

# INFORMATION TECHNOLOGY EMPHASIS, AA LIBERAL ARTS AND SCIENCES

## Business Division

### Degree A8985

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 coursework plus the following:

## Required Courses

Course Prefix	Course Name	Units
<b>Information Technology Basics</b>		
CISB 11	Computer Information Systems	3.5
CISB 15	Microcomputer Applications	3.5
<b>Software Development</b>		
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	
CISW 21 & 21L	Secure Web Programming with ASP.NET and Secure Web Programming with ASP.NET Laboratory	
CISP 52 & 52L	Mobile Device Programming and Mobile Device Programming Laboratory	
CISW 24 & 24L	Secure Web Server Programming in Python and Secure Web Server Programming in Python Laboratory	
<b>Database Technology</b>		
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	
CISD 31 & 31L	Database Management - Oracle and Database Management - Oracle Laboratory	
<b>Operating Systems and Networking</b>		
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	Virtualization Technology	
<b>Security</b>		
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	
Total Units		20-21.5

## Recommended Electives

Course Prefix	Course Name	Units
BUSA 7	Principles of Accounting - Financial	5
BUSM 20	Principles of Business	3
BUSM 60	Human Relations in Business	3
BUSO 25	Business Communications	3
BUSS 36	Principles of Marketing	3
CISB 31	Microsoft Word	3
CISB 51	Microsoft PowerPoint	3
CISM 11	Systems Analysis and Design	3.5
R-TV 17	Internet Radio and Podcasting	3
SPCH 26 or SPCH 26H	Interpersonal Communication or Interpersonal Communication - Honors	3

## 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.