tensive step-by-step coverage of IEEE 802.11 b/a/g/pre-n implementation, design, security, and troubleshooting. Material is reinforced with hands-on projects at the end of each chapter from two of the principal wireless LAN vendors, Cisco and Linksys.

CSNT 181   Hacker Prevention/Security   (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 110, and CSNT 111 or CSNT 160
Note: May be taken 3 times
Transfer acceptability: CSU
In-depth analysis and hands-on experience in PC and network security concepts specific to Microsoft, Unix-based and Cisco systems. Various topics including hacker prevention and intrusion detection, firewall installation and configuration, wireless network security, disaster recovery, access control lists, identification of malicious code, cryptography and forensics. Team dynamics in a lab environment, planning, installing, and configuring various network security elements regarding hardware, software, and media. Understand and demonstrate proper planning and implementation of a secure network, document and offer training to end- users, executives, and human resources on the proper maintenance of a secure network.

CSNT 221   Windows Infrastructure Administration   (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 121
Note: May be taken 4 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to install, configure, manage, and support a network infrastructure that uses the Microsoft Windows Server products.

CSNT 222   Plan and Manage a Windows Infrastructure   (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 221
Note: May be taken 4 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to plan, manage, administer, support, and troubleshoot networks that incorporate Microsoft Windows.

CSNT 224   Active Directory Services Administration   (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 121
Note: May be taken 4 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to install, configure, and administer Microsoft Windows Active Directory Services. Also focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers.

**CSNT 230   Design Windows Active Directory
           & Infrastructure   (2.5)**
2 hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 221, 222, and 224
Note: May be taken 2 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to design a Microsoft Windows directory services infrastructure in an enterprise network.

CSNT 231   Design Windows Network Security   (2.5)
2 hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 221, 222, and 224
Note: May be taken 2 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks using Microsoft Windows technologies.

CSNT 235   Microsoft Exchange Server   (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 121, 221, and 224
Note: May be taken 2 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to implement, administer, and troubleshoot information systems that incorporate Microsoft Exchange Server.

CSNT 260   Cisco Advanced Routing and Switching   (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 161
Note: May be taken 3 times
Transfer acceptability: CSU
Development of knowledge and skills to configure advanced routing protocols, Local Area Networks (LANs), and LAN switching. Design and management of advanced networks. This 70-hour course of instruction prepares the student for Cisco certification examination.

CSNT 261   Cisco Wide Area Network Design and Support   (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of 'C' in CSNT 260
Note: May be taken 3 times
Transfer acceptability: CSU
Development of knowledge and skills to design and configure advanced Wide Area Network (WAN) projects using Cisco IOS command set. This 70-hour course of instruction prepares the student for Cisco certification examination.

Computer Science and Information Systems - Web Technology (CSWB)

See also CSIS - Computer Science

CSIS - Information Technology, and CSIS - Networking

Contact the Computer Science and Information Systems Department for further information.
(760) 744-1150, ext. 2387
Office: MD-275
http://www.palomar.edu/csis

Certificates of Proficiency -
Certificate of Proficiency requirements are listed in Section 6 (green pages).
• Web Developer with Emphasis in Java/Open Source
• Web Developer with Emphasis in Windows
• Web Server Administrator with Emphasis in Linux
• Web Server Administrator with Emphasis in Windows

PROGRAMS OF STUDY

Web Developer with Emphasis in Java/Open Source

This program includes the Web page design and programming languages that allow a developer to build dynamic Web applications with emphasis in the Java/Open Source platform.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSWB 110	Web Site Development with XHTML	3
CSWB 120	JavaScript	3
CSWB 150	PHP with MySQL	3
CSWB 170	Java for Information Systems	2.5
CSWB 220	Advanced JavaScript and XML (AJAX)	3
Electives (Select 1 course)		
CSWB 130	Advanced Web Site Development	3
CSIT 150	Introduction to SQL	3
CSIT 160	Introduction to Oracle	3
TOTAL UNITS		**17.5**

Web Developer with Emphasis in Windows

This program includes the Web page design and programming languages that allow a developer to build dynamic Web applications with emphasis in the Java/Open Source platform.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSWB 110	Web Site Development with XHTML	3
CSWB 120	JavaScript	3
CSWB 130	Advanced Web Site Development	3
CSWB 210	Active Server Pages	3
CSIT 180	C# Programming I	3
TOTAL UNITS		**15**

