CSDB 120 SQL Database Design (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSDB 110*
Transfer acceptability: *CSU*
Provides training in administering and implementing Microsoft SQL Server.

CSDB 140 Introduction to Oracle (3)
2½ hours lecture - 1½ hours laboratory
Transfer acceptability: *CSU*
An introduction to relational database concepts including the design and creation of database structures to store, retrieve, update and display data.

CSDB 150 Oracle Database Design (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSDB 140*
Transfer acceptability: *CSU*
A top-down, systematic approach to the development of Oracle relational databases.

CSDB 210 SQL Server Administration (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSDB 110*
Transfer acceptability: *CSU*
Provides the knowledge and skills necessary to administer and troubleshoot information systems that incorporate Microsoft SQL Server Enterprise Edition.

CSDB 220 SQL Server Programming (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSDB 120*
Transfer acceptability: *CSU*
Provides the knowledge and skills necessary to design, implement, and program database solutions by using Microsoft SQL Server.

CSDB 240 Oracle DBA I (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSDB 140*
Transfer acceptability: *CSU*
Design, create, and maintain an Oracle database; gain a conceptual understanding of the Oracle database architecture and how its components work and interact with one another; and learn how to create an operational database and properly manage the various structures in an effective and efficient manner. Topics are reinforced with structured hands-on practices.

CSDB 241 Oracle DBA II (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSDB 240*
Transfer acceptability: *CSU*
Transporting data between databases, and the utilities to perform these activities. Introduction to networking concepts and configuration parameters, as well as how to solve some common network problems. In hands-on exercises, configure network parameters so that database clients and tools can communicate with the Oracle database server. Addresses backup and recover techniques, and examines various backup, failure, restore and recovery scenarios. Examine backup methodologies based on business requirements in a mission critical enterprise. Use multiple strategies and Oracle Recover Manager to perform backups, and restore and recover operations.

CSDB 250 Oracle Performance Tuning (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSDB 240*
Transfer acceptability: *CSU*
Introduction to the importance of good initial database design and the method used to tune a production Oracle 9i database. The focus is on database and instance tuning rather than specific operating system performance issues. Practical experience tuning an Oracle database. Recognize, troubleshoot, and resolve common peformance related problems in administering an Oracle database.

CSDB 260 Oracle PL/SQL Programming (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSDB 140*
Transfer acceptability: *CSU*
Learn the Oracle PL/SQL language, a flexible procedural extension to SQL, which increases productivity, performance, scalability, portability and security. Use PL/SQL's tight integration with Oracle database that allows application developers to build and deploy distributed applications with considerable flexibility. Learn how to utilize advanced techniques to design PL/SQL applications to solve complex business problems.

Computer Science and Information Systems - Information Technology (CSIT)

See also CSIS - Computer Science, CSIS - Database, CSIS - Networking, and CSIS - Web Technology

Contact the Computer Science and Information Systems Department for further information.
(760) 744-1150, ext. 2387
Office: ST 6
http://www.palomar.edu/csis

Associate in Arts Degrees -
AA Degree requirements are listed in Section 6 (green pages).
• Information Technology

Certificates of Achievement -
Certificate of Achievement requirements are listed in Section 6 (green pages).
• Information Technology

Certificates of Proficiency -
Certificate of Proficiency requirements are listed in Section 6 (green pages).
• Microsoft Office User Specialist
• Visual Basic
• Web 2.0

PROGRAMS OF STUDY

Information Technology

This program prepares students for employment in information systems applications development in business and industry. The focus is on developing skills in programming languages, Internet, spreadsheets, databases, presentation graphics, word processing, in systems analysis and design, project management, and database design. See a counselor for additional university transfer requirements in this major.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
CSIT 105	Computer Concepts and Applications	3
CSIT 120/ R CSIS 120	Computer Applications	3
CSIT 170	Visual Basic I	4
CSIT 290	Systems Analysis and Design	4
CSDB 110 or	Introduction to SQL	3
CSDB 140	Introduction to Oracle	3
CSNT 110	Hardware and O.S. Fundamentals	4
CSNT 111	Networking Fundamentals	4
CSWB 110/ R CSIS 110	Web Site Development with XHTML	3
Electives (Select 3 courses)		
CSIT 70	Web 2.0 – The Web's Edge	3
CSIT 121	Advanced Computer Applications	3
CSIT 180	C# Programming I	3
CSIT 270	Visual Basic II	4
CSCI 130	Linux Fundamentals	3
CSDB 120 or	SQL Database Design	3
CSDB 150	Oracle Database Design	3

CSWB 120	JavaScript	3
CSWB 130	Advanced Web Site Development	3
CSWB 150	PHP with MySQL	3
CSWB 170	Java for Information Systems	2.5
TOTAL UNITS		**36.5 - 37.5**

Microsoft Office User Specialist

The Microsoft Office User Specialist (MOUS) Program is a validation program that provides proof of proficiency in Microsoft Office applications. It is available for Microsoft Office applications at both Proficient and Expert User levels. As a general rule of thumb, Proficient Specialists can handle a wide range of everyday tasks with ease. Expert Specialists are expected to do all those everyday tasks, plus handle more complex assignments that require more advanced formatting and functionality.

