

BACHELOR OF SCIENCE WITH A MAJOR IN COMPUTER SCIENCE (BS)

CIP: 11.0701.00 HOURS REQUIRED

A minimum of 131 semester credit hours (SCH): 45 hours must be advanced, and fulfillment of degree requirements as specified in the "Requirements for Graduation (<http://catalog.tamui.edu/undergraduate-information/academic-regulations/>)" section of this catalog.

| Code | Title | Semester Credit Hours |
|--|-------------------------------|-----------------------|
| University Core Curriculum | | |
| Select 42 SCH as outlined in the suggested plans and as specified in the "Requirements for Graduation." MATH 2413 must be taken as part of the core. For Life and Physical Sciences Requirement, 6 SCH from CHEM 1311, CHEM 1412, PHYS 2325, or PHYS 2326 must be taken along with corresponding labs. | | 42 |
| Major | | |
| <i>Engineering</i> | | |
| ENGR 2372 | Engineering Statistics | 3 |
| <i>Systems Engineering</i> | | |
| SENG 3330 | Operations Research I | 3 |
| <i>Computer Science & Computer Engineering</i> | | |
| CSCE 1300 | Discrete Math for Computing | 3 |
| CSCE 1336 | Fundamentals of Programming | 3 |
| CSCE 1136 | Funds of Programming Lab | 1 |
| CSCE 1337 | Object Oriented Programming | 3 |
| CSCE 1137 | Object-Oriented Program Lab | 1 |
| CSCE 2300 | Algorithms & Data Structures | 3 |
| CSCE 2310 | Fundamentals of A.I. | 3 |
| CSCE 2330 | Digital Logic Design | 3 |
| CSCE 3300 | Machine Learning | 3 |
| CSCE 3335 | Computer Networks & Data Comm | 3 |
| CSCE 3340 | Microprocessor Systems | 3 |
| CSCE 3355 | Software Engineering-WIN | 3 |
| CSCE 3360 | Cyber Forensics | 3 |
| CSCE 3365 | Computer Vision | 3 |
| CSCE 3370 | Database Systems | 3 |
| CSCE 4310 | Computer Security | 3 |
| CSCE 4320 | Computer Architecture | 3 |
| CSCE 4326 | Operating Systems | 3 |
| CSCE 4345 | Languages and Computation | 3 |
| CSCE 4355 | Digital Logistics | 3 |
| CSCE 4365 | Mobile Autonomous Networks | 3 |
| CSCE 4370 | Mobile Device Forensics | 3 |
| CSCE 4375 | Cryptography | 3 |

| | | |
|---------------------------------|-------------------------------|---|
| CSCE 4380 | Senior Design I-WIN | 3 |
| CSCE 4390 | Senior Design II | 3 |
| <i>Math and Sciences</i> | | |
| Life & Physical Science Lab | | 1 |
| MATH 2414 | Calculus II | 4 |
| MATH 3330 | Ordinary Diff Equations | 3 |
| 1 SCH surplus from core | | 1 |
| CSCE Advanced Elective | | |
| Select 3 SCH from the following | | 3 |
| CSCE 4330 | Parallel Programming & HPC | |
| CSCE 4335 | Computer Engineering Design | |
| CSCE 4152 | Internship in Comp Sci & Engr | |
| CSCE 4252 | Internship in Comp Sci & Engr | |
| CSCE 4352 | Internship in Comp Sci & Engr | |
| CSCE 4185 | Special Topics in CSCE | |
| CSCE 4285 | Special Topics in CSCE | |
| CSCE 4385 | Special Topics in CSCE | |
| CSCE 4195 | Undergraduate Research | |
| CSCE 4295 | Undergraduate Research | |
| CSCE 4395 | Undergraduate Research | |
| CSCE 4199 | Directed Study in CSCE | |
| CSCE 4299 | Directed Study in CSCE | |
| CSCE 4399 | Directed Study in CSCE | |

