COMPUTER INFORMATION SYSTEMS (CIS)

Program Description

Computer Information Systems (CIS) is a two-year program that leads to an Associate in Technical Arts (ATA) degree. The program offers a degree in Computer Information Systems and five certificates: Computer Applications Support, Computer Information Systems, Network Technician, and the Micro Certificates in Computer Forensics and Database/Programming. The program can be completed completely online in a eLearning format, except for the Computer Forensic certificate. A eLearning approach is recommended for self-motivated students with strong computer skills. The opportunity to transfer this technical degree to a four-year university to complete a Bachelors degree is currently available. Contact the CIS Department Chair for more information.

Career Opportunities

Businesses and industries need skilled workers to design, operate, manage and support their computer systems. This program is designed to prepare students for positions in many areas of the computer industry. Students are prepared for entry-level jobs in software and hardware support, computer network support, installation, security and administration, computer programming, database design and support, and a variety of other exciting positions.

Work Experience in the Field

Students will participate in Cooperative Education (CIS 199), which is supervised work experience in an approved work environment. Credits and grades are based on hours worked, work performance, and completion of the learning objectives specified in the learning contract. Concurrent enrollment in the Cooperative Education seminar or arranged seminar is required. A special project may be substituted for Cooperative Education with the approval of the Department Chair.

Entry into the Program

Please apply to the Admissions Office. Students should enter the program in Fall quarter. Advanced standing may be requested for prior education or experience.

It is strongly recommended that students entering the CIS program be able to read at the college level and have basic keyboarding skills, such as those included in Office Administration and Accounting Technologies (OFTEC) 100 and basic computer literacy, such as those included in Computer Science (CS) 101. Students should also be aware that ENGL 99 and MATH 96 are prerequisites on some required courses for the degree. Students should consider taking these courses before entering the degree program.

Associate in Technical Arts Degree

An Associate in Technical Arts degree (ATA) is awarded upon completion of a minimum of 90 credits in courses numbered 100 or above with an accumulated grade point average of 2.0. Courses must include completion of the technical major and related education requirements.

SUGGESTED SCHEDULE

COMPUTER INFORMATION SYSTEMS

Includes required ATA courses. Student schedule may vary based on entry point, credit load, and prerequisites. Consult with department chair or SVC counselor for scheduling options. For transfer degree options, meet with the CIS Dept. Chair for an alternate schedule.

First Year

Fall	Cr	Winter	Cr	Spring	Cr
CIS 103	5	CIS 105	5	CIS 104	5
CIS 146	3	CIS 118	5	†CIS 114	5
*BUS& 101 or		CIS 147	3	CIS 241	5
BUS 241	5	CMST 125	3		
†ENGL 170	3	or CMST& 210	5		
Total	**16**	**Total**	**16+**	**Total**	**15**

Second Year

Fall	Cr	Winter	Cr	Spring	Cr
‡CIS 199	1	‡CIS 199	2	‡CIS 199	2
CIS 221	5	CIS 222	5	CIS 223	5
CIS 240	5	CIS 242	5	CIS 233	5
MIT 149	5	^PE 200	2	CIS 243	5
SOSC 113	1	SOSC 125	2		
Total	**17**	**Total**	**16**	**Total**	**17**

* BUS& 101 or BUS 241 fulfills the requirement for a Learning Community (5-10 credits) or 5 credits of General Education (culture, natural world or arts). Please see INDEX regarding Learning Communities.

† Students who do not receive an appropriate test score will require additional coursework to develop necessary skills for entry into class. (ENGL& 101 may be substituted for ENGL 170; MATH 107 or higher may be substituted for CIS 114)

‡ CIS 199 may be taken at any time after the second quarter with Department Chair approval.

^ A valid current CPR and First aid card may be submitted in lieu of PE 200. Student must provide copies of current documents with a waiver request.

Program Certificates

COMPUTER APPLICATIONS SUPPORT CERTIFICATE

The student must maintain a 2.0 grade point average and complete the following: Either CIS 103 or 145 and 148, along with CIS 146, 147, 199, CS 101, OFTEC 122, 132, 166, 210, and SOSC 113.

COMPUTER INFORMATION SYSTEMS CERTIFICATE

The student must maintain a 2.0 grade point average and complete 60 credits of the CIS program (including 5 credits of CIS 199) and SOSC 113.

DATABASE/PROGRAMMING CERTIFICATE:

The student must maintain a 2.0 grade point average and complete the following: CIS 240, 241, 242, and 243.

NETWORK TECHNICIAN CERTIFICATE

The student must maintain a 2.0 grade point average and complete the following: CIS 103, 104, 105, 114, 118, 146, 199 (5 credits), 221, 222, 223, 233, and SOSC 113.

Micro-Certificates

These certificates focus on a specific skill within this program. A certificate is awarded to students who complete the following with a 2.0 grade point average or above:

COMPUTER FORENSIC CERTIFICATE

CIS 233, and CJ 221 and 222 NOTE: The computer forensic certificate requires in-class on-site participation. This certificate is not available through eLearning.

INDIVIDUAL TECHNICAL CERTIFICATE

An Individual Technical Certificate may be developed in conjunction with other programs to meet marketable objectives and goals with Department Chair approval.

