B.S. in Architectural Engineering

Suggested 4-Year Academic Flowchart

ARCE 106 (2) FWS ARCE 212 w/min C- (ARCE 212 w/min C- FWS FWS	FRESHMAN			SOPHOMORE			JUNIOR			SENIOR		
ARCE 21 (3) #TO 51.1 Min 154 FUS FUS FUS FUS FUS FUS Besign & Visual Communication ARCH 131 (4) (ARCH 132 (4) FUS FUS FUS FUS FUS FUS FUS FUS	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Communication 1.7 and	Building Systems ARCE 106 (2)			ARCE 211 (3) (PHYS 141; MATH 142	ARCE 212 (3) (ARCE 211 w/min C-)	ARCE 227 (2) (ARCE 212 w/min C-)	Analysis ARCE 302 (3) (ARCE 223; 227 w/min C Concur: ARCE 352)	of Structures ARCE 306 (3) ARCE 302 w/min C Concur: ARCE 353)	Framed Structures ARCE 412 (3) (ME 212; MATH 244; ARCE 306 w/min C Concur: ARCE 354)	and Design ARCE 483 (3) (ARCE 372; 412 w/min C-)	Structures Design ARCE 452 (3) (ARCE 257; 444; 372 or 451 w/min C-)	
MATH 142 (4) MATH 143 (4) MATH 1	1.1 ARCH 131 (4)	Communication 1.2 ARCH 132 (4) (ARCH 131)	Communication 1.3 ARCH 133 (4) (ARCH 132)	Construction Management CM 115 (6) (ARCE 106 or CM 113; MATH 141; PHYS 141)	Dynamics ME 212 (3) (MATH 241; ME 211 or ARCE 211)	Structural Members ARCE 223 (3) (ARCE 212 w/min C Concur: ARCE 224)	Computing Analysis ARCE 352 (1) (CSC 231 or 234.	Computing Analysis ARCE 353 (1) (ARCE 352 w/min C Concur: ARCE 306)	Laboratory ARCE 354 (1) (MATH 244; ARCE 353 w/min C Concur: ARCE 412)	Concrete Design ARCE 444 (4) (ARCE 371; ARCE 302 w/min C-)	Capstone Project ARCE 415 (4) (Senior Standing; Instructor Consent)	Surveying BRAE 237 (2) (MATH 119)
PHYS 141 (a) (MATH 141 w/mar C- Coney MATH 142 w/mar C- Coney MATH 142 w/mar C- Coney MATH 143 w/mar C- MATH 143 w/mar C- MATH 143 w/mar C- WS (MATH 143 w/mar C- WS) (MATH 144 w/mar C- WS) (MATH 143 w/mar C- WS)	MATH 141 (4) ₁ FWS	MATH 142 (4) ¹ (MATH 141 w/min C- or Instr. Consent)	MATH 143 (4) ₁ (MATH 142 w/min C- or Instr. Consent)	MATH 241 (4) (MATH 143)	for Building Design ARCE 257 (2) (CM 115)	Structural Members Lab ARCE 224 (1) (Concur: ARCE 223)	Systems Lab ARCE 371 (3) (ARCE 223; ARCE 227 W/min C-; 3rd year standing)	ARCE 303 (3) ARCE 223 w/min C Coreq: ARCE 371)	Design Laboratory ARCE 372 (3) (ARCE 257; 302; 303; 352; 371 w/min C-)	Systems ARCE 476 (3) (Sr Standing)	STAT 312 (4) ₁ OR STAT 321 (4) ₁ FWS	
MATH 244 (4) (MATH 143) COMS 101/102 (4)** [A1] Can be taken anytime during Freshman Year History of World Architecture or Structures ARCH 217 or 218 or 219 or ARCE 260 (4)¹ Can be taken anytime during Freshman Year History of World Architecture or Structures ARCH 217 or 218 or 219 or ARCE 260 (4)¹ Can be taken anytime during Freshman Year History of World Architecture or Structures ARCH 217 or 218 or 219 or ARCE 260 (4)¹ Can be taken anytime during Freshman Year History of World Architecture or Structures ARCH 217 or 218 or 219 or ARCE 260 (4)¹ Can be taken anytime during Freshman Year GE (4) ** GE (4) ** Graduation Writing Requirement GWR* Graduation Writing Requirement GWR* Graduation Writing Requirement GWR* Graduation Writing Requirement GWR* Students should complete the requirement before senior year)		PHYS 141 (4) ¹ (MATH 141 w/min C Coreq: MATH 142 or 182 FWS	PHYS 142 (4) (PHYS 141; MATH 142 or 182)		Engineering Students CSC 231 (2) (MATH 142; PHYS 121, 131, or 141)	Phys Sci & Engineering I CHEM 124 (4) ₁ *	ARCE 421 (3) (ARCE 212 w/min C-; Recom: GEOL 201)	Design ARCE 422 (3) (ARCE 421 w/min C-)	ARCE 304 (3) (ARCE 371 w/min C-)	Masonry Structures ARCE 451 (3) (ARCE 257; 304;	ME 341 (3) (MATH 242 or 244; ME 212)	
Expository Writing ENGL 133/134 (4)** [A2] Can be taken anytime during Freshman Year Completion of GE A2 with a C- or better) Can be taken anytime between Winter of Freshman and Winter of Sophomore Years. GE (4) **		4S 101/102 (4)**			MATH 244 (4) (MATH 143)	GEOL 201 (3) (MATH 119)	III PHYS 143 (4) (PHYS 141; MATH 142. Recom: MATH 241)	Theory EE 201 (3) (MATH 244; PHYS 143)	ARCE 305 (2) (ARCE 371 w/min C-)	CM 232 (3) (MATH 142 or 182) OR Engineering Econ IME 314 (3) (MATH 241)		
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) ** (Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year)	ENGL 133/134 (4)** [A2]				or 218 or 219 or AR				ME 302 (3)			**
GE (4) ** GE (4) ** GE (4) ** GE (4) **		COMS 126, 145, ENGL 145, 147, ES 145, PHIL 126, or WGQS 145 (4)** (Completion of GE A2 with a C- or better)					GE (4) **	GE (4) **	ì		GE (4) **	GE (4)
14 16 16 17 18 17 18 17 15 16 18 14					(Students can attempt to fulfill the requirement after 90 earned units;							
		16	16	17	18	17	18	17	15	16	18	14

