

Civil Engineering, BSCE

Bachelor of Science in Civil Engineering Degree Program Requirements

Complete Core Curriculum Listing at <https://catalog.pvamu.edu/universitycorecurriculum/>

Core Curriculum 42 Credit Hours

Communication (Select Two)		6
Mathematics		3
MATH 2413	Calculus with Analytic Geometry I	
Life and Physical Sciences (Select Two)		6
Language, Philosophy, and Culture (Select One)		3
Creative Arts (Select One)		3
American History (Select Two)		6
Government/Political Science		6
POSC 2305	American Government	
POSC 2306	Texas Government	
Social and Behavioral Science		3
CHEG 2308	Eco Anal Technical Application	
Component Area Option One		3
CVEG 2304	Global Development Issues	
Component Area Option Two (Select One)		3

College Requirements

MATH 2320	Differential Equations	3
MATH 2413	Calculus with Analytic Geometry I	1
MATH 2414	Calculus with Analytic Geometry II	4
MATH 3302	Probability and Statistics	3
MATH 4317	Advanced Math for Engineers	3
CHEM 1112	General Chemistry Lab II	1
CHEM 1403	Chemistry for Engineers	4
OR		
CHEM 1303 & CHEM 1304	General Inorganic Chemistry I and General Inorganic Chemistry II	
PHYS 2125	University Physics Lab I	1
PHYS 2126	University Physics Lab II	1
CVEG 1101	Intro Engineering & Comp Sci	1
CVEG 1102	Introduction to Civil Engineering Lab	1
ELEG 1304	Computer Applications in Engineering	3
ELEG 2315	Introduction to Electrical Engineering	3
MCEG 2301	Thermodynamics I	3
CVEG 2301	Engineering Mechanics I	3
CVEG 3102	Professional Engineering I	1
CVEG 4200	Senior Design and Professionalism - I	2
CVEG 4201	Senior Design and Professionalism - II	2

Major Requirements

CVEG 2101	Materials and Dynamics Lab	1
CVEG 2332	Mechanics of Materials	3
CVEG 2102	Surveying and Geospatial Concepts	1
CVEG 3300	Geotechnical Engineering	3
CVEG 3100	Concrete and Steel Laboratory	1
CVEG 3301	Environmental Engineering	3
CVEG 3302	Transportation Engineering	3

CVEG 3303	Hydraulics	3
CVEG 3304	Structural Analysis	3
CVEG 3305	Steel Design	3
CVEG 4300	Reinforced Concrete	3
CVEG 4100	Geotechnical Engineering Design Laboratory	1
CVEG 4301	Environmental Engineering Design	3
CVEG 4302	Transportation Engineering Design	3
CVEG 4303	Water Resources Engineering	3
CVEG 4304	Systems Engineering	3
Science Elective (Select one from the list below):		3
BIOL 1307	General Microbiology	
BIOL 1308	Biology for Non-Science Major I	
BIOL 1309	Biology for Non-Science Majors II	
Technical Electives (CVEG or Other)		3
Total Hours		128

Civil Engineering Suggested Technical Electives

ARCH 4344	CAD Construction Documents and Codes	3
CVEG 4305	Special Topics	3
MATH 4306	Numerical Analysis	3
MATH 4308	Advanced Calculus I	3
MCEG 4306	Dynamic Systems and Controls	3

Technical elective courses must be 3000 level or above and must be taken with the approval of the Academic Advisor and the Department Head. Internship and Co-op courses are not acceptable as technical electives.

Technical Electives through Five-Year BS/MS Degree Plan Option

Students may, upon acceptance into the Five-Year BS/MS Degree Plan Option (see Roy G. Perry College of Engineering Special Programs (<https://catalog.pvamu.edu/academicprogramsanddegreeplans/roygperrycollegeofengineering/#specialprogramstext>)), apply up to six semester credit hours of graduate courses toward technical electives requirements.

