

B.S. in Architectural Engineering

Catalog Year 2023–24

Below is the *advised sequence* of courses for this degree program on Main Campus as of 7/12/22.

Official degree requirements and course prerequisites are in the University General Catalog; prerequisites are subject to change.

Course Number and Title	Units	Prerequisites/Enrollment Requirements
1st Semester		
MATH 122A/B or MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
*CHEM 151 Chemical Thinking I or CHEM 161/163	4	Appropriate Math Placement
ENGL 101 or 107 or 109H First-Year Composition	3	
ENGR 102A/102B Introduction to Engineering or ENGR 102	3	<u>ENGR102A</u> : MATH 112; <u>ENGR102B</u> : Concurrently enrolled or completion of MATH 122B or 125; FR & SOPH Status
UNIV 101 Intro to the General Education Experience	1	
Semester Total	16/14	
2nd Semester		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
ENGL 102 or 108 First-Year Composition	3	ENGL 101 or ENGL 107
*PHYS 141 Introductory Mechanics or PHYS 161H	4	MATH 122B or 125 or Appropriate Math Placement Level
†General Education: Exploring Perspectives (Artist)	3	
†General Education: Exploring Perspectives (Humanist)	3	
Semester Total	16	
3rd Semester		
ARCE 295 Intro to Architectural Engineering	1	MATH 122B or 125 or Dept. consent
CE 214 Statics	3	PHYS 141 or 161H; MATH 129
MATH 223 Vector Calculus	4	MATH 129 with C or better
PHYS 241 Introductory Electricity and Magnetism or PHYS 261H	4	For PHYS 241 or 261H: PHYS 141 or 140 or 161H; MATH 129 or Appropriate Math Placement Level
**ARC 220 History of Applied Building Technology	3	
AME 230 Thermodynamics	3	PHYS 141 or 161H
Semester Total	18	
4th Semester		
CE 215 Mechanics of Solids	3	CE 214
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 or 223 with C or better
ARCE 210 Building Information Modeling for Engineers	3	ENGR 102A/B or 102
ARCE 223 Building Technology III, EAS I	3	
†General Education: Exploring Perspectives (Social Scientist)	3	
Semester Total	15	

*Each of the following foundational science courses satisfies the requirements for General Education: Exploring Perspectives (Natural Scientist): CHEM 151 or 152 or 161 or 162; or PHYS 141 or 161H.

**ARC 220 will fulfill a General Education Building Connections course; approved & catalog entry complete.

Advanced Standing is required for 300- and 400-level engineering courses (see your academic advisor for details).

Course Number and Title	Units	Comments
5th Semester		
CE 218 Mechanics of Fluids	3	
***CE 301 Engineering Communications	3	
CE 310 Probability and Statistics in Civil Engineering	3	
CE 333 Elementary Structural Analysis	3	
ARCE 340 Introduction to Mechanical Systems in Building Design	3	
ENGR 211M Engineering Science Module - Circuits	1	
Semester Total	16	
6th Semester		
CE 335 Structural Design in Concrete	3	
CE 381 Construction Engineering Management	3	
ARCE 320 Power Systems Engineering	3	
ARCE 330 On Light and Lighting	3	
CE 389 Materials Testing Laboratory	1	
†General Education: Building Connections	3	
Semester Total	16	
7th Semester		
ARC 400A Senior Engineering Design Studio	6	
ARCE 408A Issue in Professional Practice	1	
CE 334 Structural Design in Steel	3	
ENGR 211P Engineering Science Module - Engineering Economics	1	
ENGR 211I Engineering Science Module - Dynamics	1	
Technical Elective	3	
†Technical Elective	1 - 3	Depends on selection of General Education course, Consult with major advisor for course approval
Semester Total	16/18	
8th Semester		
ARCE 400B Senior Engineering Design	3	
ARCE 408B Issues in Professional Practice II	1	
CE 438 Behavioral and Design of Structural Systems	3	
Technical Elective	3	
Technical Elective	3	
Technical Elective	3	
UNIV 301 – General Education Portfolio	1	
Semester Total	17	

†Students should work closely with their academic advisor to select General Education: Building Connections courses; some course work in the major, such as some Technical Elective courses, may also fulfill General Education: Building Connections requirements.

***CE 301 will fulfill a General Education Building Connections course; provisionally approval for Fall 2022.