INFORMATION TECHNOLOGY AND INFORMATION SYSTEMS

Information Technology and Information Systems (ITIS), a career technical program, includes computer applications, computer support of business organizations, and computer hardware systems. The program prepares students for a variety of entry-level occupations or advancement within their career fields. Students in the program can complete industry certifications from CompTIA which includes A+, Network+, Server+, and Security+, as well as the Office Specialist certification from Microsoft (MOS). Students receive hands-on training in laboratory facilities. Faculty members work with industry and business to ensure relevant training. Many ITIS courses satisfy general education requirements for an associate degree, an associate degree in business, and lower division transfer. The program offers several ITIS certificate options, many aligned with statewide pathways and/or industry valued third party credentialing.

Faculty

Name	Office Room Number	Phone	Email
Parsons, Matthew	CI 324	626-914-8851	mparsons@citruscollege.edu

Contact Information

Division
Career/Technical Education

Dean
Kimberly Mathews

Administrative Secretary
Angie Alvarez

Division Office
TE 147

Division Phone Number
626-852-6402

Email
itis@citruscollege.edu

Discipline Website
https://www.citruscollege.edu/academics/programs/it (https://www.citruscollege.edu/academics/programs/it/)

Learning Outcomes

This discipline prepares students to do the following:

- Use and possess broad-based knowledge of information and concepts related to installing and maintaining computer hardware, installing and maintaining computer networks, and solving computer hardware and network problems.
- Apply knowledge and skills in diverse areas of information technology in order to certify in various industry certifications.
- Have the knowledge, skill and behaviors necessary to obtain an entry-level position as a computer hardware installer/technician, computer network technician, field service technician, network and communication specialist/technician or other related field of information technology.
- Demonstrate comprehension of essential hardware, software and computer system terminology. Become familiar with, and able to use prompts, commands, menus, and dialog boxes to interact with computers.
- Organize computer-based documents into files and folders using one or more operating systems.
- Achieve basic familiarity with various Windows-based applications, including word processing, spreadsheets, presentation graphics and databases.
- Increase verbal communication skills. Improve the ability to summarize ideas and distill main concepts.
- Particularly in programming courses: work extensively with arithmetic computations and operations related to program structure, recursive functions, data manipulation, binary trees, polymorphisms, problem analysis and algorithm design.
- Particularly in programming courses: improve skills in critical and analytical thinking as while working in areas including problem analysis and algorithm design, operands and arguments, stack abstract data manipulation, heap manipulating, linked lists, binary trees, polymorphisms, and the effective use of contemporary compilers to design, debug, execute and deploy programs.

Courses

ITIS 099
Introduction to Microsoft Windows
2 Units
18 lecture hours, 36 lab hours
Equivalent to: CIS 099, CSIS 099, CSIS 105
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ENGL 101.
This is a beginning-level course on Windows OS which introduces the student to the terminology, application, and use of the Windows operating system. Topics include file management, hardware and software maintenance, working with administrative tools, Internet access and communication, and others. The course is designed for students with no previous computer experience.

ITIS 104
Information Technology
4 Units (AA/AS; CSU)
54 lecture hours, 54 lab hours
Equivalent to: ENGR 104, IT 104
Grade Mode: Standard Letter
Strongly recommended: ENGL 101.
This course is designed in building computer hardware and software skills needed for entry-level IT positions. Topics covered include networking and computer security. This course will be of interest to computer technicians, field service and help desk support personnel, as well as, individuals interested in enhancing their technical skills and knowledge of the PC system. It will lay the foundation for the CompTIA A + certification exams.

ITIS 107
Network Technology
4 Units (AA/AS)
54 lecture hours, 54 lab hours
Equivalent to: ENGR 107, IT 107
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 104; ENGL 101.
This course provides information covering the LAN and WAN. Network topologies and protocols are presented.

ITIS 108
Network Operating Systems
4 Units (AA/AS)
54 lecture hours, 54 lab hours
Equivalent to: ENGR 108, IT 108
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 107.
This course provides information covering the areas of network operating systems used on local and wide area networks (LANS and WANS), as well as popular server software.

ITIS 109
Network and Computer Security
4 Units (AA/AS)
54 lecture hours, 54 lab hours
Equivalent to: CSIS 109, IT 109
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ENGL 101.
Covers basics of general security concepts, network security, communication security, infrastructure security. Business continuity, disaster recovery, planning and prevention will be covered. This course will lay the foundation for attendees to complete the Comp TIA Security+ certification tests.

ITIS 112
Microsoft Desktop Support
3 Units (AA/AS)
54 lecture hours, 18 lab hours
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 104; ENGL 101.
This course provides students with the knowledge and skills needed to install, configure, and administer the Microsoft Windows Operating System environment. Students will get practical experience to prepare them for the MCSA Exam on installing and configuring Windows OS.

