

COMPUTER SCIENCE, BACHELOR OF SCIENCE

The Bachelor of Science degree in computer science with mathematics emphasis is for those students who want to combine mathematics and computer science. In addition to the general institutional requirements, the major completes 60 semester hours in major courses which include 33 semester hours in computer science, 17 semester hours in mathematics courses, including Calculus II, Calculus III, 6 semester hours in major electives, and 4 semester hours in general electives.

All majors and minors in the department must achieve a grade of "C" or better in all mathematics, science, computer science, and business courses. A cumulative grade point average of at least 2.25 is required for graduation.

| Code | Title | Semester Hours |
|---|--|----------------|
| Core Curriculum for STEM Majors (Areas A-E) (http://catalog.asurams.edu/undergraduate/core-curriculum/) ¹ | | 43 |
| Area F: Courses Related to Major | | |
| CSCI 1201 | Introduction to Computer Science | 3 |
| CSCI 1301 | Computer Science I | 4 |
| or CSCI 1301K | Computer Science I | |
| CSCI 1302 | Computer Science II | 4 |
| MATH 2111 | Linear Algebra | 3 |
| MATH 2411 | Introduction to Statistics | 3 |
| Area G - Major Requirements | | |
| <i>Computer Science Courses (33 hours)</i> | | |
| CSCI 2211 | Visual BASIC Programming | 3 |
| CSCI 3111 | Discrete Structures | 3 |
| CSCI 3122 | Data Structures | 3 |
| CSCI 3132 | Database Management | 3 |
| CSCI 3211 | Computer Organization and Architecture I | 3 |
| CSCI 4113 | Operating Systems | 3 |
| CSCI 4123 | Computer Networks | 3 |
| CSCI 4211 | Systems Analysis I | 3 |
| CSCI 4221 | Software Engineering | 3 |
| CSCI 4915 | Web Design and Development | 3 |
| CSCI 4921 | Senior Project I | 1 |
| CSCI 4922 | Senior Project II | 2 |
| <i>Mathematics Courses (17 hours)</i> | | |
| MATH 2212 | Calculus II | 4 |
| MATH 2213 | Calculus III | 4 |
| MATH 3411 | Statistical Methods | 3 |
| MATH 3423 | Introduction to Operations Research | 3 |
| MATH 4215 | Numerical Analysis | 3 |
| <i>Major Electives (6 hours from below list)</i> | | |
| CSCI 2235 | Information System & Web Security | |
| CSCI 2300 | Computational Informatics I | |
| CSCI 2311 | Advanced Visual Basic Programm | |
| CSCI 3000 | Cryptography & Computer Security | |
| CSCI 3200 | Design & Analysis of Algorithm | |
| CSCI 3300 | High Performance Computing | |

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| CSCI 3335 | Risk Analysis & Information Infra-Structure Security | |
| CSCI 4338 | Network & Operating Systems Security | |
| CSCI 4340 | Wireless & Mobile Security | |
| CSCI 4344 | Computer Forensics | |
| CSCI 4911 | Special Topics in Computer Science & Computer Information Systems | |
| <i>General Electives (4 hours)</i> | | 4 |
| First-Year and Wellness Course Requirements Outside the Core | | |
| ASU 1101 | First Year Experience: Pathways to Success | 1 |
| HEDP, WELL | Health & Wellness Requirement ² | 2 |
| Total Semester Hours | | 123 |

¹ Students are required to complete MATH 1113 Pre-Calculus in Area A2 and MATH 1211 Calculus I in Area D with a minimum grade of "C". The extra credit hour from MATH 1211 will be counted in Area F.

² The health & wellness requirement may be fulfilled by taking one - two (2) credit hour health or wellness course OR two one (1) credit hour health or wellness activity courses.

The Bachelor of Science degree in computer science with business emphasis is for those students who want to combine computer science and business. In addition to the general institutional requirements, the major completes 60 semester hours in major courses, which include 39 semester hours in computer science and mathematics courses, 15 semester hours in business courses, and 6 semester hours in major electives. The Bachelor of Science degree in computer science with business emphasis is a cooperative program between Albany State University and Albany Technical College that allows qualified students to earn 66 semester hours at Albany Technical College and then transfer to Albany State University to complete the requirements for the Bachelor of Science degree with emphasis in business. Upon admission to Albany State University students may transfer up to 60 semester hours of credit to Albany State to satisfy Areas A, B, C, D, and E of the Core Curriculum.

