

B.S. in Computer Science

The curriculum for the Bachelor of Science degree in Computer Science includes courses in software development, computer organization, database systems, and software engineering. The program provides a blend of theory and applications that prepare students for a variety of computer science and software engineering positions in scientific and business fields, and lays the foundation for graduate studies in computer science and software engineering. The Computer Science program allows students interested in this area of computing to complement their computing knowledge with one other application area chosen from the different areas of concentration.

In a few years of completing their undergraduate degree, graduates of the Bachelor of Science in Computer Science:

- Have established themselves in successful computing careers in aviation, aerospace, and related fields and/or are pursuing advanced degrees.
- Are serving society and their professions as involved and responsible citizens, leaders, and role models.
- Are problem solvers, systems thinkers, and innovators.

The Bachelor of Science in Computer Science is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>.

Students may select The Cybersecurity Engineering Area of Concentration or complete the standard program requirements. The courses in the AOC allow students to broaden their general education or pursue specific interests. Upper-level courses involve students in team projects that emphasize industrial processes and practices.

Standard Program Requirements

The Computer Science degree may be attained without selecting an Area of Concentration. This option is designed to fulfill the requirements of a traditional computer science program while producing graduates who are able to succeed in a wide range of employment situations.

Cybersecurity Engineering Area of Concentration

The Computer Science degree with an Area of Concentration in Cybersecurity Engineering produces graduates who have a solid knowledge of computer science and cybersecurity. The curriculum emphasizes securing and defending networks and communications through secure system design and implementation. Graduates will have a very strong computer science core followed by a strong core in cybersecurity engineering and will be ready to work in a wide range of institutions belonging to government or industry.

Degree Requirements

The Bachelor of Science degree can be earned in eight semesters, assuming appropriate background and full-time enrollment. Successful completion of a minimum of 120 credit hours is required. A minimum cumulative grade point average of 2.0 is needed for all required CEC, CS, EE, SE, and EGR courses that fulfill any degree requirement.

Students entering this program should have demonstrated competence in Mathematics and Science. They should be prepared to enter Calculus I, having demonstrated proficiency in Algebra and Trigonometry. Students can prepare for this program by taking MA 143 before taking MA 241.

The Computer Science program is designed to prepare students to work as part of a team on the development of software systems. Software engineering concepts are integrated through the curriculum. The curriculum includes courses in general education, math, science, and computing. The latter is divided into computing fundamentals, advanced

concepts, applied computing, and software engineering. In addition, a student may select an area of concentration in a domain area of interest.

Students should be aware that several courses in each academic year may have prerequisites and/or corequisites (check the course descriptions before registering for classes to ensure requisite sequencing).