ITIS 115
Computer Information Systems
3.5 Units (AA/AS; CSU)
54 lecture hours, 27 lab hours
Equivalent to: CIS 107, CSIS 107
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 099; ENGL 101.
This course is an overview of information technology and its role in business, industry, health care, and government. Topics include computer hardware, end-user software, network/Internet technologies, ethics, emerging technologies, and coding.

ITIS 119
Web Design Using HTML
3 Units (AA/AS; CSU)
54 lecture hours, 18 lab hours
Equivalent to: CIS 119, CSIS 119
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 115; ENGL 101.
This course provides students with the skills needed to create web pages using the latest version of HTML. Students will also be introduced to CSS modeling and JavaScript to create custom web pages for personal and professional environments.The laboratory component provides the student with expanded first-hand experience in specific areas of course content.

ITIS 120
Cybersecurity: Ethical Hacking
3 Units (AA/AS; CSU)
36 lecture hours, 54 lab hours
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 107 and ITIS 109.
This course provides an overview of information systems security, specifically system penetration. Students will be introduced to the concepts, principles, and techniques for attacking and disabling a network within the context of properly securing it. General concepts covered include aspects of computer and cyber crime, cyber crime investigation, security policies, sample attacks, and testing. Students will receive hands-on training using various tools for penetration testing.

ITIS 130
Microcomputer Applications I
4 Units (AA/AS; CSU; UC)
72 lecture hours
Equivalent to: CIS 130, CSIS 130
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 099, ENGL 101.
Students will use the personal computer to learn an office suite, such as Microsoft Office, that includes word processing, electronic spreadsheets, database management systems, multimedia/presentation graphics, personal information management and an introduction to the Windows OS. This course prepares the student to take the Microsoft Office User Specialist certification exam.

ITIS 141
Programming Fundamentals
3 Units (AA/AS; CSU)
36 lecture hours, 54 lab hours
Equivalent to: CIS 141, CSIS 141
Grade Mode: Standard Letter
Strongly recommended: ITIS 115.
This course is an introduction to programming concepts using the JavaScript language. Emphasis is placed on good design techniques, coding, and documentation. Topics covered focus on variables, data types, operators, functions, decision making with control structure and statements, objects, events, iteration, forms, and error handling. This course is not for Computer Science majors.

ITIS 150
Web Design with Dreamweaver
3 Units (AA/AS)
54 lecture hours, 18 lab hours
Equivalent to: CIS 150, CSIS 150
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 099; ENGL 101.
Fundamentals of web design using a proprietary web development tool. Introduces the basic features of Adobe Dreamweaver including the Dreamweaver interface, toolbars, and panels. Topics include: adding and editing text, formatting using Cascading Style Sheets, editing HTML, adding images, tables, forms, and responsive web design.

ITIS 160
Introduction to Database Concepts
3 Units (AA/AS)
54 lecture hours
Equivalent to: CSIS 175
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ENGL 101.
This beginning course on database design focuses on the skills needed to define, create, and maintain a fully programmed database system using Microsoft Access in a Windows environment. The course covers database concepts, design, tables, queries, reports, and menus.

ITIS 165
Database Principles Using SQL
3 Units (AA/AS; CSU; UC)
54 lecture hours
Grade Mode: Standard Letter
This is an introductory course in SQL (Standard Query Language). Concepts covered include a general overview of SQL and MySQL, creating a MySQL database, tables, queries, subqueries, filtering, and conditional logic.

ITIS 168
Designing Web Sites
3 Units (AA/AS)
45 lecture hours, 27 lab hours
Equivalent to: CIS 168, CSIS 168
Grade Mode: Pass/No Pass, Standard Letter
Strongly recommended: ITIS 099; ENGL 101.
An introduction to using Web design software to plan, create, and maintain a Web site. This course explores other popular web design software programs such as MS Expression Web and WordPress. Topics covered include: the program interface, using images, links, tables, forms, and style sheets.

ITIS 170
Database Programming
3 Units (AA/AS; CSU)
54 lecture hours
Equivalent to: CSIS 176
Grade Mode: Pass/No Pass, Standard Letter
Prerequisite(s): ITIS 160.
Strongly recommended: ENGL 101.
This course introduces database programming using Visual Basic for Applications (VBA). Concepts covered include the VBA interface, VBA concepts, analysis of data management requirements, and design of a database to meet those needs.

