

Palomar College Catalog 2009-2010

Computer Science and Information Systems - Computer Science (CSCI)

See also CSIS - Database, CSIS - Information Technology, CSIS - Networking, and CSIS - Web Technology

Contact the Computer Science and Information Systems Department for further information.

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<http://www.palomar.edu/csis>

Associate in Arts Degrees -

AA Degree requirements are listed in Section 6 (green pages).

- Computer Science
- Computer Science with Emphasis in Video Gaming

Certificates of Achievement -

Certificate of Achievement requirements are listed in Section 6 (green pages).

- Computer Science
- Computer Science with Emphasis in Video Gaming

Certificates of Proficiency -

Certificate of Proficiency requirements are listed in Section 6 (green pages).

- Java Software Development
- Linux
- Mac Programming
- Video Game Artist
- Video Game Developer

PROGRAMS OF STUDY

Computer Science

Computer Science is the study and design of computer systems: both hardware and software. Computer scientists are primarily concerned with the design of algorithms, languages, hardware architectures, systems software, applications software and tools. Applications range from simple game playing to the control of space vehicles, power plants and factories, from banking machines to intelligent medical diagnosis systems. Computer Science professionals are concerned with the creation of computer and information systems for the benefit of society.

Emphasis in the Computer Science program is placed on the ability to solve problems and think independently. The program offers a foundation in data structures, computer architecture, software design, algorithms, programming languages and object-oriented programming. See a Counselor for additional university transfer requirements in this major.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units
CSCI 108 Survey of Computer Science	4
CSCI 110 Programming for Computer Science	4
CSCI 210 Data Structures	4.5
CSCI 212 Machine Organization and Assembler Language	4
CSCI 220 C Programming	4
CSCI 222 C++ and Object-Oriented Programming	4
CSCI 230 Java GUI Programming	4
Electives (Select 3 courses)	
CSCI 130 Linux Fundamentals	2
CSCI 240 Windows API Programming	4
CSCI 242 Windows MFC Programming	3
CSCI 260 Video Game Programming I	4
CSDB 140 Introduction to Oracle	3
CSIT 180 C# Programming I	3
CSIT 290 Systems Analysis and Design	4
CSNT 111 Networking Fundamentals	3

MATH 245 Discrete Mathematics	3
TOTAL UNITS	36.5 - 40.5

Computer Science with Emphasis in Video Gaming

Computer Science is the study and design of computer systems: both hardware and software. Computer scientists are primarily concerned with the design of algorithms, languages, hardware architectures, systems software, applications software and tools. Applications range from simple game playing to the control of space vehicles, power plants and factories, from banking machines to intelligent medical diagnosis systems. Computer Science professionals are concerned with the creation of computer and information systems for the benefit of society.

Emphasis in the Computer Science program is placed on the ability to solve problems and think independently. The program offers a foundation in data structures, computer architecture, software design, algorithms, programming languages, and object-oriented programming. This program also introduces students to the video game industry, video game design and programming.

See a Counselor for additional university transfer requirements in this major.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units
CSCI 108 Survey of Computer Science	4
CSCI 110 Programming for Computer Science	4
CSCI 210 Data Structures	4.5
CSCI 212 Machine Organization and Assembler Language	4
CSCI 220 C Programming	4
CSCI 222 C++ and Object-Oriented Programming	4
CSCI 230 Java GUI Programming	4
Required Video Game Courses	
CSCI 160 Overview of the Video Game Industry	4
CSCI 161 Video Game Design	4
CSCI 260 Video Game Programming I	4
CSCI 261 Video Game Programming II	4
Electives (select 1 course)	
CSDB 140 Introduction to Oracle	3
CSIT 290 Systems Analysis and Design	4
CSNT 111 Networking Fundamentals	3
TOTAL UNITS	47.5 - 48.5

Java Software Development

The Java Software Development certificate program is designed to introduce the fundamental concepts of object-oriented programming and the Java programming language along with standard Java application programming interface (API) packages. Learn to develop applications that run on servers as well as cross-platform applications (applications that can run on PCs, PDAs, or other devices). Gain an understanding of data structures, functionality, and Java's user-friendly design tools.

CERTIFICATE OF PROFICIENCY

Program Requirements	Units
CSCI 110 Programming for Computer Science	4
CSCI 210 Data Structures	4.5
CSCI 230 Java GUI Programming	4
CSCI 232 Java Mobile Programming	2
CSWB 270 Java Servlets and JSPs	3
TOTAL UNITS	17.5

Linux

This certificate program in Linux/UNIX is designed for those currently in the computer industry who want to upgrade their skills, and for those with basic

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computer literacy who want to enter this fast-growing field. Fluency in Linux/UNIX can make the difference in winning a job or promotion, as more personnel directors regard knowledge and fluency in Linux/UNIX principles as key criteria for job recruitment and selection.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSCI 130	Linux Fundamentals	2
CSCI 132	Linux Shell Scripting	2
CSNT 140	Linux Administration	2
CSNT 141	Linux Networking and Security	2
TOTAL UNITS		8

Mac Programming

The Mac Programming certificate is designed for those wishing to explore Mac OS technologies. The Unix foundation of Mac OS, along with its powerful native application environments, cutting-edge development tools, and support of open source and open standards—make it a powerful, stable, and versatile development environment, capable of supporting development for multiple deployment targets.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSCI 170	BSD Unix for Mac	2
CSCI 171	Mac OS AppleScripting	3
CSCI 222	C++ and Object-Oriented Programming	4
CSCI 270	Mac OS Cocoa Programming	3
CSCI 271	OpenGL for Mac OS	3
TOTAL UNITS		15

Video Game Artist

This certificate program introduces students to the video game industry, video game design, and the creation of both 2D and 3D artwork for video games.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSCI 160	Overview of the Video Game Industry	4
CSCI 161	Video Game Design	4
GCIP/		
R GCIP 140 or	Digital Imaging/Photoshop I	
GCIP 141 or	Digital Imaging/Photoshop II	
GCIP 240	Digital Imaging/Photoshop III	3
ARTI 246 or	Digital 3D Design and Modeling	
DT 180 or	3D Studio Max – Intro 3D Modeling/Animation	
DT 182	3D Studio Max – Adv 3D Modeling/Animation	3
ARTD 220 or	Motion Design	
ARTI 247 or	Digital 3D Design and Animation	
DT 184 or	Real Time 3D Technical/Game Animation	
GCMW 204	Motion Graphics for Multimedia	2,3
TOTAL UNITS		16 - 17

Video Game Artist Certificate of Proficiency is also listed under Graphic Communications - Multimedia and Web.

Video Game Developer

The Video Game Developer certificate program introduces students to the video game industry, video game design and programming.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSCI 160	Overview of the Video Game Industry	4
CSCI 161	Video Game Design	4
CSCI 260	Video Game Programming I	4
CSCI 261	Video Game Programming II	4
TOTAL UNITS		16