All majors and minors in the department must achieve a grade of "C" or better in all mathematics, science, computer science, and business courses. A cumulative grade point average of at least 2.25 is required for graduation.

| Code | Title | Semester Hours |
|---|----------------------------------|----------------|
| Core Curriculum for STEM Majors (Areas A-E) (http://catalog.asurams.edu/undergraduate/core-curriculum/) ¹ | | 43 |
| Area F: Courses Related to Major | | |
| CSCI 1201 | Introduction to Computer Science | 3 |
| CSCI 1301 | Computer Science I | 4 |
| or CSCI 1301K | Computer Science I | |
| CSCI 1302 | Computer Science II | 4 |
| MATH 1211 | Calculus I | 4 |
| MATH 2411 | Introduction to Statistics | 3 |
| Area G - Major Requirements | | |
| <i>Computer Science Courses (33 hours)</i> | | |
| CSCI 2211 | Visual BASIC Programming | 3 |
| CSCI 3111 | Discrete Structures | 3 |
| CSCI 3122 | Data Structures | 3 |
| CSCI 3132 | Database Management | 3 |

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|--|---|------------|
| CSCI 3211 | Computer Organization and Architecture I | 3 |
| CSCI 4113 | Operating Systems | 3 |
| CSCI 4123 | Computer Networks | 3 |
| CSCI 4211 | Systems Analysis I | 3 |
| CSCI 4221 | Software Engineering | 3 |
| CSCI 4915 | Web Design and Development | 3 |
| CSCI 4921 | Senior Project I | 1 |
| CSCI 4922 | Senior Project II | 2 |
| <i>Mathematics Courses (6 hours)</i> | | |
| MATH 2111 | Linear Algebra | 3 |
| MATH 3423 | Introduction to Operations Research | 3 |
| <i>Management/Economic Courses (15 hours)</i> | | |
| ECON 2106 | Principles of Microeconomics | 3 |
| ACCT 2101 | Accounting Principles I | 3 |
| ACCT 2102 | Accounting Principles II | 3 |
| MGMT 3105 | Legal Environment of Business | 3 |
| MKTG 3120 | Principles of Marketing | 3 |
| <i>Major Electives (6 hours from below list with 3 hours being in the 3000-4000 level)</i> | | 6 |
| CSCI 2235 | Information System & Web Security | |
| CSCI 2300 | Computational Informatics I | |
| CSCI 2311 | Advanced Visual Basic Programm | |
| CSCI 3000 | Cryptography & Computer Security | |
| CSCI 3200 | Design & Analysis of Algorithm | |
| CSCI 3300 | High Performance Computing | |
| CSCI 3335 | Risk Analysis & Information Infra-Structure Security | |
| CSCI 4338 | Network & Operating Systems Security | |
| CSCI 4340 | Wireless & Mobile Security | |
| CSCI 4344 | Computer Forensics | |
| CSCI 4911 | Special Topics in Computer Science & Computer Information Systems | |
| First-Year and Wellness Course Requirements Outside the Core | | |
| ASU 1101 | First Year Experience: Pathways to Success | 1 |
| HEDP, WELL | Health & Wellness Requirement ² | 2 |
| Total Semester Hours | | 124 |

¹ Students are required to complete MATH 1113 Pre-Calculus in Area A2 or Area D with a minimum grade of "C".

² The health & wellness requirement may be fulfilled by taking one - two (2) credit hour health or wellness course OR two one (1) credit hour health or wellness activity courses.

The Bachelor of Science degree in computer science with information assurance emphasis is for those students who want to combine focus on computer security. In addition to the general institutional requirements, the major completes 60 semester hours in major courses which include 48 semester hours in computer science with 15 of those semester hours covering information assurance topics, 6 semester hours in mathematics courses, and 6 semester hours in major electives.

All majors and minors in the department must achieve a grade of "C" or better in all mathematics, science, computer science, and business courses. A cumulative grade point average of at least 2.25 is required for graduation.

| Code | Title | Semester Hours |
|---|---|----------------|
| Core Curriculum for STEM Majors (Areas A-E) (http://catalog.asurams.edu/undergraduate/core-curriculum/) ¹ | | |
| Area F: Courses Related to Major | | |
| CSCI 1201 | Introduction to Computer Science | 3 |
| CSCI 1301 | Computer Science I | 4 |
| | or CSCI 1301K Computer Science I | |
| CSCI 1302 | Computer Science II | 4 |
| MATH 2111 | Linear Algebra | 3 |
| MATH 2411 | Introduction to Statistics | 3 |
| Area G - Major Requirements | | |
| <i>Computer Science Courses (33 hours)</i> | | |
| CSCI 2211 | Visual BASIC Programming | 3 |
| CSCI 3111 | Discrete Structures | 3 |
| CSCI 3122 | Data Structures | 3 |
| CSCI 3132 | Database Management | 3 |
| CSCI 3211 | Computer Organization and Architecture I | 3 |
| CSCI 4113 | Operating Systems | 3 |
| CSCI 4123 | Computer Networks | 3 |
| CSCI 4211 | Systems Analysis I | 3 |
| CSCI 4221 | Software Engineering | 3 |
| CSCI 4915 | Web Design and Development | 3 |
| CSCI 4921 | Senior Project I | 1 |
| CSCI 4922 | Senior Project II | 2 |
| <i>Mathematics Courses (6 hours)</i> | | |
| MATH 3411 | Statistical Methods | 3 |
| MATH 3423 | Introduction to Operations Research | 3 |
| <i>Information Assurance Courses (15 hours)</i> | | |
| CSCI 2235 | Information System & Web Security | 3 |
| CSCI 3000 | Cryptography & Computer Security | 3 |
| CSCI 4338 | Network & Operating Systems Security | 3 |
| CSCI 4340 | Wireless & Mobile Security | 3 |
| CSCI 4344 | Computer Forensics | 3 |
| <i>Major Electives (6 hours from below list with 3 being in the 3000-4000 level)</i> | | 6 |
| CSCI 2300 | Computational Informatics I | |
| CSCI 2311 | Advanced Visual Basic Programm | |
| CSCI 3200 | Design & Analysis of Algorithm | |
| CSCI 3300 | High Performance Computing | |
| CSCI 3335 | Risk Analysis & Information Infra-Structure Security | |
| CSCI 4911 | Special Topics in Computer Science & Computer Information Systems | |
| First-Year and Wellness Course Requirements Outside the Core | | |
| ASU 1101 | First Year Experience: Pathways to Success | 1 |
| HEDP, WELL | Health & Wellness Requirement ² | 2 |
| Total Semester Hours | | 123 |

