

Civil Engineering Major, Bachelor of Science (93 credit hours)

Civil engineering is for students interested in solving engineering problems around public infrastructure, including roads, bridges, dams, levees, and construction projects. These students will be involved in big projects that will get them out in the field, interacting with construction managers, surveyors, and contractors. Students will experience a wide range of topics in structural analysis and design, water resources and design, geotechnical engineering, transportation engineering, and surveying, with plenty of hands-on laboratory experiences.

49 credit hours from the Common Engineering Core, Including Mathematics and Basic Sciences:

- ENGR 2001, Introduction to Engineering, 1 credit hour
- ENGR 2002, Introduction Mechanical Laboratory, 1 credit hour
- ENGR 2003, Introduction to Electrical and Computer Laboratory, 1 credit hour
- ENGR 2010, Statics, 3 credit hours
- ENGR 2030, Circuit Analysis, 3 credit hours
- ENGR 2080, Service Through Engineering and Technology, 3 credit hours¹
- ENGR 2090, Systems Engineering, 3 credit hours^{1,2}
- ENGR 2310, Computational Problem Solving, 3 credit hours
- ENGR 4950, Senior Design I, 2 credit hours²
- ENGR 4960, Senior Design II, 2 credit hours³
- CHEM 2110, General Chemistry I, 4 credit hours⁴
- MATH 2010, Calculus I, 4 credit hours⁵
- MATH 2020, Calculus II, 4 credit hours
- MATH 3010, Linear Algebra with Differential Equations, 4 credit hours
- MATH 3100, Differential Equations, 3 credit hours
- PHYS 2240, General Physics I, 4 credit hours
- PHYS 2250, General Physics, II, 4 credit hours

44 credit hours of major specific requirements:

- MATH 2120: Introductory Statistics, 4 credit hours
- ENGR 2110: Dynamics, 3 credit hours
- ENGR 3100: Mechanics Lab, 2 credit hours
- ENGR 3330: Geotechnical Engineering, 3 credit hours
- ENGR 3340: Structural Analysis, 3 credit hours
- ENGR 3350: Surveying, 3 credit hours
- ENGR 3510: Solid Mechanics, 3 credit hours
- ENGR 4130: Fluid Mechanics, 3 credit hours
- ENGR 4320: Fluids Lab for Civil Engineerings, 2 credit hours
- ENGR 4330: Water Resources Engineering, 3 credit hours
- ENGR 4340: Structural Design (concrete), 3 credit hours
- ENGR 4350: Structural Design (steel), 3 credit hours
- ENGR 4360: Transportation Engineering, 3 credit hours
- ENGR Breadth Elective, 3 credit hours: Take at least 3 hours from ENGR 2xxx or above
- Science Elective, 4 credit hours: Take at least 4 hours from PHYS 1020, 1240, BIOL 1000, 2210, CPSC 2020, 2040

¹ This course fulfills the Global/Intercultural Ways of Knowing Requirement in the Liberal Arts Program.

² This is a Writing Intensive course in the Liberal Arts Program.

³ This is both a Writing and Speaking Intensive course in the Liberal Arts Program.

⁴ This course fulfills the Scientific Ways of Knowing requirement in the Liberal Arts Program.

⁵ This course fulfills the Quantitative Ways of Knowing Requirement in the Liberal Arts Program.



Academic Advising

NOTE: All students must complete a minimum of 120 total credit hours to graduate from Anderson University.

Questions? Please contact the [Department of Physical Sciences & Engineering](#)

Rev'd 01/2024

Proposed Course Sequence:

Freshman: MATH 2010, CHEM 2110, ENGR 2001, 2002, 2003; MATH 2020, PHYS 2240, ENGR 2310
 Sophomore: MATH 3010, PHYS 2250, ENGR 2010, 2080; MATH 3020, 3100, ENGR 2030, 2090, 2110
 Junior: ENGR 2070, 3110, 3180, 3510; ENGR 3190, 3850, 4110, 4130
 Senior: ENGR 3030, 3100, 3160, 4950; ENGR 4100, 4160, 4960, ENGR Elective

SEMESTER 1		SEMESTER 2	
Quantitative Reasoning, MATH 2010	4 Hours	MATH 2020	4 Hours
Scientific Ways, CHEM 2110	4 Hours	PHYS 2240	4 Hours
ENGR 2001, 2002, 2003	3 Hours	ENGR 2310	3 Hours
ENGL 1110	3 Hours	ENGL 1120	3 Hours
LART 1050	1 Hour	Personal Wellness	2 Hours

SEMESTER 3		SEMESTER 4	
MATH 3010	4 Hours	BIBL 2000	3 Hours
PHYS 2250	4 Hours	MATH 3100	3 Hours
ENGR 2010	3 Hours	ENGR 2030	3 Hours
Global/Intercultural Ways: ENGR 2080	3 Hours	Global/Intercultural Ways: ENGR 2090 (Writing Intensive)	3 Hours
COMM 1000	3 Hours	ENGR 2110	3 Hours

SEMESTER 5		SEMESTER 6	
Science Elective	4 Hours	ENGR 4130	3 Hours
ENGR 3510	3 Hours	ENGR 4320	1 Hour
ENGR 3100	2 Hours	ENGR 4360	3 Hours
ENGR 3330	3 Hours	MATH 2120	4 hours
ENGR 3350	3 Hours	Language	4 Hours

SEMESTER 7		SEMESTER 8	
ENGR 3340	3 Hours	ENGR 4340	3 Hours
ENGR 4330	3 Hours	ENGR 4350	3 Hours
ENGR 4950 (WI)	2 Hours	ENGR 4960 (Speaking Intensive, WI)	2 Hours
Civic Ways of Knowing	3 Hours	ENGR Elective	3 Hours
Social/Behavioral Ways of Knowing	3 Hours	Aesthetic Ways of Knowing	3 Hours
Civil Discourse and Critical Reasoning	2 Hours	Christian Ways of Knowing	3 Hours