DEPARTMENT OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING

Department websites: https://www.uwplatt.edu/department/computer-science
https://www.uwplatt.edu/program/cybersecurity
https://www.uwplatt.edu/department/software-engineering

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

Department Chair: Dr. M. Afzal Upal
Phone: 608.342.1557
E-mail: upala@uwplatt.edu

Software Engineering Program Coordinator: Dr. Douglas Selent
Office: 224 Ullrich Hall
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 and two minors: cybersecurity and computer science. Additionally, it offers interdisciplinary CS+X programs that allow students to learn computing skills along with the knowledge of an application discipline. Computer Science is about designing, implementing and evaluating computing systems. Cybersecurity is concerned with preventing computer networks, devices, and data from unauthorized access and ensuring confidentiality, integrity, and availability of information to authorized users. Software engineering is the application of sound engineering principles and techniques to analysis, design, development, testing and management of software systems. Our programs prepare students for careers in the rapidly expanding information technology sector. Graduates are prepared for such positions as computer scientists, computer programmers, software engineers, and security analysts.

MAJORS

• Computer Science (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/)
• Interdisciplinary CS+X Programs (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/#cs+x)
  • CS + Business (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/#cs+business)
  • CS + Supply Chain Management (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/#cs+supply-chain-management)
• Cybersecurity (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/cybersecurity-bs/)
• Software Engineering (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/software-engineering-bs/)

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

Department Chair: Dr. M. Afzal Upal
Office: 208 Ullrich
Phone: 608.342.1557
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 custom 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
All computer science majors must complete the core requirements and either select an emphasis (and complete the requirements of their chosen emphasis) or choose the no-emphasis option and complete its additional requirements.

ACADEMIC STANDARDS
All computer science majors must earn at least a “C-” in each computer science, cybersecurity, and 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

CYBERSECURITY MISSION STATEMENT
The mission of the cybersecurity program is to provide a quality cybersecurity education with significant hands-on and laboratory experience that enables our graduates to practice their profession with proficiency and integrity.

CYBERSECURITY PROGRAM EDUCATIONAL OBJECTIVES
Graduates of the program will:

1. Have a cybersecurity mindset needed to identify, assess and manage cyber risks
2. Be able to use cybersecurity principles and practices to design and implement solutions for real world problems
3. Recognize professional responsibilities and make informed judgments in cybersecurity practice based on legal and ethical principles.

CYBERSECURITY STUDENT OUTCOMES
1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program’s discipline.
6. Apply security principles and practices to maintain operations in the presence of risks and threats.

SOFTWARE ENGINEERING

https://www.uwplatt.edu/department/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 (http://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 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 and a “D” or better in all other corequisites unless otherwise stipulated by the offering department. For example, a “D” would satisfy the software engineering requirement for computer science courses for which there is an option: COMPUTER 3030, COMPUTER 3520, COMPUTER 3630 and COMPUTER 3920. 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

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

• Computer Science Major, B.S. (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/)

• CS+X Programs (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/#cs+x)
  • CS + Business (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/#cs+business)
  • CS + Supply Chain Management (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/#cs+supply-chain-management)

• Cybersecurity Major, B.S. (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/cybersecurity-bs/)

• Software Engineering Major, B.S. (http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/software-engineering-bs/)

MINOR

• Minor in Computer Science (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 (http://catalog.uwplatt.edu/faculty-academic-staff/) section of this catalog.

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