Notes:
MOST GENERAL EDUCATION COURSES CAN BE TAKEN IN ANY ORDER AS LONG AS PREREQUISITES ARE MET

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: Upper-Division C, D1, D2, or E.

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.



F=FALL **W=WINTER** S=SPRING

 $[\]ensuremath{^{*}}$ Refer to current catalog for prerequisites.

^{**}One course from each of the following GE areas must be completed: A1, A2, A3, B2, C2, Lower-Division C Elective, Upper-Division C, D1, Area D Elective, Lower-Division E, and F. Upper-Division C. D1, Area D Elective, Lower-Division E, and F. Upper-Division C. D1, Area D Elective, Lower-Division E, and F. Upper-Division C. D1, Area D Elective, Lower-Division E, and F. Upper-Division C. D1, Area D Elective, Lower-Division C. D2, Area D Elective, Lower-Division E, and F. Upper-Division C. D3, Area D Elective, Lower-Division E, and F. Upper-Division C. D3, Area D Elective, Lower-Division C. D3, Area D Elective, D4, Area D Division C should be taken only after Junior standing is reached (90 units).

¹ Required in Major or Support; also satisfies General Education (GE) requirement.



BS ARCHITECTURAL ENGINEERING 2022-2026

This document displays only your course requirements at the time of publication of the catalog. You must use your Degree Progress Report to track all your graduation requirements.

Note: No Major or Support courses may be selected as credit/no credit.