Web Server Administrator with Emphasis in Linux

This program includes the use and implementation of web-networked environments for the purpose of administering Internet/Intranet applications. Strong emphasis is placed on hands-on server administration, networking, supplemented with web development and design. The student may choose an emphasis on either the Linux/UNIX or Windows platforms.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSWB 110	Web Site Development with XHTML	3
CSWB 160	Perl Programming	2
CSCI 130	Linux Fundamentals	3
CSNT 140	Linux Administration	3
CSNT 141	Linux Networking and Security	3
Electives (Select 1 course)		
CSCI 132	Linux Shell Scripting	3
GCMW 217	Online Store Design	4
TOTAL UNITS		**17**

Web Server Administrator with Emphasis in Windows

This program includes the use and implementation of web-networked environments for the purpose of administering Internet/Intranet applications. Strong emphasis is placed on hands-on server administration, networking, supplemented with web development and design.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
CSWB 110	Web Site Development with XHTML	3
CSDB 210	SQL Server Administration	3
CSNT 120	Windows Client	3
CSNT 121	Windows Server	3
GCMW 217	Online Store Design	4
TOTAL UNITS		**16**

COURSE OFFERINGS

CSWB 110   Web Site Development with XHTML   (3)
2 hours lecture - 3 hours laboratory
Note: *May be taken 3 times*
Transfer acceptability: CSU
A foundation course for Internet/Intranet technologies. Skills required to develop and publish web sites utilizing XHTML, including using HTML tables, frames, web page forms, and basic CSS (Cascading Style Sheets).

CSWB 120   JavaScript   (3)
2½ hours lecture - 1½ hours laboratory
Recommended preparation: CSWB 110
Transfer acceptability: CSU
Introduces the skills required to design Web-based applications using the JavaScript scripting language such as writing small scripts; working with data types; creating interactive forms using various form objects; and using the advanced features of JavaScript including loops, frames and cookies.

CSWB 130   Advanced Web Site Development   (3)
2 hours lecture - 3 hours laboratory
Recommended preparation: CSWB 110
Note: *May be taken 2 times*
Transfer acceptability: CSU
Web-based application development using advanced features of HTML, Dynamic HTML, XHTML, and XML.

CSWB 140   Ruby on Rails Programming   (3)
2½ hours lecture - 1½ hours laboratory
Recommended preparation: CSWB 110
Note: *May be taken 3 times*
Transfer acceptability: CSU
Provides the knowledge and skills necessary to use the Ruby on Rails (RoR) web application framework to code and deploy web applications. Topics of study include working with layouts; using controllers and models; developing with Scaffolding and REST; presenting models with forms; managing databases; and using Ajax with Rails.

CSWB 150   PHP with MySQL   (3)
2½ hours lecture - 1½ hours laboratory
Recommended preparation: CSWB 110
Transfer acceptability: CSU
Provides the knowledge and skills necessary to use the PHP scripting language to develop dynamic Web-based applications. Topics of study include the fundamentals of the scripting, using PHP with HTML forms, creating functions, and integrating with databases using MySQL.

CSWB 160   Perl Programming   (2)
1½ hours lecture - 1½ hours laboratory
Transfer acceptability: CSU
Develops basic competency in the Perl programming language. Topics of study include scalar and array variables, control structures, file I/O, regular expressions and subroutines.

CSWB 170   Java for Information Systems   (2.5)
2 hours lecture - 2 hours laboratory
Recommended preparation: CSWB 120 or CSIT 170
Transfer acceptability: CSU
An introduction to Java programming with emphasis on the syntax and structure of the Java language. Specific topics will include data types, exception handling, object-oriented programming, event-driven programming and an introduction to Java Servlets and JSPs.

CSWB 197   Topics in Web Technology   (.5 - 4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or laboratory may be scheduled by the department. Refer to Class Schedule.
Note: *May be taken 3 times*
Transfer acceptability: CSU
Topics in Web Technology. See class schedule for specific topic offered. Course title will designate subject covered.

CSWB 210   Active Server Pages   (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: A minimum grade of 'C' in CSWB 110 and CSIT 170
Transfer acceptability: CSU
Introduction to the technologies and features in Active Server Pages. Topics include introduction to ASP, Webforms, controls, events, validation, custom controls, data binding, and various methods of code reuse, state management, configuration, caching, and application deployment.

