BACHELOR OF SCIENCE-COMPUTER ENGINEERING

The Bachelor of Science in Computer Engineering at Texas A&M University–Texarkana equips students with the skills to design, build, and optimize intelligent systems that integrate both hardware and software. Combining core principles of electrical engineering and computer science, the program emphasizes hands-on learning through labs and project-based courses from day one. Students explore cutting-edge topics, including machine learning, computer vision, VLSI design, and the Internet of Things (IoT), preparing them for careers in rapidly evolving tech industries. The curriculum culminates in a senior design capstone project where students apply their knowledge to solve real-world challenges, building a strong foundation for employment or graduate study.

Degree Requirements

Students should refer to their DegreeWorks degree audit in their Web for Students account for more information regarding their degree requirements.

Code	Title	Hours
Major Requirements		
General Education Requirements (http://catalog.tamut.edu/academic-information/university-core-curriculum/)		42
ENGR 1201	Introduction to Engineering	2
MATH 2413	Calculus I Satisfies Core Curriculum	4
MATH 2414	Calculus II	4
MATH 2415	Calculus III	4
MATH 2305	Discrete Mathematics	3
MATH 2318	Linear Algebra	3
MATH 2320	Differential Equations	3
ECON 2301	Principles of Macroeconomics Satisfies Core Curriculum	3
PHYS 2325 & PHYS 2125	University Physics I and University Physics I Lab Satisfies Core Curriculum	4
PHYS 2326 & PHYS 2126	University Physics II and University Physics II Lab Satisfies Core Curriculum	4
ENGR 2304	Programming for Engineers	3
ENGR 2105	Electric Circuits Laboratory	1
ENGR 2305	Electric Circuits I	3
CE 401	Data Communications & Networks	3
CE 402	Communication Networks Lab	1
EE 319	Electric Circuits II (EL)	3
ENGR 307	Probability and Statistics for Engineers.	3
EE 322	Digital Logic Laboratory	1
EE 321	Digital Logic	3
CS 310	Analysis of Algorithms	3
EE 325	Signals and Systems	3
EE 326	Signals and Systems Lab	1
EE 335	Electronics I	3
EE 336	Electronics Laboratory	1
EE 340	Computer Architecture	3
CS 367	Systems Design & Software Engineering	3
EE 445	Embedded Systems	3
EE 446	Embedded Systems Lab	1
CE 490	Senior Design I	3
ENGR 312	Engineering and Business Ethics	3
EE 465	Very-Large-Scale Integrated (VLSI) Design	3
CE 491	Senior Design II	3
Choose 9sch Computer Engineering Electives from:		9
EE 425	Systems and Signals II	
EE 429	Introduction to Communication Systems	
EE 447	Electronics II	
EE 455	Digital Circuit Testing and Testability	

EE 432	Control Systems	
EE 470	Digital Design Using Very High Speed Integrated Circuit Hardware Description Language (VHDL)	
Computer Engineering courses - CE 300-400		
Total Hours required for the Degree		**125**

 NOTE: A minimum of 45 upper division hours (300 and 400 level courses) are required for this degree. Resident credit totaling 25% of the hours is required for the degree. A minimum GPA of 2.0 is required in 3 areas for graduation: Overall GPA, Institutional GPA, and Major GPA.

Bachelor of Science - Computer Engineering - Four Year Plan
First Year

Code	Title	Hours
FALL		**Semester Credit Hours**
ENGL 1301	Composition I ^{Satisfies Core Curriculum}	3
ENGR 1201	Introduction to Engineering	2
MATH 2413	Calculus I ^{Satisfies Core Curriculum}	4
ENGR 2304	Programming for Engineers	3
Creative Arts Core Curriculum Requirement (http://catalog.tamut.edu/academic-information/university-core-curriculum/)		3
UNIV 1100	University Foundations	1
Fall Total Semester Credit Hours		**16**
SPRING		**Semester Credit Hours**
ENGL 1302	Composition II ^{Satisfies Core Curriculum}	3
or ENGL 2311	Technical Writing & Communication	
ECON 2301	Principles of Macroeconomics ^{Satisfies Core Curriculum}	3
PHYS 2325 & PHYS 2125	University Physics I and University Physics I Lab ^{Satisfies Core Curriculum}	4
MATH 2414	Calculus II	4
MATH 2305	Discrete Mathematics	3
Spring Total Semester Credits		**17**
Total First Year Semester Credit Hours		**33**

Second Year

Code	Title	Hours
FALL		**Semester Credit Hours**
MATH 2415	Calculus III	4
MATH 2318	Linear Algebra	3
PHYS 2326 & PHYS 2126	University Physics II and University Physics II Lab ^{Satisfies Core Curriculum}	4
HIST 1301	United States History I	3
SPCH 1315	Public Speaking ^{Satisfies Core Curriculum}	3
or COMM 1307	Introduction to Mass Communication	
or COMM 1311	Introduction to Communication Studies	
Fall Total Semester Credit Hours		**17**
SPRING		**Semester Credit Hours**
ENGR 2105	Electric Circuits Laboratory	1
ENGR 2305	Electric Circuits I	3

Code	Title	Hours
MATH 2320	Differential Equations	3
PSCI 2305	U.S. Government and Politics ^{Satisfies Core Curriculum}	3
HIST 1302	United States History II	3
Language, Philosophy and Culture Core Curriculum Requirement (http://catalog.tamut.edu/academic-information/university-core-curriculum/)		3
Spring Total Semester Credit Hours		**16**
Total Second Year Semester Credit Hours		**33**

Third Year

Code	Title	Hours
FALL		Semester Credit Hours
PSCI 2306	State and Local Government	3
EE 319	Electric Circuits II (EL)	3
ENGR 307	Probability and Statistics for Engineers.	3
EE 322	Digital Logic Laboratory	1
EE 321	Digital Logic	3
EE 340	Computer Architecture	3
Fall Total Semester Credit Hours		**16**
SPRING		Semester Credit Hours
CE 401	Data Communications & Networks	3
CE 402	Communication Networks Lab	1
EE 325	Signals and Systems	3
EE 326	Signals and Systems Lab	1
EE 335	Electronics I	3
EE 336	Electronics Laboratory	1
CS 310	Analysis of Algorithms	3
Spring Total Semester Credit Hours		**15**
Total Third Year Semester Credit Hours		**30**

Fourth Year

Code	Title	Hours
FALL		Semester Credit Hours
CS 367	Systems Design & Software Engineering	3
EE 445	Embedded Systems	3
EE 446	Embedded Systems Lab	1
CE 490	Senior Design I	3
Computer Engineering Elective I from: CE 300-499, EE 425, 429, 447, 455, 470, 432		3
Fall Total Semester Credit Hours		**13**
SPRING		Semester Credit Hours
ENGR 312	Engineering and Business Ethics	3
EE 465	Very-Large-Scale Integrated (VLSI) Design	3
CE 491	Senior Design II	3
Computer Engineering Elective II from: CE 300-499, EE 425, 429, 447, 455, 470, 432		3
Computer Engineering Elective III from: CE 300-499, EE 425, 429, 447, 455, 470, 432		3
Spring Total Semester Credits		**15**

Total Fourth Year Semester Credit Hours	**28**
Minimum Hours for Degree	**125**

NOTE: A minimum of 54 upper division hours (300 and 400 level courses) are required for this degree. Resident credit totaling 25% of the hours is required for the degree. A minimum GPA of 2.0 is required in 3 areas for graduation: Overall GPA, Institutional GPA, and Major GPA.