

B.S. in Software Engineering

The Bachelor of Science degree in Software Engineering is designed to prepare students for an entry-level software engineering position in industry that supports the design and implementation of software systems with the focus on real-time, embedded, and safety-critical applications. Such systems are critical in aviation, space, medicine, and other disciplines that rely on high-quality, dependable software.

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

- Have established themselves in successful engineering 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 curriculum is designed to facilitate accomplishment of these objectives by program graduates. It provides a broad education, including fundamental knowledge about computer software and hardware. It also allows graduates to work in a team environment and to recognize the value of collaborative effort. The program lays a foundation for lifelong learning, professional growth, and ethical and responsible behavior in society. The Software Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

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, EGR and SE courses that fulfill any degree requirement.

Students entering this program should have demonstrated a competence in mathematics and science (preferably physics). They should be prepared to enter Calculus I, having demonstrated proficiency in algebra and trigonometry. Students can prepare for the program by taking MA 143 before taking MA 241. For those students who have not taken physics in high school, it is recommended that PS 113 be taken prior to PS 150.

The Software Engineering program is designed to prepare students to work as part of a team on the development of software systems. Software engineering concepts, methods, and techniques are integrated through the curriculum. The curriculum includes courses in general education, math and science, and computing. The latter is divided into computing fundamentals, advanced concepts, applied computing, and software engineering. In addition, a student can acquire a minor or a 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 at the back of this catalog before registering for classes to ensure requisite sequencing.