Instructional Programs

Computer Information Systems

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Degree(s)
Transfer:
None
See:
A.A. in Liberal Arts - Business & Technology Emphasis

Non-Transfer:
A.S. in Computer Information Systems  
(with General Education Requirements Option A)

Certificate(s)
Certificate in General Track  
Certificate in Internet Authoring  
Certificate in Networking  
Certificate in Programming

Employment Concentration Certificate(s)
Computer Forensics
Computer Hardware Specialist
Data Analysis and Modeling
Microsoft Office Applications Developer
Networking Technologies Apprentice
OpenOffice Specialist
Internet Authoring
Internet and Web Technologies
LAN/WAN Administration CCNA
Linux System Administrator
Microsoft Certified Systems Administrator (MCSA)
Security Certified Network Professional (SCNP)
C++ Programming
Database Administration
Database Developer
Database Operator
Database Programming
Java Programming
Embedded Systems Programming
Python Programming
Service Desk Hardware Support
Service Desk Software Support
SQL Programming
Visual Basic Programming

Note: Every effort has been made to keep program information current. Please use this information as a guide and consult with the chair of the department/program or an MSJC counselor.
PROGRAM DESCRIPTION

Computer Information Systems are the tools that facilitate the effective and efficient transformation of data into information. MSJC’s CIS program is designed to provide students with the knowledge and skills required to gain entry level employment as computer programmers, and/or software/system administration technicians.

The requirement and knowledge and hands-on experience in microcomputer applications, programming, operating systems, and networking. The non-transfer program in Computer Information Systems offers students an opportunity to earn a CIS Associate degree, State Approved Certificate, or locally approved Employment Concentration. The program offers students the choice of pursuing an Associate of Science (A.S.) degree in Computer Information Systems or certificate(s) with emphasis in General Track, Internet Authoring, Networking and Programming. The program also offers a transfer preparation. The courses offered will transfer to California State University/University of California systems, and other four year colleges.

These programs offer students a well-equipped technical environment for instruction and lab. CIS courses are taught in computer equipped classrooms, allowing hands-on experience in the use of industry-standard hardware, application software, operating systems, networking, and programming tools.

CAREER OPPORTUNITIES

All career opportunities listed are representative careers in each field. There are no guaranteed positions for students completing these programs. (See: www.onetonline.org)

Non-Transfer A.S. Degree

- Computer and Information Systems Manager - Emphasis in General Track: Networking Technologies Apprentice or Service Desk Hardware Support
- Computer Forensic Investigators - Emphasis in General Track: Computer Forensics
- Information Researcher - Emphasis in Internet Authoring: Internet and Web Technologies
- Network Control Technician - Emphasis in Programming: C++ Programming, Java Programming, SQL Programming, Database Programming or Database Developer
- Office and Administrative Support Supervisors and Managers - Emphasis in General Track: Computer Hardware Specialist, Networking Technologies Apprentice or Service Desk Hardware Support

General Track Certificate

This Certificate is a viable program of study for working professionals who are looking to improve their standing in the workplace by 1) gaining a better understanding of information technologies or 2) by the acquisition of specific job skills.

General Track Employment Concentrations

Students who are interested in obtaining an advanced degree in one of the Computing & Information Technology disciplines are encouraged to supplement their bachelors/masters programs with a program of study that may be pertinent to their career interest.

Computer Forensics
- Private Detective, Investigator

Computer Hardware Specialist

Data Analysis and Modeling
- Administrative Assistant, Computer Specialist, Computer Support Technician, Data Entry and Information Processing Worker, Help-Desk Technician, Statistical Assistant

Microsoft Office Applications Developer
- Administrative Assistant, Help-Desk Technician, Computer Support Specialist, Computer Support Technician, Data Entry and Information Processing Worker, Data Entry Operator

Networking Technologies Apprentice

OpenOffice Specialist
- Computer Support Specialist, Computer Support Technician, Data Entry and Information Processing Worker, Help-Desk Technician

Service Desk Hardware Support
- Computer Maintenance Technician, Help-Desk Technician, Computer Service Representative, Computer Repairer, Computer Support Specialist, Computer Support Technician

Service Desk Software Support
- Computer Support Specialist, Computer Support Technician, Customer Service Representative, Data Entry and Information Processing Worker, Data Entry Operator, Desktop Publishing, Help-Desk Technician

Internet Authoring Certificate
- This Certificate is a viable program of study for working professionals who are looking to improve their standing in the workplace by 1) gaining a better understanding of information technologies or 2) by the acquisition of specific job skills.
Web Developer, Internet Developer, Web Designer, Web Developer, Web Publisher, Web Technologies

Internet Authoring Employment Concentrations

Students who are interested in obtaining an advanced degree in one of the Computing & Information Technology disciplines are encouraged to supplement their bachelors/masters programs with a program of study that may be pertinent to their career interest.

