APPLIED COMPUTING, BS

The B.S. in Applied Computing is a fully online 21-course, 61-credit undergraduate program.

As technology continues to expand into every field and industry, from the environment to education to politics, the market for skilled hands-on technicians grows increasingly competitive. The Bachelor of Science in Applied Computing was designed to produce graduates who can perform programming, software engineering, graphic applications, networking, and operating systems management in a variety of environments, while at the same time promoting power skills such as business communications, ethics, and project management.

The applied nature of the degree implies that graduates will have the competencies to solve real-world business problems through the application of technology. Its curriculum puts a deeper focus on fundamental computer science, software engineering, tech security issues, computing solutions for business problems, and data management. A poll of industry representatives indicates that they see a skills gap in computer and information technology related positions which the multidisciplinary focus of this degree would fill.

Accreditation

The UW Bachelor of Science in Applied Computing program is approved by the University of Wisconsin Board of Regents and approved by the Higher Learning Commission (http://www.ncahlc.org).

Admissions Process and Requirements

A successful applicant will have:

- A minimum combined grade point average of 2.0 for college credits taken;
- About 60 transferable college credits or an associate degree from an accredited university;
- Prerequisite work in college algebra;
- Completed online application for undergraduate study; and
- Transcripts sent directly from previous institutions to UWM.

Tuition, Fees, and Financial Aid

Tuition is $495 per credit or $30,195 total for 61 credits. Textbooks are purchased separately and are not included in tuition. Students who take at least six credits each term may be eligible for financial assistance.

Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>APC 300</td>
<td>Programming 1</td>
<td>3</td>
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<tr>
<td>APC 310</td>
<td>Math for Computer Science</td>
<td>3</td>
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<tr>
<td>APC 320</td>
<td>Introduction to Business</td>
<td>3</td>
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<tr>
<td>APC 330</td>
<td>Technical and Professional Communication</td>
<td>3</td>
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<tr>
<td>APC 340</td>
<td>Legal and Ethical Responsibilities of the IT Professional</td>
<td>3</td>
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<tr>
<td>APC 350</td>
<td>Programming 2</td>
<td>3</td>
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<tr>
<td>APC 360</td>
<td>Database Management 1</td>
<td>3</td>
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<tr>
<td>APC 370</td>
<td>System Analysis and Design</td>
<td>3</td>
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<tr>
<td>APC 380</td>
<td>Project Management Techniques</td>
<td>3</td>
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<tr>
<td>APC 390</td>
<td>Object Oriented Programming</td>
<td>3</td>
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<tr>
<td>APC 400</td>
<td>Applied Communication Networks</td>
<td>3</td>
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<tr>
<td>APC 410</td>
<td>Database Management 2</td>
<td>3</td>
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<tr>
<td>APC 420</td>
<td>Computer Security 1</td>
<td>3</td>
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<tr>
<td>APC 440</td>
<td>Web Development</td>
<td>3</td>
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<tr>
<td>APC 450</td>
<td>Operating Systems Theory and Practice</td>
<td>3</td>
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<td>APC 470</td>
<td>IS Strategy and Management</td>
<td>3</td>
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<tr>
<td>APC 480</td>
<td>Computer Security 2</td>
<td>3</td>
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<tr>
<td>APC 490</td>
<td>Capstone Project Preparation</td>
<td>1</td>
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<tr>
<td>APC 495</td>
<td>Capstone Project</td>
<td>3</td>
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Outcomes and Objectives

Students completing the B.S. in Applied Computing will leave the program as professionals with the following established competencies:

- Demonstrate a solid foundation in core computer science
- Demonstrate a solid foundation in software engineering practices
- Recognize and address security issues
- Implement a computing solution for a business problem
- Demonstrate effective oral and written communication skills
- Demonstrate a solid foundation in data management

APC 300 Programming 1
3 cr. Undergraduate.
Introduction to history of computing, fundamental computer concepts and structured programming techniques.
Prerequisites: none.
Last Taught: Spring 2018, Fall 2017.
Current Offerings: http://uwm.edu/schedule

APC 310 Math for Computer Science
3 cr. Undergraduate.
Important foundational topics in computer science.
Prerequisites: none.
Last Taught: Spring 2018.
Current Offerings: http://uwm.edu/schedule

APC 320 Introduction to Business
3 cr. Undergraduate.
Introduction to the major functional areas of business including the roles of accounting, finance, human resources, marketing, information systems, and operations in the organization.
Prerequisites: none.
Last Taught: Spring 2018, Fall 2017.
Current Offerings: http://uwm.edu/schedule

APC 330 Technical and Professional Communication
3 cr. Undergraduate.
Technical and professional communication skills and techniques. Practice in creating effective memos and reports, developing technical material, delivering presentations, and developing communication within teams.
Prerequisites: none.
Last Taught: Spring 2018, Fall 2017.
Current Offerings: http://uwm.edu/schedule
APC 340 Legal and Ethical Responsibilities of the IT Professional
3 cr. Undergraduate.
Legal, regulatory, ethical and compliance issues associated with developing software and using information systems in an organization.
Prerequisites: admis to BS-APC prog; APC 320(P).
Last Taught: Spring 2018.
Current Offerings: http://uwm.edu/schedule

APC 350 Programming 2
3 cr. Undergraduate.
Continuation of fundamental computer concepts and Programming.
Prerequisites: APC 300(P); 310(P).
Current Offerings: http://uwm.edu/schedule