¹ Students are required to complete MATH 1113 Pre-Calculus in Area A2 or Area D with a minimum grade of "C".

² The health & wellness requirement may be fulfilled by taking one - two (2) credit hour health or wellness course OR two one (1) credit hour health or wellness activity courses.

The Bachelor of Science degree in computer science with a minor is for those students who want to add a minor in another area to their degree in computer science. In addition to the general institutional requirements, the major completes 60 semester hours in major courses which include 33 semester hours in computer science, 6 semester hours in mathematics courses, 3 semester hours in major electives, and 18 semester hours in a minor.

All majors and minors in the department must achieve a grade of "C" or better in all mathematics, science, computer science, and business courses. A cumulative grade point average of at least 2.25 is required for graduation.

| Code | Title | Semester Hours |
|---|--|----------------|
| Core Curriculum for STEM Majors (Areas A-E) (http://catalog.asurams.edu/undergraduate/core-curriculum/) ¹ | | 43 |
| Area F: Courses Related to Major | | |
| CSCI 1201 | Introduction to Computer Science | 3 |
| CSCI 1301 | Computer Science I | 4 |
| | or CSCI 1301K Computer Science I | |
| CSCI 1302 | Computer Science II | 4 |
| MATH 2111 | Linear Algebra | 3 |
| MATH 2411 | Introduction to Statistics | 3 |
| Area G - Major Requirements | | |
| <i>Computer Science Courses (33 hours)</i> | | |
| CSCI 2211 | Visual BASIC Programming | 3 |
| CSCI 3111 | Discrete Structures | 3 |
| CSCI 3122 | Data Structures | 3 |
| CSCI 3132 | Database Management | 3 |
| CSCI 3211 | Computer Organization and Architecture I | 3 |
| CSCI 4113 | Operating Systems | 3 |
| CSCI 4123 | Computer Networks | 3 |
| CSCI 4211 | Systems Analysis I | 3 |
| CSCI 4221 | Software Engineering | 3 |
| CSCI 4915 | Web Design and Development | 3 |
| CSCI 4921 | Senior Project I | 1 |
| CSCI 4922 | Senior Project II | 2 |
| <i>Mathematics Courses (6 hours)</i> | | |
| MATH 3411 | Statistical Methods | 3 |
| MATH 3423 | Introduction to Operations Research | 3 |
| <i>Minor and electives chosen by student (18 hours)</i> | | 18 |
| <i>Major Electives (3 hours from below list)</i> | | 3 |
| CSCI 3000 | Cryptography & Computer Security | |
| CSCI 3200 | Design & Analysis of Algorithm | |
| CSCI 3300 | High Performance Computing | |
| CSCI 3335 | Risk Analysis & Information Infra-Structure Security | |
| CSCI 4338 | Network & Operating Systems Security | |
| CSCI 4340 | Wireless & Mobile Security | |
| CSCI 4344 | Computer Forensics | |

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|---|---|------------|
| CSCI 4911 | Special Topics in Computer Science & Computer Information Systems | |
| First-Year and Wellness Course Requirements Outside the Core | | |
| ASU 1101 | First Year Experience: Pathways to Success | 1 |
| HEDP, WELL | Health & Wellness Requirement ² | 2 |
| Total Semester Hours | | 123 |

¹ Students are required to complete MATH 1113 Pre-Calculus in Area A2 or Area D with a minimum grade of "C".

² The health & wellness requirement may be fulfilled by taking one - two (2) credit hour health or wellness course OR two one (1) credit hour health or wellness activity courses.