APPLIED COMPUTER SCIENCE, BS

Banner Code: VS-BS-ACS

Academic Advising
Phone: 703-993-1530
Email: csug@gmu.edu
Website: http://cs.gmu.edu/prospective-students/undergraduate-programs/bs-in-applied-computer-science/

This program presents an innovative approach to the integration of computer science with other disciplines that require expertise in computing techniques. These disciplines do not merely use computing but create new and interesting problems for computer scientists.

Admissions & Policies

Policies

Advanced Placement, Credit by Exam
A score of 4 on the Advanced Placement (AP) computer science exam qualifies students for credit in CS 112 Introduction to Computer Programming (Mason Core). A score of 4 on the International Baccalaureate (IB) computer science exam qualifies students for credits in CS 112 Introduction to Computer Programming (Mason Core), and a score of 5 or more qualifies students for credit in CS 211 Object-Oriented Programming.

Change of Major
Students requesting a change of major to Applied Computer Science must meet with the Volgenau School of Engineering Coordinator of Undergraduate Advising, 2500 Nguyen Engineering Building. Students requesting a change of major to Applied Computer Science must have a GPA of at least 2.75 in computer science and math courses and successfully completed one of CS 112 (http://catalog.gmu.edu/preview_course_nopop.php?catoid=29&coid=302778) or CS 211 (http://catalog.gmu.edu/preview_course_nopop.php?catoid=29&coid=302780), and one of MATH 113 (http://catalog.gmu.edu/preview_program.php?catoid=29&poid=28176/#tt1999), MATH 114 (http://catalog.gmu.edu/preview_course_nopop.php?catoid=29&coid=305035), or MATH 125 (http://catalog.gmu.edu/preview_course_nopop.php?catoid=29&coid=305056), with a grade of B or better at Mason. See Change of Major for more information.

Grades
Students must earn a C or better in any course intended to satisfy a prerequisite for a computer science course. Applied Computer Science majors may not use more than one course with a grade of C or D toward department requirements.

Program Requirements
For the BS ACS degree, students must complete 120 credits, including the Mason Core requirements. The program requires foundation, core, and concentration courses. These course requirements provide expertise in programming, computer systems, software requirements and modeling, formal methods, and analysis of algorithms.

Repeating Courses
Students may attempt an undergraduate course taught by the Volgenau School of Engineering twice. A third attempt requires approval of the department offering the course. This policy does not apply to STAT 250 Introductory Statistics I (Mason Core), which follows the normal university policy for repeating undergraduate courses.

The CS Department may not allow students to retake certain high-demand CS courses in which they have already earned a grade of C or better simply to improve their GPA.

Termination from the Major
No math, science, or Volgenau School of Engineering course that is required for the major may be attempted more than three times. Those students who do not successfully complete such a course within three attempts will be terminated from the major. Undeclared students in the Volgenau School who do not successfully complete a course required for a Volgenau School major within three attempts will also be terminated. For more information, see AP.5.2.4 Termination from the Major.

Once a student has attempted one of these courses twice unsuccessfully, the third attempt must be no later than the next semester of enrollment, excluding summers. Failure to take the course at that time will result in termination from the major. If the student is unable to take the course when required, the student may request an extension to a future semester; extensions require approval of the student’s advisor, their department, and the Associate Dean for Undergraduate Programs. The deadline for extension requests is the add deadline for the semester in which the course is required.

Students who have been terminated from a Volgenau School of Engineering major may not register for a Volgenau School course without permission of the department offering the course. This applies to all undergraduate courses offered by the Volgenau School except IT 104 Introduction to Computing (Mason Core) and STAT 250 Introductory Statistics I (Mason Core).

A student may not declare any major in the Volgenau School of Engineering if the student has previously met the termination criteria for that major at any time, regardless of what the student’s major was at the time the courses were taken.

Writing-Intensive Requirement
Computer science majors complete the writing-intensive requirement through a sequence of projects and reports in CS 306 Synthesis of Ethics and Law for the Computing Professional (Mason Core) and CS 321 Software Engineering. Faculty members provide feedback on students’ expository writing.