Users who attain Expert Specialist status on all five core Office applications (Word, Excel, Access, PowerPoint and Outlook) qualify to take the Microsoft Office Integration Exam. Passing this exam demonstrates that the user is not only an expert in the individual Office products, but is also skilled in integrating them into a cohesive whole. This entitles the user to be called a Microsoft Office Expert.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSIT 131	Word	1.5
CSIT 132	Excel	1.5
CSIT 133	PowerPoint	1.5
CSIT 134	Outlook	1.5
CSIT 135	Access	1.5
TOTAL UNITS		**7.5**

Visual Basic

This certificate is designed for individuals interested in acquiring the advanced programming skills necessary to design and implement Visual Basic programs.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSIT 170	Visual Basic I	4
CSIT 270	Visual Basic II	4
CSIT 271	Visual Basic III	4
CSWB 210	Active Server Pages	3
TOTAL UNITS		**15**

Web 2.0

Program will offer students the opportunity to explore cutting edge technologies of the World Wide Web.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSIT 70	Web 2.0 – The Web's Edge	3
CSIT 74	Gmail	1.5
CSIT 75	Google Docs	2
CSIT 77	Google Apps I	2
CSIT 78	Google Apps II	2
TOTAL UNITS		**10.5**

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

CSIT 50 Practical PC (1.5)
1 hour lecture - 1½ hours laboratory
Note: *May be taken 3 times*
An introduction to the personal computer. Focus is on the basic skills to use and manage your home computer. Topics include: PC Basics; Windows Operating System; Computer Files; the Internet, the Web and E-mail; Application Software; Graphics, Sound and Video; and simple upgrades and expansion.

CSIT 60 Introduction to Online Learning (1.5)
1 hour lecture - 1½ hours laboratory
Introduction to developing the skills necessary to succeed in an online or in-house course using modern computer technology. Learn and apply the basics of Windows environment, data organization and management, Blackboard Academic Suite, E-Services, the Internet, the World Wide Web, E-mail, and additional tools to enable successful use of electronic tools in a classroom.

CSIT 70 Web 2.0 - The Web's Edge (3)
2½ hours lecture - 1½ hours laboratory
Note: *May be open entry/open exit*
Surveys new technology at the cutting edge of the World Wide Web. Explores Web 2.0 Rich Internet Applications, Services Oriented Architecture, and Social Web applications.

CSIT 74 Gmail (1.5)
1 hour lecture - 1½ hours laboratory
Note: *May be open entry/open exit*
Introduces Google's webmail services including email, instant messaging, and calendar features.

CSIT 75 Google Docs (2)
1 hour lecture - 3 hours laboratory
Note: *May be open entry/open exit*
Introduces Google Docs which allows the creation of documents, spreadsheets, and presentations online.

CSIT 77 Google Apps I (2)
1 hour lecture - 3 hours laboratory
Note: *May be open entry/open exit*
Introduces Google's online applications such as Gmail, Google Talk, Google Calendar, Google Docs, and Google Page Creator.

CSIT 78 Google Apps II (2)
1 hour lecture - 3 hours laboratory
Note: *May be open entry/open exit*
Introduces Google online applications such as Google Search, Google Maps, Google Earth, Blogger, Groups, Orkut, and Photos.

CSIT 105 Computer Concepts and Applications (3)
2 hours lecture - 3 hours laboratory
Transfer acceptability: *CSU; UC – no credit if taken after CSCI 108 or 110*
The study of computer concepts and basic proficiency in modern application software. Computer concepts will focus on basic terminology; computer literacy; information literacy; hardware; software; information systems; state-of-the-art technology; structured design techniques, overview of the computer industry; ethics and current issues including virus protection and prevention. Hands-on introduction to Windows operating system and application software including basic proficiency of the Internet; browsers and e-mail. The Microsoft Office Suite will be taught using Word, Excel, Access and PowerPoint.

CSIT 120 Computer Applications (3)
2 hours lecture - 3 hours laboratory
Note: *Cross listed as R CSIS 120; may be taken 4 times; maximum of 4 completions in any combination of CSIT/R CSIS 120, CSIT 121*
Transfer acceptability: *CSU*
Hands-on experience with microcomputers and microcomputer applications featuring the use of Windows, word processing, spreadsheet, database, and presentation graphics software. The Microsoft Office Suite will be taught using Word, Excel, Access and PowerPoint.

CSIT 121 Advanced Computer Applications (3)
2 hours lecture - 3 hours laboratory
Prerequisite: *A minimum grade of 'C' in CSIT/R CSIS 120*
Transfer acceptability: *CSU*
Hands-on experience with advanced microcomputer applications featuring the

use of word processing, spreadsheet, database and presentation graphics software. The Microsoft Office Suite will be taught using Word, Excel, Access and PowerPoint.