Course Descriptions

CIS 103 Introduction to Operating Systems (5)

Introduction to desktop operating systems primarily focused on command line operations. Include file, directory, and disk management. Simple customization, configuration, and network connectivity techniques explored. Strongly recommended: familiarity with Microsoft Windows and keyboarding skills.

CIS 104 Windows Operating System In Depth (5)

Advanced desktop operating system concepts including installation, customization, configuration, device drivers, trouble-

shooting, memory management, and network client configuration. Follows content from Microsoft Certification exam 70-620, Configuring Vista. Prerequisite: CIS 103 or instructor permission.

CIS 105 Introduction to Linux (5)
Introduction to the Linux operating system. Focuses on the command line interface, file and directory management, Linux tools, shell scripts and security. Strongly recommended: computer literacy and file management skills.

CIS 114 Mathematics for Computer Specialists (5)
Includes areas of mathematics related to computer technology which may include Boolean algebra, functions, non-decimal number systems, binary arithmetic, exponents, graphing, and algebra. Prerequisite: MATH 96.

CIS 118 Computer Hardware: Troubleshooting & Repair (5)
Introduction to personal computer systems hardware and architectures which follow CompTIA's A+ certification track. This is an industry recognized certification series covering basic computer troubleshooting techniques, repair, upgrading, and terminology. Includes safety, PC architecture, memory, peripherals, upgrade and installation of operating systems, upgrade and installation of hardware components, configuration, and troubleshooting techniques. Prerequisite: CIS 103 or instructor permission.

CIS 145 Using Microsoft Windows (2)
Introduction to the use of Microsoft Windows operating system for home and office. Designed for those with very limited computer experience.

CIS 146 Introduction to Microsoft Excel (3)
Introduction to the use of Microsoft Excel spreadsheet software for home and office. Provides an understanding of spreadsheet software and a spreadsheet as a productive and useful tool. Strongly recommended: Computer literacy and file management skills.

CIS 147 Introduction to Microsoft Access (3)
Introduction to the use of microcomputer database software for home and office. Provides an understanding of database software in general and Microsoft Access in particular, as a productive and useful tool. Strongly recommended: computer literacy and file management skills.

CIS 148 The Internet (2)
Overview of the Internet with hands-on instruction of electronic mail, World Wide Web, Internet browsers, basic and advanced searches, FTP and downloading, Internet communities and communication, Internet security and E-commerce. Learn about netiquette, safe surfing, and other cyberspace issues. Designed for students with basic computer skills but limited Internet experience.

CIS 199 Cooperative Education (1-15)
Supervised work experience in the field. Instructor permission required.

CIS 221 Computer Networking I (5)
Introduction to computer networks. Includes study of LAN and WAN connectivity methods, physical and logical network models, network operating systems, methods for transmitting information, networking standards and standards organizations, and network client configuration. Prerequisite: CIS 104 and CIS 105 with a minimum C grade in both.

CIS 222 Computer Networking II (5)
Continuation of CIS 221. Focuses on network directory services, the server software, deployment and maintenance of computer networks, router configuration, security, access control, and resource management. Includes continued study of current and emerging networking standards with emphasis on network operating system configuration. Prerequisite: CIS 221 and MIT 149 with a minimum C grade in both.

CIS 223 Computer Networking III (5)
Continuation of CIS 222. Focuses on the enterprise network and resource management, network protocols, security, performance and monitoring of an enterprise network. Includes the study of LAN integration with the Internet, intranets, and extranets. Prerequisite: CIS 222 with a minimum C grade.

CIS 231 Small Office/Home Office Networking (5)
Focuses on connectivity issues for small office and home office networks such as: Broadband and other forms of Internet access, Internet connection sharing and other forms of network address translation, and ISP services. Prerequisite: CIS 221 or concurrent enrollment in CIS 221.

CIS 233 Advanced Topics in Networking (5)
Focuses on current topics in networking including network security, disaster recovery issues such as identifying, quantifying, planning for and managing risks fault tolerance disaster planning, system backups, and hands-on system recovery. Current events in networking are explored. Prerequisite: CIS 223 or concurrent enrollment in CIS 223.

CIS 237 Information Technology Project Management (5)
Introduction to Information Technology Project Management – project integration, scope, time, cost, quality, human resources, communications, risk, and procurement – using the experiences of real-life businesses.

CIS 240 Introduction to Programming (5)
Elementary programming concepts are introduced using Visual Basic for Applications. Topics include form objects, variables, sequence, decision and iteration control structures, intrinsic functions, data structures, testing and debugging, event, sub and function procedures. Prerequisite: CIS 114 (or any MATH over 100) and CIS 241 with a minimum C grade in both, or instructor permission.

CIS 241 Database Design and SQL (5)
Introduction to database management systems. Topics include database terminology, design objectives and procedures, normalization and relationships, and Structured Query Language. Prerequisite: CIS 147 with minimum C grade or instructor permission.

CIS 242 Database Programming-VBA (5)
Given project specifications, use Visual Basic for Applications to create custom interfaces that allow users to view, edit, insert, update and delete data. Prerequisite: CIS 240 with a minimum C grade, or instructor permission.

CIS 243 Office Programming-VBA (5)
Office Programming-BA is a capstone course that explores ways to customize and improve procedures across the office suite using various tools. Topics include macros, application customization and development, object linking and embedding and cross-application development. Prerequisite: CIS 242 with a minimum C grade or instructor permission.