Requirements

Degree Requirements
Total credits: 120

Students must complete all foundation, core, elective, and communication requirements, and the requirements from one selected concentration.
Applied Computer Science, BS

**Foundation**
- CS 110 Essentials of Computer Science 1 3
- CS 112 Introduction to Computer Programming (Mason Core) 4
- CS 211 Object-Oriented Programming 3
- MATH 113 Analytic Geometry and Calculus I (Mason Core) 4
- MATH 114 Analytic Geometry and Calculus II 4
- MATH 125 Discrete Mathematics I (Mason Core) 3
- MATH 203 Linear Algebra 3

Total Credits 24

1 Must be taken within a student's first year at the university.

**Note:**
MATH 104 Trigonometry and Transcendental Functions, MATH 105 Precalculus Mathematics, MATH 108 Introductory Calculus with Business Applications (Mason Core), and courses with an IT designation (and any associated cross-listed courses) cannot be counted toward this degree.

**Core**
- CS 262 Introduction to Low-Level Programming 3
- CS 310 Data Structures 3
- CS 321 Software Engineering 3
- CS 330 Formal Methods and Models 3
- CS 367 Computer Systems and Programming 4
- CS 471 Operating Systems 3
- CS 483 Analysis of Algorithms 3

Total Credits 22

**Elective**
Select one CS course numbered above 400, except CS 498

Total Credits 3

**Communication**
- COMM 100 Public Speaking (Mason Core) 3

Total Credits 3

**Concentration in Bioinformatics (BNF)**

**Foundation**
- PHYS 160 University Physics I (Mason Core) 3
- PHYS 161 University Physics I Laboratory (Mason Core) 1
- CHEM 201 Introductory Chemistry I (Mason Core) 3
- BIOL 213 Cell Structure and Function (Mason Core) 4
- CS 306 Synthesis of Ethics and Law for the Computing Professional (Mason Core) 1 3
- STAT 344 Probability and Statistics for Engineers and Scientists I 3

Total Credits 17

1 Requires a grade of C or better to satisfy the Mason Core (http://catalog.gmu.edu/content.php?catoid=29&navoid=6253) synthesis requirement.

**Core**
- BINF 450 Bioinformatics for Life Sciences 4
- BIOL 482 Introduction to Molecular Genetics 3
- BIOL 580 Computer Applications for the Life Sciences 3
- CS 450 Database Concepts 3
- BINF 401 Bioinformatics and Computational Biology I or CS 444 Introduction to Computational Biology 3
- BINF 402 Bioinformatics and Computational Biology II or CS 445 Computational Methods for Genomics 3

Total Credits 19

**Two Approved Electives Related to Bioinformatics**
Select two approved electives (6 credits) related to bioinformatics with the student’s advisor and approved by the CS department.

Total Credits 6

**Additional Mason Core**
- Written Communication 1 6
- Literature 3
- Arts 3
- Western Civilization/World History 3
- Social and Behavioral Sciences 3
- Global Understanding 3

Total Credits 21

1 Requires a grade of C or better to satisfy the Mason Core (http://catalog.gmu.edu/content.php?catoid=29&navoid=6253) synthesis requirement.

**Concentration in Computer Game Design (CGDS)**

**Foundation**
- GAME 230 History of Computer Game Design 3
- CS 306 Synthesis of Ethics and Law for the Computing Professional (Mason Core) 1 3
- CS 325 Introduction to Game Design 3
- CS 351 Visual Computing 3
- AVT 104 Two-Dimensional Design and Color (Mason Core) 4
- STAT 344 Probability and Statistics for Engineers and Scientists I 3

Total Credits 19

1 Requires a grade of C or better to satisfy the Mason Core (http://catalog.gmu.edu/content.php?catoid=29&navoid=6253) synthesis requirement.

**Core**
- CS 425 Game Programming I 3
- CS 426 Game Programming II 3
- CS 451 Computer Graphics 3
AVT 382  2D Experimental Animation  3
AVT 383  3D Experimental Animation  3