ITIS 180A
Introduction to Cloud Computing
3 Units (AA/AS)
54 lecture hours
Grade Mode: Standard Letter
Strongly recommended: ENGL 101.
This course introduces cloud computing which shifts information systems from on-premises computing infrastructure to highly scalable internet architectures. The course provides a solid foundation of cloud computing technologies and provides students with the understanding required to effectively evaluate and assess the business and technical benefits of cloud computing and cloud applications. Students analyze a variety of cloud services (storage, servers and software applications) and cloud providers. Case studies will be used to examine various industry cloud practices and applications. The course also surveys cloud careers and discusses industry demand for cloud skills.

ITIS 180B
Database Essentials in Amazon Web Services
3 Units (AA/AS)
54 lecture hours
Grade Mode: Standard Letter
Prerequisite(s): ITIS 180A.
Strongly recommended: ENGL 101.
This course addresses cloud database management which supports a number of different approaches for storing data. In the course, students define, operate and scale both SQL and no SQL data storage solutions. This course considers factors that should be balanced during the design of a storage solution. Principles are applied by performing exercises using Amazon RDS and SQL to create and fill tables, retrieve and manipulate data. Object-based APIs are used to serialize objects to Amazon DynamoDB for no SQL solutions. Topics include automated backups, transaction logs, restoration and retention.

ITIS 180C
Compute Engines in Amazon Web Services
3 Units (AA/AS)
54 lecture hours
Grade Mode: Standard Letter
Prerequisite(s): ITIS 180A; CS 140 or CS 112.
In this course, students explore how cloud computing systems are built using a common set of core technologies, algorithms, and design principles centered around distributed systems. Students will use the Amazon Web Services (AWS) Management Console to provision, load-balance and scale their applications using the Elastic Compute Cloud(EC2) and the AWS Elastic Beanstalk. The course discusses, from a developer perspective, the most important reasons for using AWS and examines the underlying design principles of scalable cloud applications.

ITIS 180D
Security in Amazon Web Services
3 Units (AA/AS)
54 lecture hours
Grade Mode: Standard Letter
Prerequisite(s): ITIS 180A.
Strongly recommended: ITIS 109, ENGL 101.
This course focuses on protecting the confidentiality, integrity and availability of computing systems and data. Students learn how Amazon Web Service (AWS) uses redundant and layered controls, continuous validation and testing, and a substantial amount of automation to ensure the underlying infrastructure is continuously monitored and protected. Students examine the AWS Shared Responsibility Model and access the AWS Management Console to learn more about security tools and features provided by the AWS platform.

ITIS 698B
Cooperative Education
2 Units (AA/AS)
120 lab hours arranged
Equivalent to: IT 698B
Grade Mode: Pass/No Pass, Standard Letter
Prerequisite(s): The student must be simultaneously enrolled in a class that relates to the Cooperative Education class.
A course designed to assist students in planning and accomplishing meaningful learning objectives related to Information Technology at their place of volunteer employment or training sites.

ITIS 698D
Cooperative Education
4 Units (AA/AS)
240 lab hours arranged
Equivalent to: IT 698D
Grade Mode: Pass/No Pass, Standard Letter
Prerequisite(s): The student must be simultaneously enrolled in a class that relates to the Cooperative Education class.
A course designed to assist students in planning and accomplishing meaningful learning objectives related to Information Technology at their place of volunteer employment or training sites.

ITIS 699B
Cooperative Education
2 Units (AA/AS)
150 lab hours arranged
Equivalent to: IT 699B
Grade Mode: Pass/No Pass, Standard Letter
Prerequisite(s): The student must be simultaneously enrolled in a class that relates to the Cooperative Education class.
A course designed to assist students in planning and accomplishing meaningful learning objectives related to Information Technology at their place of paid employment or training sites.

ITIS 699D
Cooperative Education
4 Units (AA/AS)
300 lab hours arranged
Equivalent to: IT 699D
Grade Mode: Pass/No Pass, Standard Letter
Prerequisite(s): The student must be simultaneously enrolled in a class that relates to the Cooperative Education class.
A course designed to assist students in planning and accomplishing meaningful learning objectives related to Information Technology at their place of paid employment or training sites.

Programs

Certificates of Achievement

- Database Administrator (http://catalog.citruscollege.edu/disciplines/information-technology-information-systems/database-administrator-certificate-achievement/)
- Information Technology (http://catalog.citruscollege.edu/disciplines/information-technology-information-systems/information-technology-certificate-achievement/)
- IT Technician: Computer Retail Sales and Support (http://catalog.citruscollege.edu/disciplines/information-technology-information-systems/it-technican-computer-retail-certificate-achievement/)
- IT Technician: Support Specialist (http://catalog.citruscollege.edu/disciplines/information-technology-information-systems/it-technician-support-specialist-certificate-achievement/)
- Website Development (http://catalog.citruscollege.edu/disciplines/information-technology-information-systems/website-development-certificate-achievement/)