

Computer Information Systems

With the continual development and use of computers in business and industry, the need is increasing for personnel proficient in business programming, networking, equipment repair, software applications, as well as computer operations. To address these skills, the Computer Science Department offers two Associate of Applied Science workforce degrees (AAS), an Associate of Science transfer degree (AS), and two workforce certificate programs.

The Associate of Science (AS) degree is designed to prepare students for transfer to a four-year university as a Computer Science or Computer Information Systems major. The program will provide students with a background in basic academic areas such as mathematics and the sciences, as well as introductory work in the computer areas of logic design, programming concepts, and programming languages.

The department offers an Associate of Applied Science (AAS) degree and a certificate in Computer Information Systems that provides training for careers in business programming, database support, software applications, and computer operations.

The College is an authorized testing site for Microsoft Office Specialist certification exams such as Microsoft Word, Excel, Access, and PowerPoint. Additionally, an Associate of Applied Science (AAS) Computer Networking degree is designed to prepare students to perform tasks in network technology relating to network management, technical support, hardware/software installation, and equipment repair.

The program graduate will be able to assemble computers based on customer requirements, install network wiring and interfaces at customer sites, install and debug network software, and maintain network hardware and software.

Suggested Course of Study for University Transfer Students (68-71 Credit Hours)

Freshman Year	Sophomore Year
COSC 1420	BCIS 1432
COSC 1309	COSC 2420
COSC 1401 or BCIS 1405	GOVT 2305
ENGL 1301	GOVT 2306
ENGL 1302	Lab Science (8 Credit Hours)
HIST 1301	Literature (3-6 Credit Hours)*
HIST 1302	MATH 1324
MATH 1314	MATH 1325
PHED 1134	Social/Behavioral Science
PHED Activity (1 Credit Hour)	(3 Credit Hours)
Visual/Fine Arts (3 Credit Hours)	SPCH 1315 or 1321

* Twelve semester hours of English are required for the Associate of Arts degree; nine semester hours of English are required for the Associate of Science degree.

Note: Completion of the Field of Study may require an additional term(s).

AAS IN COMPUTER INFORMATION SYSTEMS (62-63 Credit Hours)

First Semester	Second Semester
ITSC 1421 COSC 1401 or BCIS 1405 COSC 1309 MATH 1314 ENGL 1301	ITSW 1404 ITSC 2321*** CIS Elective* Programming Language Elective**
Third Semester	Fourth Semester
COSC 2415 or ITSW 1307 GOVT 2306 SPCH 1315 CIS Elective* Programming Language Elective**	ACCT 2401 ITNW 1425 Programming Language Elective** Visual/Fine Arts Elective

* CIS Electives: ITSC 1301, 1325, 1364, or IMED 1316

** Programming Language Elective: COSC 1420, 1430, 2420, BCIS 1432 or 2432

*** One Tech Prep course, which may have been completed in high school.

Note: Completion of the suggested course of study may require additional term(s).

CERTIFICATE IN BUSINESS COMPUTER APPLICATIONS

(35 Credit Hours)

First Semester

POFT 1127..... Introduction to Keyboarding*
ITSC 1301 Introduction to Computers*
ITSC 1409 Integrated Software Applications*
ITSC 1421 PC Operating Systems - Windows

Second Semester

ITSW 1404 Introduction to Spreadsheets
ITSC 2321 Integrated Software Applications II 1
POFT 2312..... Business Correspondence & Communication
POFT 1321..... Business Math

Third Semester

IMED 1316 Web Page Design*
ACNT 1411 Introduction to Computerized Accounting
or ACNT 1403..... Introduction to Accounting I
ITSW 1307 Introduction to Database

* Tech Prep course, which may have been completed in high school.

AAS IN NETWORKING (63-64 Credit Hours)

First Semester	Second Semester
ITSC 1409* or COSC 1401 or BCIS 1405 MATH 1314 POFT 1127 ITSC 1421 ITCC 1402*	COSC 1309 ENGL 1301 ITCC 1406* ITNW 1425 SPCH 1321
Third Semester	Fourth Semester
ITSC 1325* IMED 1316 ITCC 1442* ITNW 2413 GOVT 2306	COSC 2415 or ITSW 1307 ITCC 1446* ITSC 1364 - Practicum (or Field Exp.) Visual/Fine Arts Elective

* Tech Prep course, which may have been completed in high school.

CERTIFICATE IN CISCO/C-TECH (24 Credit Hours)

First Semester

ITCC 1402 Cisco I: LAN Design & Protocols*
ITNW 1425 Fundamentals of Networking

Second Semester

ITCC 1406 Cisco II: Basic Router Configuration*
ITNW 2413 Networking Hardware

Third Semester

ITCC 1442 Cisco III: Local Area Management*
ITCC 1446 Cisco IV: Wide Area Management*

* Tech Prep course, which may have been completed in high school

BCIS 1405 Business Computer Applications 4.3.3

Computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business applications of software, including word processing, spreadsheets, databases, presentation graphics, and business oriented utilization of the Internet. Equivalent to COSC 1401.

