Fundamentals of Construction Management* **CM 115 (6)** (ARCE 106 or CM 113; MATH 141; and PHYS 141)	**Dynamics Choose one: ARCE 225 (3) or ME 212 (3)** *	*Structural Computing Analysis I* **ARCE 351 (1)** (ARCE 212 or 222 w/min C-. Concur: ARCE 223)	*Structural Computing Analysis II* **ARCE 352 (1)** (Concur: ARCE 302)	*Structural Computing Analysis III* **ARCE 353 (1)** (ARCE 352 w/min C-. Concur: ARCE 306)	*Numerical Analysis Laboratory* **ARCE 354 (1)** (MATH 244, ARCE 353 w/min C-. Concur: ARCE 412)	*Reinforced Concrete Laboratory* **ARCE 444 (3)** (ARCE 302 w/min C-, and ARCE 371)	*Interdisciplinary Capstone Project* **ARCE 415 (4)** *	*Introduction to Engineering Surveying* **BRAE 237 (2)** (MATH 119 or equivalent)
Calculus I **MATH 141 (4)** * [B1]	*Calculus II* **MATH 142 (4)** (MATH 141 w/min C-) [B1]	*Calculus III* **MATH 143 (4)** (MATH 142 w/min C-) [Add'l Area B]	*Calculus IV* **MATH 241 (4)** (MATH 143)	*Structural CAD for Building Design* **ARCE 257 (2)** (ARCH 133, CM 115)	*Mechanics of Structural Members* **ARCE 223 (3)** (ARCE 212 or 222 w/min C-. Concurrent: ARCE 224)	*Structural Systems Laboratory* **ARCE 371 (3)** (ARCE 223, ARCE 227 w/min C-. Corequisite: ARCE 302)	*Steel Design I* **ARCE 303 (3)** (ARCE 223 w/min C-. Coreq: ARCE 371)	*Steel Structures Design Laboratory* **ARCE 372 (3)** (ARCE 257, 302, 303, 352, and 371 w/min C-)	**Advanced Structural Elective (3)[2]**	*Statistics* **STAT 312 (4)** (MATH 142) **OR** **STAT 321 (4)** (MATH 142) [B6]	**GE (4)** **
	General Physics IA **PHYS 141 (4)** (MATH 141 w/min C-, MATH 142 or 182) [Add'l Area B]	*General Physics II* **PHYS 132 (4)** (PHYS 131 or 141 or HNRS 131)		*Programming for Engineering Students* **CSC 231 (2)** (MATH 142; PHYS 121 or 131 or 141)	*Mechanics Of Structural Members Laboratory* **ARCE 224 (1)** (Concurrent: ARCE 223)	*Soil Mechanics* **ARCE 421 (3)** (ARCE 212 or 222 w/min C-, GEOL 201)	*Foundation Design* **ARCE 422 (3)** (ARCE 421 w/min C-)	*Timber Design* **ARCE 304 (3)** (ARCE 371 w/min C-)	*Timber & Masonry Structures Design and Construct. Lab* **ARCE 451 (3)** (ARCE 257, 304, 305, 371 w/min C-)	*Fluid Mechanics I* **ME 341 (3)** (ARCE 225 or ME 212)	**GE (4)** **
Expository Writing **ENGL 133/134 (4)**** [A1] Can be taken anytime during Freshman Year				*Linear Analysis I* **MATH 244 (4)** (MATH 143)	*Chemistry for Engineering I* **CHEM 124 (4)** * [B3 & B4]] *Physical Geology* **GEOL 201 (3)** (MATH 119)	*General Physics III* **PHYS 133 (4)** (PHYS 131 or HNRS 131 or PHYS 141; MATH 142. Recom: MATH 241)	*Electric Circuit Theory* **EE 201 (3)** (MATH 244, PHYS 133)	*Masonry Design* **ARCE 305 (2)** (ARCE 371 w/min C-)	*Evaluation of Cost Alternatives* **CM 232 (3)** (MATH 142 or 182) **OR** *Engineering Econ* **IME 314 (3)** (MATH 241)	**GE (4)** **	**GE (4)** **
Oral Communication **COMS 101/102 (4)**** [A2] Can be taken anytime during Freshman Year			*History of World Architecture or Structures* **ARCH 217 or 218 or 219 or 260 (4)[3]** [C3]			**GE (4)** **	**GE (4)** **	*Thermodynamics I* **ME 302 (3)** (PHYS 132; ME 212 or CHEM 128)			
			GE (4) *								
			GE (4) *								
	Reasoning, Argumentation, & Writing [A3] **COMS 126; COMS/ENGL 145; ENGL 148; ENGL 149; or PHIL 126 (4)**** (Completion of GE A1 with a C- or better) Can be taken anytime between Winter of Freshman and Winter of Sophomore Years.					*Graduation Writing Requirement* **GWR*** (Can be taken anytime after 90 earned units)					
14	18	16	17	18	18	19	17	15	16	18	17-18

TOTAL: 203-204

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, C4, D1, D2, D3, and D4. C4 should be taken only after Junior standing is reached (90 units).

Refer to online catalog for GE course selection, USCP and Graduation Writing Requirement (GWR).

USCP requirement can be satisfied by some (but not all) courses within GE categories: C4, D1, D3, or D4.

Quarterly advisor meetings are required prior to registration.

A corequisite course can be taken previously or concurrently. Concurrent courses must be taken together.

All ARCE Majors must receive a C- or better in ARCE Courses that are prerequisites for other ARCE courses.

[1] Course can be taken previously or concurrently.

[2] Advanced Structural Electives: Select 6-7 units from: ARCE 403, 414, 423, 445, 446, 447, 448, 449, 475, and 501.

[3] ARCH 217 is offered Fall only; ARCH 218 is offered Winter only; ARCH 219 is offered Spring only.

Legend:

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

Major (76-77)
Support (83)
General Ed. (44)