

INFORMATION TECHNOLOGY EMPHASIS (AA DEGREE A8985)

Business Division

The A.A. Degree in Liberal Arts and Sciences with an emphasis in Information Technology is designed to prepare students for a career in Information Technology. The degree offers a balanced set of classes that enables students to maintain and secure a computer, create and modify computer applications and databases, create customized reports, and use productivity software to solve business problems. Emphasis is placed on developing object-oriented, business-related applications, creating and maintaining a database, and utilizing operating system utilities to optimize, maintain and secure a computer. Career opportunities available after the completion of this degree include technical support and systems analyst. Students wishing a bachelor's degree (transfer program) should meet with a counselor or advisor to discuss transferability of course.

This degree requires the completion of General Education (<https://catalog.mtsac.edu/programs/degrees-certificates/#gerequisitestext>) coursework plus the following:

Required Courses

| Course Prefix | Course Name | Units |
|--|--|-------|
| Information Technology Basics | | |
| Required Core | | |
| CISB 11 | Computer Information Systems | 3.5 |
| CISB 15 | Microcomputer Applications | 3.5 |
| Software Development | | |
| Choose one of the following sequences: | | 3.5 |
| CISP 11 & 11L | Programming in Visual Basic and Programming in Visual Basic Laboratory | |
| CISP 21 & 21L | Programming in Java and Programming in Java Laboratory | |
| CISP 31 & 31L | Programming in C++ and Programming in C++ Laboratory | |
| CISP 41 & 41L | Programming in C# and Programming in C# Laboratory | |
| CISP 52 & 52L | Mobile Device Programming and Mobile Device Programming Laboratory | |
| CISP 71 & 71L | Programming in Python and Programming in Python Laboratory | |
| CISW 21 & 21L | Secure Web Programming with ASP.NET and Secure Web Programming with ASP.NET Laboratory | |
| CISW 24 & 24L | Secure Web Server Programming in Python and Secure Web Server Programming in Python Laboratory | |
| Database Technology | | |
| Choose one of the following sequences: | | 3.5 |
| CISD 11 & 11L | Database Management - Microsoft Access and Database Management - Microsoft Access Laboratory | |
| CISD 21 & 21L | Database Management - Microsoft SQL Server and Database Management - Microsoft SQL Server Laboratory | |

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|---|--|---------|
| CISD 31 & 31L | Database Management - Oracle and Database Management - Oracle Laboratory | |
| Operating Systems and Networking | | |
| Choose one of the following options: | | 3-3.5 |
| CISN 11 & 11L | Telecommunications Networking and Telecommunications/Networking Laboratory | |
| CISN 21 | Windows Operating System | |
| CISN 31 & 31L | Linux Operating System and Linux Operating System Laboratory | |
| CISN 61 | Cloud and Virtualization Network Security | |
| Security | | |
| Choose one of the following options: | | 3-4 |
| CISS 13 | Principles of Information Systems Security | |
| CISS 15 | Operating Systems Security | |
| CISS 21 & 21L | Network Vulnerabilities and Countermeasures and Network Vulnerabilities and Countermeasures Laboratory | |
| Recommended Elective | | |
| Choose one of the following options: | | |
| CISB 31 | Microsoft Word | |
| CISB 51 | Microsoft PowerPoint | |
| CISM 11 | Systems Analysis and Design | |
| SPCH 26 or SPCH 26H | Interpersonal Communication or Interpersonal Communication - Honors | |
| Total Units | | 20-21.5 |

Guided Pathways of Study Suggested Course Sequence (<https://www.mtsac.edu/guided-pathways/pathway-results.html?pthwyvar=A8985&desc=Information+Technology+Emphasis+AA+Liberal+Arts+and+Sciences+A8985>)

Program Learning Outcomes

Upon successful completion of this program, a student will:

- Know the four primary operations of a computer and the hardware that performs these operations.
- Be able to create effective queries that answer needed questions.
- Be able to identify four types of common transmission media and be able to describe the basic characteristics of each.
- Be able to use decision making statements and loops in order to create a business application.
- Be able to understand the need for security.

Review Student Learning Outcomes (SLOs) (<http://www.mtsac.edu/instruction/outcomes/sloinfo.html>) for this program.