

COMPUTER SCIENCE

Bachelor of Science Degree

Program Description

The Bachelor of Science in Computer Science program is designed to provide the knowledge and skills necessary for a career in computer science and related fields. Students will develop competencies needed to analyze, design, implement, and assess computing solutions using various programming languages, tools, paradigms, and technologies. The program provides students with a foundation of knowledge and understanding along with communication and technical skills within an ethical framework essential for succeeding in both professional and educational endeavors in an increasingly diverse society.

Program Outcomes

Upon successful completion of this program, students will be able to:

- Evaluate key theories, programming languages, tools, paradigms, and technologies within computer science.
- Analyze, design, and implement computing solutions at multiple levels of detail and abstraction.
- Assess functionality, usability, and performance of systems by applying quantitative and qualitative assessment techniques.
- Communicate complex ideas with others from diverse backgrounds.
- Create software using industry standards, considering social, legal, and ethical issues.
- Collaborate with others as a member of a team using a defined development process.

Additional Information

1. Indicates course requires the completion of a prerequisite.

2. Choose six credits from General Education Elective course list, not CSI or CSA, starting page 97. BUS 220 Business Ethics recommended. Three credits must be 300-level or above.

NOTE: All classes are offered in the fall and the spring unless otherwise designated:

F=Class is only offered in the Fall
S=Class is only offered in the Spring

General Education Requirements – see p. 96 41 credits total		Credits
CSI 101 Introduction to Computers		3 credits
ENG 101 English Composition I		3 credits
ENG 102 English Composition II ¹		3 credits
History/Government		3 credits
Humanities Elective		3 credits
IDS 167 First Year Seminar		3 credits
MAT 103 College Algebra ¹		3 credits
MAT 113 Precalculus ¹		3 credits
MAT 204 Calculus I B ¹		4 credits
Natural Science w/ Lab		4 credits
Social Science/Psychology		3 credits
General Education Electives ²		6 credits

Program Requirements – 67 credits total		Credits
MAT 210 Discrete Math ¹ (S)		4 credits
CSI 116 Introduction to Programming		3 credits
CSI 107 C++ Programming ¹		3 credits
CSI 108 Advanced C++ ¹		3 credits
CSI 218 Data Structures and Algorithms ¹		3 credits
CSA 213 Database Management		3 credits
CSI 226 Unix With Linux		3 credits
CSA 227 Website Design		3 credits
CSI 235 Computer Architecture ¹		3 credits
CSI 242 Computer Systems Security ¹ (F)		3 credits
CSI 244 Networking I		3 credits
CSI 313 Advanced Database Management ¹ (F)		3 credits
CSA 229 Web and Mobile Development With JavaScript ¹ (F)		3 credits
CSI 311 Computer Organization ¹ (F)		3 credits
CSI 318 Analysis of Algorithms ¹ (S)		3 credits
CSI 340 Compiler Theory ¹ (S)		3 credits
CSI 317 Operating Systems ¹ (S)		3 credits
CSI 330 Graphics Programming/UI/UX ¹ (F)		3 credits
CSI 480 Artificial Intelligence ¹ (F)		3 credits
CSI 490 Software Engineering Capstone ¹ (S)		3 credits
Program Electives		6 credits

Open Electives – 12 credits total³

Credits

Total credits required for graduation

120 credits

Program Electives – 6 credits total ³		Credits
MAT 205 Linear Algebra ¹ (S)		3 credits
MAT 206 Calculus II B ¹ (F)		4 credits
ENG 350 Technical Communications ¹ (F)		3 credits
CSI 150 Introduction to Game Development With Unity ¹ (S)		3 credits
CSI 217 Introduction to Operating Systems (F)		3 credits
CSI 204 Web Programming with PHP and MySQL ¹ (S)		3 credits
CSI 233 Java Programming ¹ (F)		3 credits

COMPUTER SCIENCE

Bachelor of Science Degree

Program Electives Continued

CSI 237 Advanced Java ¹ (S)	3 credits
CSI 245 Networking II ¹	3 credits
CSI 246 Networking III ¹ (S)	3 credits
CSI 255 C# Programming ¹ (F)	3 credits
CSI 357 Android Development ¹ (F)	3 credits
CSI 261 Robotics Programming ¹ (F)	3 credits
CSI 262 Advanced Robotics Programming ¹ (S)	3 credits
CSI 265 Linux System Administration ¹ (S)	3 credits
CSI 267 Amazon Web Services Academy Cloud Foundations ¹ (S)	3 credits
CSI 450 Special Topics in Computer Science ¹ (S)	3 credits
CSI 460 Programming Language Theory ¹ (F)	3 credits
CSI 470 Big Data Analytics ¹ (F)	3 credits
EXP 297 Internship	3 credits
EXP 397 Internship	3 credits

Prior Learning Assessment Opportunity

CompTIA and QC Courses

Network+ is equivalent to CSI 244 Networking I

Security+ is equivalent to CSI 242 Computer Systems Security

Students with proof of completion please contact Division Dean.

MINOR IN BUSINESS

BUS 101 Fundamentals in Business	3 credits
MGT 201 Principles of Management	3 credits
MGT 330 Managerial Communication	3 credits
MGT 406 Negotiation and Conflict Resolution	3 credits
BUS 401 Organizational Behavior	3 credits
BUS 450 Global Business II: Diversity, Equity, and Inclusion	3 credits

The minor in Business Management is designed to provide baccalaureate students with management knowledge and skills that will lead to a post-graduation competitive advantage. A minor in Business Management requires completion, with a grade of C or higher, of the six courses listed below which can be integrated into BS in Computer Science major. Please see an advisor for academic planning.