- BCIS 1432 COBOL Programming I** 4.3.3
Computer programming for business applications. Course includes problems solving methods, algorithm development, program design, coding, debugging and documentation. Prerequisite: COSC 1309 or MATH 1314.
- BCIS 2432 COBOL Programming II** 4.3.3
A continuation of COBOL Programming I emphasizing advanced program design language features. Prerequisites: BCIS 1432.
- COSC 1300 Introduction to Computer Information Systems** 3.3.0
An introduction to computers, network communications and information systems. The student is provided experience with operating systems, hardware, application software and the use of the Internet for communication and research.
- COSC 1309 Logic Design** 3.3.3
An introduction to programming emphasizing problem solving methods, algorithm development, structured-program concepts, good program design, coding, debugging and documentation. Prerequisite: MATH 0301 or higher.
- COSC 1401 Microcomputer Applications** 4.3.3
A study of microcomputer concepts and application to provide the student an understanding of computer technology, hardware, software and production of meaningful information through the use of integrated application software. Prerequisite: keyboarding skills. Equivalent to BCIS 1405.
- COSC 1420 C++ Programming** 4.3.3
An introduction to programming using C and C++. Includes problem solving methods, algorithm development, program design, coding, debugging and documentation. Prerequisite: COSC 1309 or MATH 1314.
- COSC 1430 Object Oriented Programming** 4.3.3
An introduction to problem solving and programming development through the use of object-oriented programming. Prerequisite: COSC 1309 or MATH 1314.
- COSC 2415 Data Base Management** 4.3.3
To familiarize students with database management and programming concepts. Available database management software will be utilized to provide “hands-on” experience. Prerequisite: ITSC 1421 and COSC 1401 or ITSC 1409.
- COSC 2420 C++ Programming II** 4.3.3
A continuation of C and C++ Programming. Includes advanced language features and an introduction to classes and object-oriented programming. Prerequisite: COSC 1420.

IMED 1316	Web Page Design I	3.3.2
	Instruction in web page design and related graphic design issues including mark-up languages, web sites, and browsers. Prerequisite: ITSC 1409 or COSC 1401.	
ITCC 1402	LAN Design and Protocols: Cisco I	4.3.4
	Skill development in the design and installation of local area networks to ensure optimal throughput. Topics include cabling, cable closets, management devices, selection and installation of network devices, protocols and sub-netting. Prerequisite: Consent of Instructor.	
ITCC 1406	Basic Router Configuration: Cisco II	4.3.4
	An introduction to Cisco basic router configuration for local area networks. Topics include initial router configuration for TCP/IP, management of the configuration, backup of router configuration files, routing protocols and the use of security features. Prerequisite: ITCC 1402.	
ITCC 1442	Local Area Management: Cisco III	4.3.4
	Skill development in managing traffic in local area networks (LAN) and in the management of network devices for LAN's. This course includes configuring of router for IPX protocol, filtering traffic in an IPX environment, and identifying and resolving network congestion. Prerequisite: ITCC 1406.	
ITCC 1446	Wide Area Management: Cisco IV	4.3.4
	An introduction to wide area networking (WAN) services and management. Prerequisite: ITCC 1442 or concurrent enrollment in ITCC 1442.	
ITNW 1337	Introduction to the Internet	3.3.2
	Introduction to the Internet with emphasis on using the World Wide Web to locate, transfer, and publish information. Survey of emerging technologies on the Internet. Fee charged. Prerequisite: ITSC 1409.	
ITNW 1425	Fundamentals of Networking	4.3.4
	Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media and networking hardware and software. Prerequisite: ITSC 1421 and Consent of Instructor.	
ITNW 2413	Networking Hardware	4.3.3
	Preparation to work with and maintain network hardware devices. Topics include network cables, servers and workstations; network connectivity devices such as routers, hubs, bridges, gateways, repeaters and uninterruptible power supplies; and other networking hardware devices. Prerequisite: ITNW 1425.	
ITSC 1301	Introduction to Computers	3.3.0
	Overview of computer information systems. Introduces computer hardware,	

software, procedures and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problem-solving and programming may be discussed and applies. Examines applications and software relating to a specific curricular area.

- ITSC 1325 – Personal Computer Hardware** 3.3.2
A study of current personal computer hardware including personal computer assembly and upgrading, setup and configuration, and troubleshooting. Prerequisite: ITSC 1421 and COSC 1401 or ITSC 1409.
- ITSC 1364 Practicum (or Field Exp) Computer Info Sys (Co-op)** 3.1.10
Practical general training and experiences in the computer workplace. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. Prerequisite: Consent of instructor.
- ITSC 1409 Integrated Software Applications I** 4.3.3
Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases and/or presentation media software. Prerequisite: Keyboarding skills.
- ITSC 1421 PC Operating Systems – Windows** 4.3.3
Introduction to Windows-based microcomputer operating systems. Topics include installation and configuration, file management, memory and storage management, peripheral device control and use of utilities.
- ITSC 2321 Integrated Software Applications II** 3.3.2
Continued study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. Prerequisite: ITSC 1409 or COSC 1401.
- ITSW 1307 Introduction to Database** 3.3.2
Introduction to database theory and the practical applications of a database. Prerequisite: ITSC 1409 or COSC 1401.
- ITSW 1404 Introduction to Spreadsheets** 4.3.3
Instruction in the concepts, procedures and importance of electronic spreadsheets. Prerequisite: ITSC 1409 or COSC 1401