Eligibility To Take Upper Division College Courses

The Roy G. Perry College of Engineering applies an eligibility standard for students to take upper-division college courses. Students must have completed or be currently enrolled in all lower division (1000 and 2000 level) courses in English, mathematics, science, and engineering to be eligible to enroll in upper-division (3000 or 4000 levels) courses in the Roy G. Perry College of Engineering. Students in the Civil Engineering Program must complete the prescribed courses listed below with a minimum Grade Point Average (GPA) of 2.5 in order to be eligible to enroll in upper-division (3000 or 4000 levels) courses in the College. Students transferring to the Roy G. Perry College of Engineering with 60 or more semester hours from another institution will be allowed a period of one semester to comply. The following list of courses must be completed prior to enrolling in upper-division courses:

CVEG 1101	Intro Engineering & Comp Sci	1
CVEG 1102	Introduction to Civil Engineering Lab	1
CHEM 1403	Chemistry for Engineers	4
CHEM 1112	General Chemistry Lab II	1
ENGL 2311	Technical and Business Writing	3
PHYS 2325	University Physics I	3
PHYS 2125	University Physics Lab I	1
MATH 2413	Calculus with Analytic Geometry I	4
MATH 2414	Calculus with Analytic Geometry II	4
ELEG 1304	Computer Applications in Engineering	3

Bachelor of Science in Civil Engineering Degree Sequence

Core: <https://catalog.pvamu.edu/universitycorecurriculum/>

Freshman

Fall - Semester 1	Hours	Spring - Semester 2	Hours
Communication Core		3 Communication Core	3
Mathematics Core		4 MATH 2414	4
MATH 2413		ELEG 1304	3
CHEM 1403		4 Life and Physical Sciences Core	3
CHEM 1112		1 Component Area Option One Core	3
CVEG 1101		1 CVEG 2304	
CVEG 1102		1 PHYS 2125	1
Science Elective		3	
Total		17 Total	17

Total Hours: 34**Sophomore**

Fall - Semester 1	Hours	Spring - Semester 2	Hours
MATH 2320		3 ELEG 2315	3
Life and Physical Sciences Core		3 MCEG 2301	3
PHYS 2126		1 MATH 3302	3
Social and Behavioral Science Core		3 CVEG 2332	3
CHEG 2308		CVEG 2101	1
CHEG 2301		3 CVEG 3302	3
Component Area Option Two Core		3	
CVEG 2102		1	
Total		17 Total	16

Total Hours: 33**Junior**

Fall - Semester 1	Hours	Spring - Semester 2	Hours
MATH 4317		3 CVEG 3300	3
CVEG 3304		3 CVEG 3305	3
Language, Philosophy, and Culture Core		3 CVEG 4304	3
CVEG 4302		3 CVEG 3301	3
CVEG 3100		1 CVEG 4303	3
CVEG 3303		3	
Total		16 Total	15

Total Hours: 31**Senior**

Fall - Semester 1	Hours	Spring - Semester 2	Hours
CVEG 4300		3 American History Core	3
CVEG 4301		3 Creative Arts Core	3
CVEG 4200		2 CVEG 3102	1
CVEG 4100		1 CVEG 4201	2
American History Core		3 Government/Political Science Core	3
Government/Political Science Core		3 POSC 2306	
POSC 2305		Technical Elective	3
Total		15 Total	15

Total Hours: 30

Name	Unit
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Total Semester Credit Hours: 128

Marketable Skills

Marketable skills, as defined by the Texas Higher Education Coordinating Board's 60x30TX Plan (<http://www.60x30tx.com/>), include interpersonal, cognitive, and applied skill areas, are valued by employers, and can be either primary or complementary to a major. Marketable skills are acquired by students through education, including curricular, co-curricular, and extracurricular activities.

BSCE Civil Engineering

Degree Skills

1. Ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. Ability to communicate effectively with a range of audiences
3. Ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

Co-curricular and Extracurricular Skills

1. Teamwork
2. Leadership
3. Project management