Internet Authoring

Web Developer, Internet Developer, Web Designer, Web Developer, Web Publisher, Web Technologies

Internet and Web Technologies

Electronic Publishing, Web Developer

Networking Certificate

This Certificate is a viable program of study for working professionals who are looking to improve their standing in the workplace by 1) gaining a better understanding of information technologies or 2) by the acquisition of specific job skills.

Computer Forensic Investigator, Software Engineer, Systems Architect, Computer Systems Analyst, System Designer

Networking Employment Concentrations

Students who are interested in obtaining an advanced degree in one of the Computing & Information Technology disciplines are encouraged to supplement their bachelors/masters programs with a program of study that may be pertinent to their career interest.

LAN/WAN Administration CCNA

Network Manager and Administrator, Network Specialist

Linux System Administrator

System Administrator

Microsoft Certified Systems Administrator (MCSA)

Network Manager, Network Specialist

Security Certified Network Professional (SCNP)

Network Manager and Administrator, Network Specialist

Programming Certificate

This Certificate is a viable program of study for working professionals who are looking to improve their standing in the workplace by 1) gaining a better understanding of information technologies or 2) by the acquisition of specific job skills.

Computer Forensic Investigator, Software Engineer, Systems Architect, Computer Systems Analyst, System Designer

Programming Employment Concentrations

Students who are interested in obtaining an advanced degree in one of the Computing & Information Technology disciplines are encouraged to supplement their bachelors/masters programs with a program of study that may be pertinent to their career interest.

C++ Programming

Computer Applications Software Engineer, Computer Systems Software Engineer

Database Administration

Database Administrator

Database Developer

Computer Applications Software Engineer

Database Operator

Data Entry Operator, Computer Terminal Operator, Key-Entry Operator

Database Programming

Database Manager, Database Administration Manager

*Embedded Systems Programming

Embedded Systems Programmer

Java Programming

Computer Application Software Engineer, Computer Systems Software Engineer

Python Programming

Computer Applications Software Engineer, Computer Systems Software Engineer

SQL Programming

Computer Applications Software Engineer

Visual Basic Programming

Business Programmers, Scientific Programmer, System Programmer

*Note: The Embedded Systems Programming ECC cannot be used towards a degree or certificate in CIS.

Transfer Preparation

MSJC offers a range of course work to prepare students to transfer to four-year colleges and universities. Courses that fulfill major requirements for an associate degree in this program might not be the same as those required for transfer into the major at a four year university. All four-year institutions prescribe their own standards for course evaluation and admissions. Prospective transfer students are advised to research careers, degrees and majors in the Career/Transfer Center, access www.assist.org, review the MSJC catalog and meet with a counselor to expedite their transfer plan.
Learning Outcomes

- Recognize that a system consists of people, procedures, hardware, software, and data within a global environment.
- Apply systems concepts in the investigation, evaluation, and resolution of information technology problems.
- Recognize how the very large amounts of data collected by modern organizations can be used to review, redesign, and improve processes.
- Employ applications software and software tools in the application of information technologies to help individuals, groups, and organizations achieve their goals.
- Analyze existing processes based on interviewing, observation, documentation, analysis and other similar methods.
- Research and apply industry reference models and best practices in order to improve process designs.
- Assess, manage, and control IT risks.
- Demonstrate working effectively as a member of the team to accomplish common goals.
- Analyze technical information, as well as listen effectively to, communicate orally with, and prepare memos, reports and documentation for a wide range of audiences.
- Investigate and assess new sources of information and learning opportunities to stay abreast of emerging information and computing technologies.
- List career paths related to the program of study, as well as any qualifications and/or professional certifications that may be associated with those careers.

