DEPARTMENT OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING

Department websites: https://www.uwplatt.edu/department/computer-science (https://www.uwplatt.edu/department/computer-science/) https://www.uwplatt.edu/department/software-engineering (https://www.uwplatt.edu/department/software-engineering/)

Department Office: 209 Ullrich Hall
Phone: 608.342.1625
E-mail: csse@uwplatt.edu

Department Chair: Dr. Afzal Upal
Phone: 608.342.1625
E-mail: upala@uwplatt.edu

Software Engineering Program Coordinator: Dr. Douglas Selent
Office: 224 Ullrich
Phone: 608.342.1969
E-mail: selentd@uwplatt.edu

ABOUT THE DEPARTMENT AND MAJORS

The UW-Platteville Department of Computer Science and Software Engineering offers three majors: computer science, cybersecurity, and software engineering. Students may also earn a minor in computer science from this department. Computer science is concerned with the theory and practice involved in the feasibility, design, implementation and evaluation of every aspect of computing. In addition to the valuable practical skills acquired in the study of computer science, the concepts and theories in the field provide exposure to some of the most imaginative and challenging ideas in the history of human intellectual development. The program is committed to blending the theory of computer science with the arts of programming and analysis, while providing attention to the business, ethical and moral aspects of computing in our society. Graduates are prepared for such positions as systems and applications programmers, analysts and various computer specialist positions.

MAJORS

• Computer Science (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/)
  • Computer Technology Emphasis
  • Computer Information Systems Emphasis
• Cybersecurity (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/cybersecurity-bs/)
  • Criminal Justice Emphasis
• Software Engineering (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/software-engineering-bs/)
  • Digital Application Domain Sequence
  • Engineering Management Application Domain Sequence
• Applied Computing (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/applied-computing/) (Distance Learning Only)

MINOR

• Computer Science (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/minor-computer-science/)

COMPUTER SCIENCE

https://www.uwplatt.edu/department/computer-science (https://www.uwplatt.edu/department/computer-science/)

Department Chair: Dr. Afzal Upal
Office: 208 Ullrich
Phone: 608.342.1625
E-mail: upala@uwplatt.edu

COMPUTER SCIENCE MISSION STATEMENT

The mission of the computer science program is to provide a quality computer science education with significant hands-on and laboratory experience that will enable our graduates to practice their profession with proficiency and integrity.
COMPUTER SCIENCE GOALS
Graduates are expected to have:

1. the ability to apply the principles of analysis and design to software development
2. knowledge of data structures, databases, algorithms, computer architecture and operating systems
3. the ability to develop effective software tests at the unit and system level
4. knowledge about the tools and environments used for software development
5. written and oral communication skills, ethics and professionalism to function effectively on software development teams, and in society in general
6. the ability to engage in lifelong learning and recognize its importance

COMPUTER SCIENCE OUTCOMES

1. Foundation: Graduates will have a solid foundation in computer science. These graduates will be able to apply this fundamental knowledge to both their immediate professional software development tasks, as well as to acquiring new professional skills throughout their lifetime.
2. Development: Graduates will be able to engage in effective software development practices over the entire system lifecycle. This includes design, implementation and testing.
3. Professionalism: Graduates will conduct themselves ethically, honestly and professionally in all work environment activities. These activities include all interactions with employers, team members and peers, as well as customers.
4. Presentation: Graduates will be capable of effective written and oral communication. Graduates will be capable of preparing and publishing the necessary project documents involved in the specification, design, testing and deployment of software. Graduates will also be capable of actively participating in customary project discussions, walk-throughs, reviews and inspections.
5. Growth: Graduates will be able to provide themselves with lifelong learning capabilities, such as the ability to learn new tools, study new language processes and generally adapt to new surroundings throughout their careers.

COMPUTER SCIENCE MAJOR
The computer science major leads to a Bachelor of Science degree in two emphases: Computer Information Systems and Computer Technology. The department offers a general minor. In addition, selected course sequences form emphases in computer science for a variety of other majors in the university.

BACHELOR OF SCIENCE DEGREE

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Total for graduation</td>
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<tr>
<td>Major</td>
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</table>

Students completing a Bachelor of Science degree in Computer Science need only to complete the coursework specified for their chosen emphasis and university requirements. All Computer Science majors must complete at least 37 credits in computer science (not including COMPUTER 1130 or COMPUTER 1830) and the requirements in one of the emphasis areas of Computer Information Systems or Computer Technology.

ACADEMIC STANDARDS
All computer science majors must earn at least a “C-” in each computer science or software engineering course listed as a requirement in the emphasis selected and each computer science course listed in the core requirements. Computer science majors must earn a “D” or better in all corequisites unless otherwise stipulated by the offering department. Students must have a GPA of 2.00 or higher in all Computer Science and Software Engineering courses.