Total Semester Credit Hours **131**

Four-Year Degree Plan

Following is a suggested four-year degree plan. Students are encouraged to see their advisor each semester for help with program decisions and enrollment; responsible for reviewing the **Program of Study Requirements**, meeting all course prerequisites, and **writing intensive course (WIN)** requirements for graduation. See Academic Regulations-Undergraduate online. (<https://catalog.tamui.edu/undergraduate-information/academic-regulations/>)

Freshman

| | Semester Credit Hours | |
|-------------|------------------------------|---|
| Fall | | |
| CSCE 1136 | Funds of Programming Lab | 1 |
| CSCE 1336 | Fundamentals of Programming | 3 |
| ENGL 1301 | English Composition I | 3 |
| FYE 1201 | Learning in a Global Context | 2 |
| HIST 1301 | The US to 1877 | 3 |
| MATH 2413 | Calculus I | 4 |

Semester Credit Hours **16**

Spring

| | | |
|----------------------------|------------------------------|---|
| CSCE 1137 | Object-Oriented Program Lab | 1 |
| CSCE 1337 | Object Oriented Programming | 3 |
| CSCE 1300 | Discrete Math for Computing | 3 |
| FYE 1302 | Signature Course | 3 |
| PSCI 2305 | American National Government | 3 |
| Life and Physical Sciences | | 3 |

| | | | |
|----------------------------------|-------------------------------|------------------------------------|-----------|
| Life and Physical Sciences Lab | 1 | Social and Behavioral Sciences | 3 |
| Semester Credit Hours | 17 | Semester Credit Hours | 12 |
| Sophomore | | Total Semester Credit Hours | |
| Fall | | 131 | |
| CSCE 2300 | Algorithms & Data Structures | | 3 |
| CSCE 2330 | Digital Logic Design | | 3 |
| HIST 1302 | The US Since 1877 | | 3 |
| MATH 2414 | Calculus II | | 4 |
| Life and Physical Sciences | | | 3 |
| Life and Physical Sciences Lab | | | 1 |
| Semester Credit Hours | 17 | | |
| Spring | | | |
| CSCE 2310 | Fundamentals of A.I. | | 3 |
| ENGL 2311 | Technical Communication-WIN | | 3 |
| ENGR 2372 | Engineering Statistics | | 3 |
| PSCI 2306 | American State Government | | 3 |
| MATH 3330 | Ordinary Diff Equations | | 3 |
| Creative Arts | | | 3 |
| Semester Credit Hours | 18 | | |
| Junior | | | |
| Fall | | | |
| CSCE 3300 | Machine Learning | | 3 |
| CSCE 3340 | Microprocessor Systems | | 3 |
| CSCE 3355 | Software Engineering-WIN | | 3 |
| CSCE 3360 | Cyber Forensics | | 3 |
| CSCE 4345 | Languages and Computation | | 3 |
| SENG 3330 | Operations Research I | | 3 |
| Semester Credit Hours | 18 | | |
| Spring | | | |
| CSCE 3335 | Computer Networks & Data Comm | | 3 |
| CSCE 3365 | Computer Vision | | 3 |
| CSCE 3370 | Database Systems | | 3 |
| CSCE 4320 | Computer Architecture | | 3 |
| Language, Philosophy and Culture | | | 3 |
| Semester Credit Hours | 15 | | |
| Senior | | | |
| Fall | | | |
| CSCE 4310 | Computer Security | | 3 |
| CSCE 4326 | Operating Systems | | 3 |
| CSCE 4355 | Digital Logistics | | 3 |
| CSCE 4365 | Mobile Autonomous Networks | | 3 |
| CSCE 4370 | Mobile Device Forensics | | 3 |
| CSCE 4380 | Senior Design I-WIN | | 3 |
| Semester Credit Hours | 18 | | |
| Spring | | | |
| CSCE 4375 | Cryptography | | 3 |
| CSCE 4390 | Senior Design II | | 3 |
| Computer Science Elective | | | 3 |