MASTER OF SCIENCE IN COMPUTER SCIENCE - SOFTWARE ENGINEERING CONCENTRATION

Department: Computer Science and Information Systems (https://catalog.bradley.edu/graduate/liberal-arts-sciences/computer-science-information-systems/)

The software engineering concentration provides students with essential background, understanding, knowledge, and skills in the practice of software engineering concepts, models, methods, technology, tools and techniques.

Admissions Requirements

For admission into the computer science program, a student must have the approval of the department and have completed:

1. discrete mathematics
2. at least two semesters of calculus, matrix or linear algebra
3. at least one semester of calculus-based statistics
4. at least 15 hours of computer science coursework including knowledge of one structured or object-oriented programming language, elementary data structures, advanced data structures, and introductory computer architecture

In addition to meeting all the general requirements of Graduate Education and of the department as stated above, candidates for the master's degree in computer science must satisfy the following requirements:

1. At least 21 of the 33 required hours must be earned in courses labeled CS. At most, six hours may be earned in approved courses other than those labeled CS or CIS.
2. To satisfy the core (breadth) requirement, four courses must be taken, one from each pair given below (either by taking the course or showing evidence of the completion of an equivalent course elsewhere):
   - CS 520 Advanced Computer Architecture or CS 625 Operating Systems Design
   - CS 590 Fundamentals of Software Engineering or CS 591 Software Project Management
   - CS 514 Algorithms or CS 612 Automata, Computation and Complexity
   - CS 561 Artificial Intelligence or CS 571 Database Management Systems
3. To satisfy the depth requirements, the student must take three courses from one of the concentrations offered by the department. No course taken to satisfy the core requirement (see item 2) may be counted as one of the three courses in this requirement. Students are admitted into the Master of Science in Computer Science program and declare a concentration after beginning their coursework.

Concentration Requirements

Code	Title	Hours
Required Courses		**3.0**
Select one of the following:		
CS 590	Fundamentals of Software Engineering	
CS 591	Software Project Management	
Elective Courses		**6.0**
Select two of the following:		
CS 592	Requirements Development	
CS 593	Agile Software Development	
CS 690	Advanced Topics in Software Engineering	
Total Hours		**9**