CYBERSECURITY
Department Chair: Dr. Afzal Upal
Office: 208 Ullrich
Phone: 608.342.1625
E-mail: upala@uwplatt.edu

The B.S. in Cybersecurity represents a comprehensive and cross-disciplinary curriculum that prepares students for a career, further study, and lifelong professional development in the cybersecurity discipline. The curriculum of the program provides students with a solid foundation in programming, data and network security, risk management, software engineering, technical communications, compliance, strategic planning, and legal and ethical issues in cybersecurity. Graduates of the program will gain the core competencies required to assume a variety of roles across a wide range of industries to include security engineers, security analysts, and information technology specialists. This new program was approved by the Board of Regents in June 2020 and additional information is forthcoming.
SOFTWARE ENGINEERING

https://www.uwplatt.edu/department/software-engineering

Coordinator: Dr. Doug Selent
Office: 224 Ullrich Hall
Phone: 608.342.1969
E-mail: selentd@uwplatt.edu

University of Wisconsin Platteville's B.S. program in Software Engineering is accredited by the Engineering Accreditation Commission of ABET (https://www.abet.org).

SOFTWARE ENGINEERING MISSION STATEMENT
The mission of the software engineering program is to provide a quality software engineering education with significant hands-on and laboratory experience that will enable graduates to practice their profession with proficiency and integrity.

SOFTWARE ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES
Within two to five years after graduation, our graduates are expected to

1. be effective team members, who are aware of cultural diversity and conduct themselves ethically and professionally
2. use effective communication and technical skills to assure production of quality software on time and within budget
3. build upon and adapt knowledge of science, mathematics and engineering to take on more expansive tasks that require an increased level of self-reliance, technical expertise and leadership.

SOFTWARE ENGINEERING STUDENT OUTCOMES
By graduation, students in our program are expected to attain the following student outcomes:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

ACADEMIC STANDARDS
Software engineering majors must earn a “C-” or better in all required software engineering and computer science courses. Software engineering majors must earn a C- or better in MATH 2730 (http://catalog.uwplatt.edu/search/?search=Math+2730/) and a “D” or better in all other corequisites unless otherwise stipulated by the offering department. For example, a “C-” or better is required in PHYSICS 2240 (http://catalog.uwplatt.edu/search/?P=Phys%202240/) in order to proceed to PHYSICS 2340 (http://catalog.uwplatt.edu/search/?P=PHYSICS%202340/). However, a “D” in PHYSICS 2340 (http://catalog.uwplatt.edu/search/?P=PHYSICS%202340/) would satisfy the software engineering requirement for that course. Likewise, a “D” would satisfy the software engineering requirement for computer science courses for which there is an option: COMPUTER 3030 (http://catalog.uwplatt.edu/search/?P=COMPUTER%203030/), COMPUTER 3520 (http://catalog.uwplatt.edu/search/?P=COMPUTER%203520/), COMPUTER 3630 (http://catalog.uwplatt.edu/search/?P=COMPUTER%203630/) and COMPUTER 3920 (http://catalog.uwplatt.edu/search/?P=COMPUTER%203920/). A software engineering major may repeat any given engineering course only one time. Students must have a GPA of 2.00 or higher in all software engineering and computer science courses.

BACHELOR OF SCIENCE DEGREE

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<tr>
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Majors

- Computer Science Major, B.S. ([link](http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/))
  - Computer Technology Emphasis
  - Computer Information Systems Emphasis
- Cybersecurity Major, B.S. ([link](http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/cybersecurity-bs/))
  - Criminal Justice Emphasis
- Software Engineering Major, B.S. ([link](http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/software-engineering-bs/))
  - Digital Application Domain Sequence
  - Engineering Management Application Domain Sequence
- Applied Computing Major, B.S. ([link](http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/applied-computing/))

1 *Distance Learning Only - See the Undergraduate-Distance Learning Catalog ([link](http://catalog.uwplatt.edu/undergraduate-distance-learning/)) for more information.

**MINOR**

- Minor in Computer Science ([link](http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/minor-computer-science/))

**FACULTY AND LECTURERS**

Additional information about the Faculty and Lecturers below may be found in the Faculty and Academic Staff ([link](http://catalog.uwplatt.edu/faculty-academic-staff/)) section of this catalog.

Borman, Frances
Das, Arghya
Gavin, Donna M.
Lindahl, Gary
Roopaei, Mehdı
Selent, Douglas
Shi, Yan
Upal, Afzal
Yue, Songqing (Joshua)