Certificate/Employment Concentrations

Because the Employment Concentrations and the State of California approved Certificates are so integrated, they are laid out together in the following pages. State Approved Certificates may be earned by completing one CIS Employment Concentration with the exception of the Embedded Systems Programming ECC plus the CIS core requirement (9 units) for a combined minimum of 18 units. Depending upon the Employment Concentration selected, the student may be required to complete elective course work to fulfill the minimum 18-unit requirement of the Certificate.

CIS Core Requirements (9 units)
- CSIS-101 Introduction to Computers and Data Processing 3 units
- CSIS-201 Systems Analysis and Design 3 units
- CSIS-202 Networks and Data Communications 3 units

Upon successful completion of any of the Employment Concentrations listed in this section, the student may request a Mt. San Jacinto College Certificate of Completion.

General Track

Computer Forensics (16 units)
- AJ-103 Criminal Evidence 3 units
- AJ-105 Public Safety Report Writing 3 units
- AJ-108 Criminal Investigation 3 units
- CSIS-181 Computer Hardware – Level 1 4 units
- CSIS-182 Computer Forensics 3 units

Computer Hardware Specialist Certification (12 units)

This program of study prepares students for A+ industry certification. In order to obtain that certificate students must take the CompTIA exam. Students can register for these exams at http://www.2test.com and testing facilities are available on campus.
- CSIS-151用Using the OS Command Line Interface 3 units
- CSIS-154用Using and Configuring Windows Operating Systems 3 units
- CSIS-181用Computer Hardware – Level 1 4 units
- CSIS-183用Green Computing 2 units

Data Analysis and Modeling (9 units)
- CAPP-122用Using Microsoft Excel – Level 1 3 units
- CAPP-143用Using Microsoft Access – Level 2 3 units

Microsoft Office Applications Developer (9 units)
- CAPP-120用Using Microsoft Office – Level 1 3 units
- CAPP-140用Using Microsoft Office – Level 2 3 units
- CAPP-160用Using Microsoft Office – Level 3 3 units

Networking Technologies Apprentice (10 units)

This program of study prepares students for Network+ industry certification. In order to obtain that certificate students must take the CompTIA exam. Students can register for these exams at http://www.2test.com and testing facilities are available on campus.
- CSIS-190用Network Media 3 units
- CSIS-191用Network Hardware – Level 1 4 units
- CSIS-202用Networks and Data Communications 3 units

Degree

An Associate degree in CIS may be earned by completing one Employment Concentration plus the CIS Core requirements (for a combined minimum of 18 units) as well as all MSJC General Education Option A requirements.

Required Courses (9 units)
- CSIS-101 Introduction to Computers and Data Processing 3 units
- CSIS-201 Systems Analysis and Design 3 units
- CSIS-202 Networks and Data Communications 3 units

Elective Courses (9 units)

Complete any Employment Concentration Certificate with the exception of the Embedded Systems Programming ECC. Depending upon the Employment Concentration selected, the student may be required to complete elective course work to fulfill the minimum 18-unit requirement of the Certificate.

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OpenOffice Specialist Certification (6 units)
CAPP-120M Using OpenOffice – Level 1 3 units
CAPP-140M Using OpenOffice – Level 2 3 units

Service Desk Hardware Support (15 units)
CSIS-154 Using and Configuring Windows Operating Systems 3 units
CSIS-171 Service Desk Concepts 3 units
CSIS-171L Service Desk Lab 1 unit
CSIS-181 Computer Hardware – Level 1 4 units
CSIS-191 Network Hardware – Level 1 4 units

Service Desk Software Support (16 units)
Required Courses (4 units)
CSIS-171 Service Desk Concepts 3 units
CSIS-171L Service Desk Lab 1 unit

Elective Courses (12 units)
CAPP-112 Using Microsoft Office – Level 1 3 units
CAPP-120M Using OpenOffice – Level 1 3 units
CAPP-122 Using Microsoft Excel 3 units
CAPP-123 Using Microsoft Access – Level 1 3 units
CAPP-124 Using Microsoft PowerPoint 3 units
CAPP-126G Using Adobe InDesign 3 units
CAPP-127 Using Microsoft Word 3 units
CAPP-135 Using Microsoft Project 3 units
CAPP-140 Using Microsoft Office – Level 2 3 units
CAPP-143 Using Microsoft Office – Level 2 3 units
CAPP-160 Using Microsoft Office – Level 3 3 units
CSIS-150 Using Microsoft Windows 3 units

INTERNET AUTHORING

Internet Authoring (15 units)

Note: A cumulative GPA of 2.0 or higher is required for these courses.