CSWB 220   Advanced JavaScript and XML (AJAX)   (3)
2½ hours lecture - 1½ hours laboratory
Prerequisite: *A minimum grade of 'C' in CSWB 120*
Transfer acceptability: *CSU*
Provides the knowledge and skills necessary to use JavaScript, XML, and server-side languages to develop dynamic Web-based applications. Topics of study include the use of asynchronous JavaScript, how to use the Document Object Model, the use of XML in Web page requests, how to use server-side languages (e.g. PHP, Java) to query and return information from a database and how to design and develop new AJAX applications.

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

Construction Inspection (CI)

Contact Occupational & Noncredit Programs for further information.
(760) 744-1150, ext. 2284
Office: AA-135

Associate in Science Degrees -
AS Degree requirements are listed in Section 6 (green pages).
• Construction Inspection

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

PROGRAM OF STUDY

Construction Inspection

Provide comprehensive education in inspection procedures, California code standards, and interpretation of construction drawings to a diverse constituency for a career in the construction industry.

A.S. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
CI 89	Plumbing Codes	2.5
CI 90	Mechanical Codes	2.5
CI 100	Building Codes I	3
CI 101	Building Codes II	3
CI 105	Electrical Codes I	3
CI 106	Electrical Codes II	3
CI 115	Nonstructural Plan Review	3
CI 125	Plan Reading Technologies	3
CI 130	CalGreen Codes	3
TOTAL UNITS		**26**

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

CI 89   Plumbing Codes   (2.5)
2½ hours lecture
Note: *May be taken 2 times*
An in-depth study of the fundamental concepts and interpretations of current state adopted plumbing codes. Topics covered include compliance issues, plumbing specifications, basic plumbing principles, and inspection methods and techniques. International Association of Plumbing and Mechanical Officials (IAPMO) revisions every three years.

CI 90   Mechanical Codes   (2.5)
2½ hours lecture
Note: *May be taken 2 times*
An in-depth study of the fundamental concepts and interpretations of current state adopted mechanical codes. Topics covered include compliance issues, mechanical specifications, basic mechanical principles, and inspection methods and techniques. International Conference of Building Officials (ICBO) revisions every three years.

CI 100   Building Codes I   (3)
3 hours lecture
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
Introduction to building code requirements with an emphasis on minimum construction standards and code enforcement. Code requirements controlling the design, construction, quality of materials, use, occupancy and location of all buildings are evaluated. Revisions to the International Building Code are every three years.

CI 101   Building Codes II   (3)
3 hours lecture
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
A study of the requirements and standards for design, loads, wood, concrete, masonry and steel buildings. The study of exits, roofs, fireplaces, drywall, glass and stucco systems are examined. Interpretation is based on the International Code Council (ICC) building code which is revised every three years.

CI 105   Electrical Codes I   (3)
3 hours lecture
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
The first half of The National Electrical Code reviewed in an explanatory, easy-to-understand, yet in-depth manner. Basic electrical theory as it pertains to building construction is discussed with real-life situations used as examples of Code items and inspection techniques. Prepares students for electrical certification tests based on the building codes (both the ICC and the IAEI certifications), as well as advaning knowledge levels for existing Inspectors.

CI 106   Electrical Codes II   (3)
3 hours lecture
Note: *May be taken 2 times*
Prerequisite: *A minimum grade of 'C' in CI 105*
Transfer acceptability: *CSU*
The second half of The National Electrical Code reviewed in an explanatory, easy-to-understand, yet in-depth manner. Basic electrical theory as it pertains to building construction is discussed with real-life situations used as examples of Code items and inspection techniques. Prepares students for electrical certification tests based on the building codes (both the ICC and the IAEI certifications), as well as advancing knowledge levels for existing Inspectors.

CI 115   Nonstructural Plan Review   (3)
3 hours lecture
Note: *May be taken 2 times*
Transfer acceptability: *CSU*
A study of basic methods used by plans examiners to check the nonstructural details of construction drawings in compliance with the international building code. Topics cover analyzing nonstructural details and determining compliance with the minimum requirements for concrete, masonry, wood, and steel structures.