

# Bachelor of Science with a Major in Computer Information Systems

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## Selected Educational Outcomes

1. Students will analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
2. Students will 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. Students will communicate effectively in a variety of professional contexts.
4. Students will recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Students will function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Students will apply computer science theory and software development fundamentals to produce computing-based solutions.

## Examples of Outcome Assessments

The department assesses the extent to which the program requirements create the desired outcomes by a variety of techniques. Examples of these assessments include the following:

1. The capstone courses are used to assess student progress since taking Area F courses. They determine if students have mastered effective oral and written communication skills, acquired critical analysis skills, and learned to use the library and technological resources in solving non-routine problems. Assessment methods include student projects and presentations.
2. Student examinations and samples of student work are kept in the department and are examined by the faculty to assess student content knowledge.
3. Available student and alumni survey data collected by the University will be examined to determine student satisfaction with their undergraduate preparation for further education or employment.

## Requirements for the Bachelor of Science Degree with a Major in Computer Information Systems

| Code  | Title   | Hours     |
|---|---|-----------|
| <b>Core Curriculum</b>  |   | <b>60</b> |
| Core IMPACTS (See VSU Core Curriculum) <sup>1,2</sup>   |   | 42        |
| Core Field of Study   |   | 18        |
| CS 1301   | Principles of Programming I   | 4         |
| CS 1302   | Principles of Programming II  | 4         |
| CS 2620   | Discrete Structures   | 3         |
| ACCT 2101<br>& ACCT 2102  | Principles of Accounting I<br>and Principles of Accounting II         | 6         |
| ECON 2106   | Principles of Microeconomics (with 2 hours "spilling" into electives) | 1         |
| <b>Senior College Curriculum</b>  |   | <b>60</b> |
| CS 3101   | Computer Organization   | 3         |
| Select one of the following:  |   | 3         |
| CS 3300   | UNIX Programming  |           |
| CS 3335   | The C Programming Language  |           |
| CS 3340   | Web Programming   |           |
| CS 3410   | Data Structures   | 3         |
| CS 4121   | Data Communications and Networks I                                    | 3         |
| CS 4321   | Software Engineering I  | 3         |
| CS 4345   | Operating Systems   | 3         |
| CS 4721   | Database Design I   | 3         |
| Three of any 3000-level or 4000-level course not required above (excluding CS 3000 and CS 3001) |   | 9         |
| Two of any CS 4000-level courses not required above   |   | 6         |
| <b>Supporting Courses</b>   |   | <b>14</b> |
| ECON 2106   | Principles of Microeconomics ("spillover" from Social Sciences)       |           |

|  |                                      |            |
|--|--------------------------------------|------------|
| MATH 1401                                  | Elementary Statistics                |            |
| MGNT 3250                                  | Management and Organization Behavior |            |
| MGNT 3300                                  | Production and Operations Management |            |
| FIN 3350                                   | Financial Management                 |            |
| or MKTG 3050                               | Introduction to Marketing            |            |
| Electives                                  |                                      | 10         |
| <b>Total Hours Required for the Degree</b> |                                      | <b>120</b> |

<sup>1</sup> MATH 1261 must be completed in the Technology, Mathematics, and Sciences area or in Electives.

<sup>2</sup> DATA 1501 must be completed in the Technology, Mathematics, and Sciences area or in Electives

## Requirements for the Bachelor of Science Degree with a Major in Computer Information Systems--Cyber Security Track

| Code  | Title   | Hours      |
|---|---|------------|
| <b>Core Curriculum</b>  |   | <b>60</b>  |
| Core IMPACTS (See VSU Core Curriculum) <sup>1,2</sup>                             |   | 42         |
| Core Field of Study   |   | 18         |
| CS 1301   | Principles of Programming I   | 4          |
| CS 1302   | Principles of Programming II  | 4          |
| CS 2620   | Discrete Structures   | 3          |
| ACCT 2101<br>& ACCT 2102  | Principles of Accounting I<br>and Principles of Accounting II         | 6          |
| ECON 2106   | Principles of Microeconomics (with 2 hours "spilling" into electives) | 1          |
| <b>Senior College Curriculum</b>  |   | <b>60</b>  |
| CS 3101   | Computer Organization   | 3          |
| CS 3200   | Security and Ethics in Computing                                      | 3          |
| CS 3300   | UNIX Programming  | 3          |
| CS 3410   | Data Structures   | 3          |
| CS 3750   | Introduction to Cybersecurity   | 3          |
| CS 4121   | Data Communications and Networks I                                    | 3          |
| CS 4321   | Software Engineering I  | 3          |
| CS 4345   | Operating Systems   | 3          |
| CS 4625   | Network and System Security   | 3          |
| CS 4635   | Digital Forensics   | 3          |
| or CS 4884  | Biometric Recognition   |            |
| CS 4721   | Database Design I   | 3          |
| One 3000- or 4000-level course not required above (excluding CS 3000 and CS 3001) |   | 3          |
| Supporting Courses  |   | 14         |
| ECON 2106   | Principles of Microeconomics ("spillover" from Core Field of Study)   | 2          |
| MATH 1401   | Elementary Statistics   | 3          |
| or MATH 3600  | Probability and Statistics  |            |
| MGNT 3250   | Management and Organization Behavior                                  | 3          |
| MGNT 3300   | Production and Operations Management                                  | 3          |
| FIN 3350  | Financial Management  | 3          |
| or MKTG 3050  | Introduction to Marketing   |            |
| Electives   |   | 10         |
| <b>Total Hours Required for the Degree</b>  |   | <b>120</b> |

<sup>1</sup> MATH 1261 must be completed in the Technology, Mathematics, and Sciences area or in Electives.

<sup>2</sup> DATA 1501 must be completed in the Technology, Mathematics, and Sciences area or in Electives.

## **Additional Requirements**

1. A grade of "C" or better must be earned in all Core Field of Study courses and core curriculum lower-level math courses, all courses required for the major, and all supporting courses.
2. Students may use CS 4800 only one time to fulfill the additional 3000-level or 4000-level courses in the Senior College Curriculum.