

Computer Engineering, BS

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		6
PHYS 2325	University Physics I	
PHYS 2326	University Physics II	
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 and Support Area Requirements

MATH 2305	Discrete Mathematics	3
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
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
ELEG 1101	Intro Engr Computer Sci & Tech	1
ELEG 1102	Introduction to Electrical and Computer Engineering Laboratory	1
ELEG 2305	Network Theory I	3
Select one of the following:		4

ELEG 4247 & ELEG 4248	Senior Design and Professionalism I and Senior Design and Professionalism II	
CHEG 4247 & CHEG 4248	Senior Design and Professionalism -I and Senior Design and Professionalism - II	
CVEG 4200 & CVEG 4201	Senior Design and Professionalism - I and Senior Design and Professionalism - II	
MCEG 4247 & MCEG 4248	Senior Design and Professionalism-1 and Senior Design and Professionalism II	

Major Requirements

ELEG 1301	Programming for Computer Engineering I	3
ELEG 1321	Programming for Computer Engineering II	3
ELEG 2101	Electric Circuits Laboratory	1
ELEG 2321	Data Structure and Algorithm with Python	3
ELEG 2331	Advanced Programming and Applications	3

ELEG 3301	Network Theory II	3
ELEG 2131	Logic Circuits Lab	1
ELEG 2311	Logic Circuits	3
ELEG 3302	Signals and Systems	3
ELEG 3303	Physical Principles of Solid State Devices	3
ELEG 3304	Electronics I	3
ELEG 3107	Microprocessor Systems Design Laboratory	1
ELEG 3307	Microprocessor System Design	3
ELEG 4325	Computer Interfacing and Communications	3
ELEG 4330	Introduction to Digital Design	3
ELEG 4333	Communication Network Engineering	3
ELEG 4339	Computer Organization and Design	3
Technical Electives		9
Total Hours		126

Computer Engineering Suggested Technical Electives

All computer engineering majors must select one technical elective. Internship and co-op courses are not acceptable as technical electives.

COMP 3306	Operating Systems	3
COMP 3322	Software Engineering	3
COMP 3395	Database Management	3
ELEG 4335	Advanced Logic Design	3
MATH 3307	Linear Algebra	3
ELEG 4310	Special Topics ¹	3
ELEG 4361	Design of Digital System Applications Using Field Programmable Gate Array Devices	3
ELEG 4371	Foundation and Application of Internet of Things	3
ELEG 4377	Machine Learning for Engineering Applications	3
ELEG 4378	Mobile Edge Computing	3

¹ Special topics courses vary in content and may cover areas such as artificial intelligence, machine learning, cybersecurity, and power systems.

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

Students may, upon approval to the Five-Year BS/MS Degree Plan (<https://www.pvamu.edu/engineering/departments/five-year-bsms-programs/>) Option, 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 requires an eligibility standard for the 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 level) courses in the Roy G. Perry College of Engineering. The following courses must be completed or currently enrolled in prior to enrolling in upper-division courses:

CHEG 2308	Eco Anal Technical Application	3
CHEM 1403	Chemistry for Engineers	4
CHEM 1112	General Chemistry Lab II	1
ELEG 1301	Programming for Computer Engineering I	3
ELEG 1321	Programming for Computer Engineering II	3
ELEG 2321	Data Structure and Algorithm with Python	3
ELEG 2331	Advanced Programming and Applications	3
ELEG 1101	Intro Engr Computer Sci & Tech	1
ELEG 1102	Introduction to Electrical and Computer Engineering Laboratory	1
ELEG 2101	Electric Circuits Laboratory	1
ELEG 2305	Network Theory I	3
ENGL 1301	Freshman Composition I	3
ENGL 2311	Technical and Business Writing	3

MATH 2413	Calculus with Analytic Geometry I	4
MATH 2414	Calculus with Analytic Geometry II	4
MATH 2320	Differential Equations	3
MATH 2305	Discrete Mathematics	3
PHYS 2125	University Physics Lab I	1
PHYS 2325	University Physics I	3
PHYS 2126	University Physics Lab II	1
PHYS 2326	University Physics II	3