CSIT 130 Windows Vista (1.5)
1 hour lecture - 1½ hours laboratory
Note: *May be open entry/open exit*
Transfer acceptability: *CSU*
Overview of Windows Vista operating system. Explore the resources provided by the Windows Vista operating system; manage files, documents and folders; run programs and gadgets; explore communication and scheduling; explore the Internet; set up printers; customize Windows Vista; maintain security; and manage Windows Vista.

CSIT 131 Word (1.5)
1 hour lecture - 1½ hours laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
Intended for individuals seeking the fundamental and advanced skills of Microsoft Word word processing software. Prepares individuals who are seeking to become a Microsoft Proficient Specialist and Microsoft Word Expert Specialist.

CSIT 132 Excel (1.5)
1 hour lecture - 1½ hours laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
Intended for individuals seeking the fundamental and advanced skills of Microsoft Excel spreadsheet software. Prepares individuals who are seeking to become a Microsoft Excel Proficient Specialist and Microsoft Excel Expert Specialist

CSIT 133 PowerPoint (1.5)
1 hour lecture - 1½ hours laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
Intended for individuals seeking the fundamental and advanced skills of Microsoft PowerPoint graphics software. Prepares individuals who are seeking to become a Microsoft PowerPoint Expert Specialist.

CSIT 134 Outlook (1.5)
1 hour lecture - 1½ hours laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
Introduction of fundamental and advanced skills of Microsoft Outlook software. Helps prepare individuals who are seeking to become a Microsoft Outlook Proficient Specialist and Microsoft Outlook Expert Specialist.

CSIT 135 Access (1.5)
1 hour lecture - 1½ hours laboratory
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
Intended for individuals seeking the fundamental and advanced skills of Microsoft Access database software. Helps prepare individuals who are seeking to become a Microsoft Access Proficient Specialist and Microsoft Access Expert Specialist.

CSIT 140 Online Social Networks (1.5)
1 hour lecture - 1½ hours laboratory
Focuses on the utilization of social networks to connect with colleagues, customers, family, and friends as well as the dangers and benefits of online social networking. Additional focus on building professional communication channels with Facebook and Twitter utilizing third-party tools. Other social networking forms, such as online gaming and alternate lives in virtual worlds will be explored.

CSIT 170 Visual Basic I (4)
3½ hours lecture - 1½ hours laboratory
Transfer acceptability: *CSU*
Design, create, test and run computer applications using Visual Basic. Emphasis is on learning the fundamentals of the Visual Basic interface and how to solve problems using structured design logic and the sequence, decision and repetition procedural language control structure. Selected additional features of the Visual Basic interface and procedural language are included to provide a foundation for the study of more advanced courses.

CSIT 180 C# Programming I (3)
2½ hours lecture - 1½ hours laboratory
Transfer acceptability: *CSU; UC*
Provides the knowledge and skills necessary to use the C# programming language in the .NET Framework. Build Windows applications and server-side programs; access data with ADO.NET; use C# with Web Forms and .NET CLR.

CSIT 197 Topics in Information Technology (.5 - 4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 4 times*
Transfer acceptability: *CSU*
Topics in Information Technology. See class schedule for specific topic offered. Course title will designate subject covered.

CSIT 270 Visual Basic II (4)
3½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSIT 170*
Transfer acceptability: *CSU*
An intermediate-level programming language which provides for building special purpose Windows applications using the Graphical User Interface of Windows. Includes extensive practice using programming logic control structures in designing algorithms and a wide array of Visual Basic objects in implementing the three-step approach to building Windows applications in Visual Basic.

CSIT 271 Visual Basic III (4)
3½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSIT 270*
Transfer acceptability: *CSU*
Advanced course in Visual Basic programming. Special emphasis will be placed on the application of the Visual Basic language to solve business problems including requirements definition, design, construction, testing, and documentation. Multiple forms, objects, controls, object linking and embedding (OLE), and the use of the data control object to interface with databases external to Visual Basic will be covered.

CSIT 280 C# Programming II (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSIT 180*
Transfer acceptability: *CSU; UC*
Provides intermediate-level knowledge and skills necessary to use the C# programming language. Topics include language syntax, data types, operators, exception handling, casting, string handling, data structures, collection classes and delegates. Programming of windows-based applications is presented along with object-oriented programming that includes classes, methods, polymorphism and inheritance. Event-driven programming is discussed along with the C# development and execution environment.

CSIT 290 Systems Analysis and Design (4)
3½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSIT 170 or CSCI 110 or CSCI 220*
Transfer acceptability: *CSU; UC*
Specific projects, problems, and systems. Application of appropriate programming languages and the use of analytical tools in solving case studies and problems.

CSIT 295 Directed Study in Information Technology (1, 2, 3)
3, 6, or 9 hours laboratory
Prerequisite: *Approval of project or research by department chairperson/director*
Note: *May be taken 4 times*
Transfer acceptability: *CSU; UC - Credit determined by UC upon review of course syllabus.*
Designed for the student who has demonstrated a proficiency in Information Technology subjects and the initiative to work independently on a particular sustained project which does not fit into the context of regularly scheduled classes.