APC 360 Database Management 1
3 cr. Undergraduate.
Design and implementation of relational database management systems to support computer-based information systems.
Prerequisites: admis to BS-APC prog; APC 300(P); 310(P).
Current Offerings: http://uwm.edu/schedule

APC 370 System Analysis and Design
3 cr. Undergraduate.
The five phases of Systems Development Life Cycle: scope definition, problem analysis, requirements analysis, logical design and decision analysis.
Prerequisites: admis to BS-APC prog; APC 300(P); 320(P); 330(P).
Current Offerings: http://uwm.edu/schedule

APC 380 Project Management Techniques
3 cr. Undergraduate.
An introduction to project management techniques including project selection and life cycle, stakeholder/scope/quality/procurement management, budget control, scheduling, risk identification.
Prerequisites: admis to BS-APC prog; APC 300(P); 320(P); 330(P).
Current Offerings: http://uwm.edu/schedule

APC 390 Object Oriented Programming
3 cr. Undergraduate.
An introduction to Object-Oriented Programming techniques using the Java programming language.
Prerequisites: APC 350(P)
Current Offerings: http://uwm.edu/schedule

APC 400 Applied Communication Networks
3 cr. Undergraduate.
Fundamental concepts in the design, configuration, and problem solving of computer networks.
Prerequisites: admis to BS-APC prog; APC 350(P).
Current Offerings: http://uwm.edu/schedule

APC 410 Database Management 2
3 cr. Undergraduate.
Architecture and use-cases of non-relational (NoSQL) based on four types of databases including document, Graph, Key-value, and wide column store.
Prerequisites: admis to BS-APC prog; APC 360(P).
Current Offerings: http://uwm.edu/schedule

APC 420 Computer Security 1
3 cr. Undergraduate.
Security and risk management, security engineering, identity and access management, and security operations.
Prerequisites: APC 350(P).
Current Offerings: http://uwm.edu/schedule

APC 430 Applied Data Structures and Algorithms
3 cr. Undergraduate.
Concepts and the application of data structures and algorithms.
Prerequisites: APC 390(P).
Current Offerings: http://uwm.edu/schedule

APC 440 Web Development
3 cr. Undergraduate.
Creating advanced and interactive websites web sites using technologies like HTML 5, CSS, JavaScript, Bootstrap, XML, web services, and database integration within the ASP.Net platform.
Prerequisites: APC 360(P); 400(P).
Current Offerings: http://uwm.edu/schedule

APC 450 Operating Systems Theory and Practice
3 cr. Undergraduate.
An introduction to important operating systems concepts such as processes, threads, scheduling, concurrency control and memory management.
Prerequisites: admis to BS-APC prog; APC 430(C).
Current Offerings: http://uwm.edu/schedule

APC 460 Software Engineering
3 cr. Undergraduate.
Basic software development methodologies and tools, including the waterfall, iterative, and agile approaches.
Prerequisites: APC 370(P); 390(P).
Current Offerings: http://uwm.edu/schedule

APC 470 IS Strategy and Management
3 cr. Undergraduate.
Organizational/IS strategy using a capability maturity model for topics such as budgeting, acquisition, service/change/personnel management.
Prerequisites: admis to BS-APC prog; APC 380(P); 460(C).
Current Offerings: http://uwm.edu/schedule

APC 480 Computer Security 2
3 cr. Undergraduate.
Communication and network security, security assessment and testing, software development security, and asset security.
Prerequisites: APC 360(P); 400(P); 420(P); 450(P).
Current Offerings: http://uwm.edu/schedule

APC 490 Capstone Project Preparation
1 cr. Undergraduate.
Student capstone project and creation of initial plan with specific deliverables identified.
Prerequisites: admis to BS-APC prog; APC 460(C).
Current Offerings: http://uwm.edu/schedule
APC 495 Capstone Project
3 cr. Undergraduate.
Development, management and delivery of an applied computer science project for a client, including communication of project requirements and status to a non-technical audience.
Prerequisites: admis to BS-APC prog; APC 490(P).
Current Offerings: http://uwm.edu/schedule

Honors in the College of Engineering and Applied Science

Dean's Honor List
GPA of 3.500 or above, earned on a full-time student’s GPA on 12 or more graded credits in a given semester.

Honors Degree and Honors Degree with Thesis
Granted to graduating seniors who complete Honors College requirements, as listed in the Honors College (http://catalog.uwm.edu/opportunities-resources/honors-college) section of this site.

Commencement Honors
Students with a cumulative GPA of 3.500 or above, based on a minimum of 40 graded UWM credits earned prior to the final semester, will receive all-university commencement honors and be awarded the traditional gold cord at the December or May Honors Convocation. In schools and colleges in which fewer than 15% of the traditional students have a 3.500 GPA, all-university honors will be awarded to approximately the top 15% of graduating students. A criterion GPA (not lower than 3.200) for this 15% will be calculated based on statistics from the previous comparable semester. Please note that for honors calculation, the GPA is not rounded and is truncated at the third decimal (e.g., 3.499).

Final Honors
Earned on a minimum of 60 graded UWM credits: Cum Laude - 3.500 or above; Magna Cum Laude - 3.650 or above; Summa Cum Laude - 3.800 or above.

Contact Information
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