Total Credits  15

**Approved Elective Related to Game Design**
Select one course from the following:  3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 332</td>
<td>Object-Oriented Software Design and Implementation</td>
</tr>
<tr>
<td>CS 455</td>
<td>Computer Communications and Networking</td>
</tr>
<tr>
<td>CS 475</td>
<td>Concurrent and Distributed Systems</td>
</tr>
<tr>
<td>CS 480</td>
<td>Introduction to Artificial Intelligence</td>
</tr>
<tr>
<td>CS 485</td>
<td>Autonomous Robotics</td>
</tr>
<tr>
<td>GAME 332</td>
<td>Design and Implementation of Software for the Web</td>
</tr>
<tr>
<td>AVT 370</td>
<td>Entrepreneurship in the Arts</td>
</tr>
<tr>
<td>AVT 374</td>
<td>Sound Art I</td>
</tr>
<tr>
<td>AVT 487</td>
<td>Advanced Topics: New Media Art</td>
</tr>
</tbody>
</table>

Total Credits  3

**Natural Science**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>PHYS 160</td>
<td>University Physics I (Mason Core)</td>
</tr>
<tr>
<td>PHYS 161</td>
<td>University Physics I Laboratory (Mason Core)</td>
</tr>
</tbody>
</table>

Select one additional lab science  4

Total Credits  8

**Additional Mason Core**

Written Communication  
Literature  3
Western Civilization/World History  3
Social and Behavioral Sciences  3
Global Understanding  3

Total Credits  18

1 Applied Computer Science majors must take the Natural Sciences section of ENGH 302 Advanced Composition (Mason Core).

**Electives**

Select 5 credits of electives  5

Total Credits  5

**Concentration in Geography (GEOG)**

Foundation

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<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CS 306</td>
<td>Synthesis of Ethics and Law for the Computing Professional (Mason Core)</td>
</tr>
<tr>
<td>GGS 101</td>
<td>Major World Regions (Mason Core)</td>
</tr>
<tr>
<td>GGS 102</td>
<td>Physical Geography (Mason Core)</td>
</tr>
<tr>
<td>GGS 103</td>
<td>Human Geography (Mason Core)</td>
</tr>
<tr>
<td>GGS 110</td>
<td>Introduction to Geoinformation Technologies</td>
</tr>
<tr>
<td>GGS 300</td>
<td>Quantitative Methods for Geographical Analysis</td>
</tr>
</tbody>
</table>

Total Credits  15

1 Requires a grade of C or better to satisfy the Mason Core (http://catalog.gmu.edu/content.php?catoid=29&navoid=6253) synthesis requirement.

**Core**

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<tr>
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<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 344</td>
<td>Probability and Statistics for Engineers and Scientists I</td>
</tr>
</tbody>
</table>

Total Credits  21

1 Requires a grade of C or better to satisfy the Mason Core (http://catalog.gmu.edu/content.php?catoid=29&navoid=6253) synthesis requirement.

**Additional Mason Core**

Written Communication  
Literature  3
Arts  3
Western Civilization/World History  3
Lab Science  4

Total Credits  19

1 Applied Computer Science majors must take the Natural Sciences section of ENGH 302 Advanced Composition (Mason Core).

**Electives**

Select 6 credits of electives  6

Total Credits  6

**Concentration in Software Engineering (SWE)**

Foundation

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<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 344</td>
<td>Probability and Statistics for Engineers and Scientists I</td>
</tr>
<tr>
<td>CS 306</td>
<td>Synthesis of Ethics and Law for the Computing Professional (Mason Core)</td>
</tr>
</tbody>
</table>

Total Credits  6

1 Requires a grade of C or better to satisfy the Mason Core (http://catalog.gmu.edu/content.php?catoid=29&navoid=6253) synthesis requirement.

**Core**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWE 205</td>
<td>Software Usability Analysis and Design</td>
</tr>
<tr>
<td>SWE 301</td>
<td>Internship Preparation</td>
</tr>
<tr>
<td>SWE 401</td>
<td>Internship Reflection</td>
</tr>
<tr>
<td>CS 332</td>
<td>Object-Oriented Software Design and Implementation</td>
</tr>
<tr>
<td>SWE 437</td>
<td>Software Testing and Maintenance</td>
</tr>
</tbody>
</table>

Total Credits  10

**SWE Related**

Select 15 credits from the following:  15
CS 450  Database Concepts
CS 455  Computer Communications and Networking
CS 463  Comparative Programming Languages
CS 465  Computer Systems Architecture
CS 468  Secure Programming and Systems
CS 475  Concurrent and Distributed Systems
CS 491  Industry-Sponsored Senior Design Project
SWE 432  Design and Implementation of Software for the Web
SWE 443  Software Architectures