Required:
CSIS-103 Introduction to the Internet 3 units
CSIS-115A Web Development – Level 1 3 units
CSIS-125A Web Development – Level 2 3 units

Select One:
CSIS-114A SQL Programming – Level 1 3 units
CSIS-115B XML Design – Level 1 3 units

Select One:
CSIS-116B Developing ASP.NET Web Applications 3 units
CSIS-116D PHP Web Development 3 units

Internet and Web Technologies (15 units)

This program of study prepares students for industry certification. In order to obtain that certification students must take the CompTIA exams. Students can register for these exams at http://www.2test.com and testing facilities are available on campus.

CSIS-103 Introduction to the Internet 3 units
CSIS-104 Introduction to E-Commerce Infrastructure 3 units
CSIS-115A Web Development – Level 1 3 units
CSIS-125A Web Development – Level 2 3 units
CSIS-202 Networks and Data Communications 3 units

NETWORKING

LAN/WAN Administration CCNA (Cisco Certified Network Administrator) (12 units)
CSIS-202 Networks and Data Communications 3 units
NET-100 Local Area Network Design and Switch Management 3 units
NET-101 Layer 3 Routing and Router Management 3 units
NET-102 Wide Area Network Design and Protocol Configuration 3 units

Linux System Administrator (9 units)
CSIS-153 Using Unix-Based Operating System 3 units
CSIS-223A Linux System Administration – Level 1 3 units
CSIS-233A Linux System Administration – Level 2 3 units

Microsoft Certified Systems Administrator (MCSA) (12 units)
CSIS-202 Networks and Data Communications 3 units
NET-120 Installing, Configuring, and Administering a Windows Client Operating System 3 units
NET-121 Managing and Maintaining a Windows Server Environment 3 units
NET-122 Implementing, Managing, and Maintaining a Windows Network Infrastructure 3 units

Security Certified Network Professional (SCNP) (12 units)
CSIS-202 Networks and Data Communications 3 units
NET-140 Network Security Fundamentals 3 units
NET-141 Hardening the Infrastructure 3 units
NET-142 Network Defense and Countermeasures 3 units

PROGRAMMING

C++ Programming (6 units)
CSIS-113A C++ Programming – Level 1 3 units
CSIS-123A C++ Programming – Level 2 3 units

Database Administration (15 units)
CSIS-114A SQL Programming – Level 1 3 units
CSIS-114C SQL Programming – Level 3 3 units
CSIS-214 Principles of Database Management Systems 3 units
CSIS-241A Database Server Administration – Level 1 3 units
CSIS-261A Database Server Administration – Level 2 3 units

Database Developer (12 units)
CSIS-124A SQL Programming – Level 2 3 units
CSIS-124C Database Programming – Level 2 3 units
CSIS-134A SQL Programming – Level 3 3 units
CSIS-214 Principles of Database Management Systems 3 units

Database Operator (9 units)
CSIS-214 Principles of Database Management Systems 3 units
CSIS-241A Database Server Administration – Level 1 3 units
CSIS-261A Database Server Administration – Level 2 3 units

Database Programming (9 units)
CSIS-114C Database Programming – Level 2 3 units
CSIS-124C Database Programming – Level 2 3 units

*Embedded Systems Programming (9 units)
CSIS-118A Embedded Systems Programming 3 units
CSIS-118B Computer Organization & Assembly Language 3 units
CSIS-188 Introduction to Digital Circuits 3 units

*Note: The Embedded Systems Programming ECC cannot be used towards a degree or certificate in CIS.

Java Programming (6 units)
CSIS-113B Java Programming – Level 1 3 units
CSIS-123B Java Programming – Level 2 3 units

Python Programming (6 units)
CSIS-116E Python Programming – Level 1 3 units
CSIS-126E Python Programming – Level 2 3 units

SQL Programming (6 units)
CSIS-114A SQL Programming – Level 1 3 units
CSIS-124A SQL Programming – Level 2 3 units

Visual Basic Programming (9 units)
CSIS-112A Visual Basic Programming – Level 1 3 units
CSIS-122A Visual Basic Programming – Level 2 3 units
CSIS-132 Creating Visual Basic Database Applications 3 units

Mt. San Jacinto College 2011-2012 Catalog
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