All ARCE majors must obtain a grade of C- or better in ARCE courses that are prerequisites for other ARCE courses.

	must obtain a grade of e or better in Anez courses that are pre	requi
MAJOR COU	RSES	
ARCE 106	Introduction to Building Systems	2
ARCE 211	Structures I	3
ARCE 212	Structures II	3
ARCE 223	Mechanics of Structural Members	3
ARCE 224	Mechanics of Structural Members Laboratory	1
ARCE 227	Structures III	2
ARCE 257	Structural CAD for Building Design	2
ARCE 302	Structural Analysis	3
ARCE 303	Steel Design I	3
ARCE 304	Timber Design	3
ARCE 305	Masonry Design	2
ARCE 306	Matrix Analysis of Structures	3
ARCE 352	Structural Computing Analysis	1
ARCE 353	Matrix Structural Computing Analysis	1
ARCE 354	Numerical Analysis Laboratory	1
ARCE 371	Structural Systems Laboratory	3
ARCE 372	Steel Structures Design Laboratory	3
ARCE 412	Dynamics of Framed Structures	3
ARCE 421	Soil Mechanics	3
ARCE 422	Foundation Design	3
ARCE 444	Reinforced Concrete Design	4
ARCE 451	Timber & Masonry Structures Design & Constructability	3
	Lab	
ARCE 452	Concrete Structures Design and Constructability	3
ARCE 476	Architectural Engineering Building Systems	3
ARCE 483	Seismic Analysis and Design	3
ME 212	Engineering Dynamics	3
Senior Project		•
ARCE 415	Interdisciplinary Capstone Project	4
Total Major L	Jnits	71

SUPPORT C	OURSES	
ARCH 131	Design and Visual Communication 1.1	12
& ARCH 132	and Design and Visual Communication 1.2	
& ARCH 133	and Design and Visual Communication 1.3	
ARCH 217	History of World Arch: Prehistory - Middle Ages (C1) 1	4
or ARCH 218	History of World Arch: Middle Ages - 18th Century	
or ARCH 219	History of World Arch: 18th Century - Present	
or ARCE 260	History of Structures	
BRAE 237	Introduction to Engineering Surveying	2
CHEM 124	Gen CHEM for Physical Sci & ENGR I (B1 & B3) 1	4
CM 115	Fundamentals of Construction Management	6
CM 232	Evaluation of Cost Alternatives	3
or IME 314	Engineering Economics	
CSC 231	Programming for Engineering Students	2
EE 201	Electric Circuit Theory	3
GEOL 201	Physical Geology	3
MATH 141	Calculus I (B4) ¹	4
MATH 142	Calculus II (B4) ¹	4
MATH 143	Calculus III (Area B Electives) 1	4
MATH 241	Calculus IV	4
MATH 244	Linear Analysis I	4
ME 302	Thermodynamics I	3
ME 341	Fluid Mechanics I	3
PHYS 141	General Physics IA (Area B Electives) 1	4
PHYS 142	General Physics II	4
PHYS 143	General Physics III	4
STAT 312	Statistical Methods for Engineers (UD-B) 1	4
or STAT 321	Probability & Statistics for Engineers & Scientists	
Total Suppo	rt Units	81

GENERA I	_ EDUCATION					
Area A	English Language Communication and Critical					
	Thinking					
A1	Oral Communication	4				
A2	Written Communication	4				
A3	Critical Thinking	4				
Area B	Scientific Inquiry and Quantitative Reasoning					
B1	Physical Science (4 units in Support) 1	0				
B2	Life Science	4				
B3	One lab taken with either a B1 or B2 course					
B4	Mathematics/Quantitative Reasoning (8 units in	0				
	Support) 1					
Upper-Divis	sion B (4 units in Support) 1	0				
	tives (8 units in Support) 1	0				
Area C	Arts and Humanities					
	sion courses in Area C must come from three different sub	ject				
prefixes.						
C1	Arts (4 units in Support) ¹	0				
C2	Humanities	4				
Lower-Div (C Elective - Select a course from C1 or C2 (NO ARCH)	4				
Upper-Divis		4				
Area D	Social Sciences					
D1	American Institutions (Title 5, Section 40404	4				
	Requirement)					
Area D Elec	tive - Select either a lower-division D2 or upper-division D	4				
course.						
Area E	Lifelong Learning and Self-Development					
Lower-Divis	sion E	4				
Area F	Ethnic Studies					
F	Ethnic Studies	4				
Total GE Units						
FREE ELE	ECTIVES	0				
TOTAL DI	EGREE UNITS	196				

FOOTNOTES

1 Required in Major or Support; also satisfies General Education (GE) requirement.