Total Credits 15

Cross-Disciplinary
ENGH 388  Professional and Technical Writing 3
Select one from the following: 3
   PSYC 333  Industrial and Organizational Psychology
   COMM 320  Business and Professional Communication
   COMM 335  Organizational Communication

Total Credits 6

Additional Mason Core
Written Communication 1 6
Literature 3
Arts 3
Western Civilization/World History 3
Social and Behavioral Sciences 3
Global Understanding 3
Natural Science 7

Total Credits 28

1  Applied Computer Science majors must take the Natural Sciences section of ENGH 302 Advanced Composition (Mason Core).

Electives
Select 3 credits of electives 3

Total Credits 3

Honors

CS Honors Program
The Department of Computer Science offers a CS Honors Program for students with strong computational foundations and the drive to delve deeper into computing. The program is based on the bachelor of science in computer science and applied computer science curriculum and is distinct from the University Honors College curriculum.

Entry Requirements
Students must be seeking a Bachelor of Science in Computer Science or a Bachelor of Science in Applied Computer Science and must apply for entry into the CS Honors Program after completing 12 credits of CS courses. Applicants must meet the GPA requirements outlined below to enter into the CS Honors Program.

Honors Requirements
CS Honors Program students must fulfill all standard courses required by the Bachelor of Science in Computer Science or Applied Computer Science degree as well as the following additional requirements:

- GPA Requirement: Students must maintain an overall GPA of at least 3.50 and a GPA of at least 3.50 for courses which count towards the BS/CS or BS/ACS major including math, natural sciences, and all CS/SWE courses.
- Research Project Requirement: Students must complete a significant research project prior to graduation. Students should seek out a CS faculty member willing to serve as their research advisor for the project. The project should comprise original work by the student and be demonstrated via two channels:
  a. a written project report that is approved by the student’s research advisor and submitted to the department;
  b. a presentation of the project to an audience of students and/or faculty.
- Advanced Course Requirement: At least two Advanced Courses must be completed. A complete list of acceptable advanced courses is maintained by the CS department and is available on the department web site.

Accelerated Master’s

Applied Computer Science, BS/Computer Science, Accelerated MS
Overview
Highly-qualified students in the Applied Computer Science, BS have the option of obtaining an accelerated Computer Science, MS.

For more detailed information, see AP.6.7 Bachelor’s/Accelerated Master’s Degrees. For policies governing all graduate degrees, see AP.6 Graduate Policies.

Admission Requirements
Students in the Applied Computer Science, BS program may apply to this option if they have earned 90 undergraduate credits with an overall GPA of at least 3.30. Students must have successfully completed:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 310</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 330</td>
<td>Formal Methods and Models</td>
<td>3</td>
</tr>
<tr>
<td>CS 367</td>
<td>Computer Systems and Programming</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Credits 10

Accelerated Option Requirements
Students must complete all requirements for the BS and MS programs, with 6 credits overlap.

Students register for 6 credits of CS 500-level basic courses in place of the corresponding CS 400-level courses required for the undergraduate degree requirements. Specifically, students must register for CS 583 Analysis of Algorithms and one of the following courses in place of the corresponding 400-level course:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 540</td>
<td>Language Processors</td>
<td>3</td>
</tr>
</tbody>
</table>
Applied Computer Science, BS

CS 550  Database Systems  3
CS 551  Computer Graphics  3
CS 555  Computer Communications and Networking  3
CS 571  Operating Systems  3
CS 580  Introduction to Artificial Intelligence  3
CS 584  Theory and Applications of Data Mining  3

CS 580  Introduction to Artificial Intelligence  3
CS 584  Theory and Applications of Data Mining  3

Note:

Students are permitted to take additional graduate basic courses in their undergraduate programs. In such cases, those classes cannot be counted toward requirements for the MS.

Degree Conferral

Students must apply the semester before they expect to complete the BS requirements to have the BS degree conferred. In addition, at the beginning of the student’s final undergraduate semester, students must complete a Bachelor’s/Accelerated Master’s Transition form that is submitted to the Office of the University Registrar and the VSE Graduate Admissions Office. At the completion of MS requirements, a master’s degree is conferred.

Applied Computer Science, BS/Data Analytics Engineering, Accelerated MS

Overview

Highly-qualified students in the Applied Computer Science, BS have the option of obtaining an accelerated Data Analytics Engineering, MS.

For more detailed information, see AP.6.7 Bachelor’s/Accelerated Master’s Degrees. For policies governing all graduate degrees, see AP.6 Graduate Policies.

Admission Requirements

Students in the Applied Computer Science, BS program may apply to this option if they have earned 90 undergraduate credits with an overall GPA of at least 3.30. Students must have successfully completed:

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<td>3</td>
</tr>
<tr>
<td>CS 367</td>
<td>Computer Systems and Programming</td>
<td>4</td>
</tr>
<tr>
<td>Total Credits</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Accelerated Option Requirements

Students must complete all requirements for the BS and MS programs, with 6 credits overlap.

Students must register for 6 credits of CS 500-level basic courses in place of the corresponding CS 400-level courses required for the undergraduate degree requirements. Specifically, students in all concentrations of the Applied Computer Science, BS program must register for:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CS 580</td>
<td>Introduction to Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>CS 584</td>
<td>Theory and Applications of Data Mining</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Students in the Software Engineering and Bioinformatics concentrations of the Applied Computer Science, BS program must also register for:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 550</td>
<td>Database Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 3

Students in the Computer Game Design and Geography concentrations of the Applied Computer Science, BS program must also register for one of the following courses:

<table>
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</thead>
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<td>3</td>
</tr>
<tr>
<td>CS 580</td>
<td>Introduction to Artificial Intelligence</td>
<td>3</td>
</tr>
</tbody>
</table>

Note:

For students in the Computer Game Design and Geography concentrations of the Applied Computer Science, BS program, one of the 500 level courses will count as an elective towards their undergraduate degree.

Students are permitted to take additional graduate basic courses in their undergraduate programs. In such cases, those classes cannot be counted toward requirements for the MS.

Degree Conferral

Students must apply the semester before they expect to complete the BS requirements to have the BS degree conferred. In addition, at the beginning of the student’s final undergraduate semester, students must complete a Bachelor’s/Accelerated Master’s Transition form that is submitted to the Office of the University Registrar and the VSE Graduate Admissions Office. At the completion of MS requirements, a master’s degree is conferred.

Applied Computer Science, BS/Information Security and Assurance, Accelerated MS

Overview

Highly-qualified students in the Applied Computer Science, BS program have the option of obtaining an accelerated Information Security and Assurance, MS program.

For more detailed information, see AP.6.7 Bachelor’s/Accelerated Master’s Degrees. For policies governing all graduate degrees, see AP.6 Graduate Policies.

Admission Requirements

Students in the Applied Computer Science, BS program can apply for this option if they have earned 90 undergraduate credits with an overall GPA of at least 3.30. Students must have successfully completed:

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<tr>
<td>Total Credits</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Students in the Software Engineering and Bioinformatics concentrations of the Applied Computer Science, BS program must also register for:

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<tbody>
<tr>
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<td>Database Systems</td>
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</table>

Total Credits 3

Students in the Computer Game Design and Geography concentrations of the Applied Computer Science, BS program must also register for one of the following courses:

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<td>Introduction to Artificial Intelligence</td>
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</tbody>
</table>

Note:

For students in the Computer Game Design and Geography concentrations of the Applied Computer Science, BS program, one of the 500 level courses will count as an elective towards their undergraduate degree.

Students are permitted to take additional graduate basic courses in their undergraduate programs. In such cases, those classes cannot be counted toward requirements for the MS.
Accelerated Option Requirements

Students must complete all requirements for the BS and MS programs, with 6 credits overlapping.

Students register for two 500-level computer science core courses (6 credits) in place of the corresponding 400-level computer science courses, as part of the undergraduate degree requirements. Specifically, students must take

<table>
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<tbody>
<tr>
<td>CS 583</td>
<td>Analysis of Algorithms</td>
<td>3</td>
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<td>Introduction to Artificial Intelligence</td>
</tr>
<tr>
<td>CS 584</td>
<td>Theory and Applications of Data Mining</td>
</tr>
</tbody>
</table>

Total Credits 6

Note:

Students complete all MS in Information Security and Assurance core courses and apply the two courses from the above list toward the degree requirements.

Degree Conferral

Students must apply the semester before they expect to complete the BS requirements to have the BS degree conferred. In addition, at the beginning of the student’s final undergraduate semester, students must complete a Bachelor’s/Accelerated Master’s Transition form that is submitted to the Office of the University Registrar and the VSE Graduate Admissions Office. At the completion of MS requirements, a master’s degree is conferred.

Applied Computer Science, BS/Information Systems, Accelerated MS

Overview

Highly-qualified students in the Applied Computer Science, BS program have the option of obtaining an accelerated Information Systems, MS. See AP.6.7 Bachelor’s/Accelerated Master’s Degrees.

Students in an accelerated degree program must fulfill all university requirements for the master’s degree. For policies governing all graduate degrees, see AP.6 Graduate Policies.

Admission Requirements

Students in the Applied Computer Science, BS program can apply to this option if they have earned 90 undergraduate credits with an overall GPA of at least 3.30. Students must have successfully completed:

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<td>Formal Methods and Models</td>
<td>3</td>
</tr>
</tbody>
</table>

Accelerated Option Requirements

Students must complete all credits that satisfy requirements for the BS and MS programs, with 6 credits overlap.

Students register for two 500-level computer science core courses (6 credits) in place of the corresponding 400-level computer science courses, as part of the undergraduate degree requirements. Specifically, students must take

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 540</td>
<td>Language Processors</td>
</tr>
<tr>
<td>CS 550</td>
<td>Database Systems</td>
</tr>
<tr>
<td>CS 551</td>
<td>Computer Graphics</td>
</tr>
<tr>
<td>CS 555</td>
<td>Computer Communications and Networking</td>
</tr>
<tr>
<td>CS 571</td>
<td>Operating Systems</td>
</tr>
<tr>
<td>CS 580</td>
<td>Introduction to Artificial Intelligence</td>
</tr>
<tr>
<td>CS 584</td>
<td>Theory and Applications of Data Mining</td>
</tr>
</tbody>
</table>

Total Credits 6

Note:

Students complete all MS in Information Systems core courses and apply the two courses from above toward the elective requirements.

Degree Conferral

Students must apply the semester before they expect to complete the BS requirements to have the BS degree conferred. In addition, at the beginning of the student’s final undergraduate semester, students must complete a Bachelor’s/Accelerated Master’s Transition form that is submitted to the Office of the University Registrar and the VSE Graduate Admissions Office. At the completion of MS requirements, a master’s degree is conferred.

Applied Computer Science, BS/Software Engineering, Accelerated MS

Overview

Highly-qualified students in the Applied Computer Science, BS have the option of obtaining an accelerated Software Engineering, MS. See AP.6.7 Bachelor’s/Accelerated Master’s Degrees.

Students in an accelerated degree program must fulfill all university requirements for the master’s degree. For policies governing all graduate degrees, see AP.6 Graduate Policies.

Admission Requirements

Students in the Applied Computer Science, BS program may apply to this option if they have earned 90 undergraduate credits with an overall GPA of at least 3.30. Students must have successfully completed:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 310</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 330</td>
<td>Formal Methods and Models</td>
<td>3</td>
</tr>
</tbody>
</table>
Accelerated Option Requirements

Students must complete all credits that satisfy requirements for the BS and MS programs, with 6 credits overlap.

Students register for two 500-level computer science core courses (6 credits) in place of the corresponding 400-level computer science courses, as part of the undergraduate degree requirements. Specifically, students must take:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 583</td>
<td>Analysis of Algorithms</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td>3</td>
</tr>
<tr>
<td>CS 540</td>
<td>Language Processors</td>
<td></td>
</tr>
<tr>
<td>CS 550</td>
<td>Database Systems</td>
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<tr>
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<td>Theory and Applications of Data Mining</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 6

Note:

Students complete all Software Engineering, MS core courses and apply the two courses from the above list toward the elective requirements.

Degree Conferral

Students must apply the semester before they expect to complete the BS requirements to have the BS degree conferred. In addition, at the beginning of the student's final undergraduate semester, students must complete a Bachelor's/Accelerated Master's Transition form that is submitted to the Office of the University Registrar and the VSE Graduate Admissions Office. At the completion of MS requirements, a master's degree is conferred.