## Computer Science and Information Systems - Networking (CSNT)

See also CS - Computer Science
CSIS - Information Technology, and CSIS - Web Technology

Contact the Computer Science and Information Systems Department for further information.
(760) 744-1150, ext. 2387
Office: MD-275
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### Associate in Science Degrees -
AS Degree requirements are listed in Section 6 (green pages).
* Computer Network Administration with Emphasis: Cisco
* Computer Network Administration with Emphasis: Microsoft
* Computer Network Administration with Emphasis: Linux

### Certificates of Achievement -
Certificate of Achievement requirements are listed in Section 6 (green pages).
* Computer Network Administration with Emphasis: Cisco
* Computer Network Administration with Emphasis: Microsoft
* Computer Network Administration with Emphasis: Linux

### PROGRAMS OF STUDY

#### Computer Network Administration with Emphasis: Cisco


### A.S. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

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TOTAL UNITS 30

* Note: CSNT 160 is a prerequisite for CSNT 161

#### Computer Network Administration with Emphasis: Linux

This program prepares the student for employment in the field of Computer Networking with an emphasis on the Linux Operating System. The focus is on developing skills in a combination of the network technologies produced by Linux/Unix. Specific learning outcomes include developing team dynamics in the following skills: Linux Operating System, Linux Administration and Security, Linux Scripting, Network Media Installation, LAN and WAN Design, Network Management, Fundamentals of Networking Devices, Client Hardware Repair, Network Technology.

A.S. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements | Units
---|---
CSNT 110 Hardware and O.S. Fundamentals | 4
CSNT 111 Networking Fundamentals | 4
CSNT 120 Windows Client | 3
CSNT 121 Windows Server | 3
CSNT 140 Linux Administration | 3
CSNT 141 Linux Networking and Security | 3
CSCI 108 Survey of Computer Science | 4
CSCI 130 Linux Fundamentals | 3
CSCI 132 Linux Shell Scripting | 3

TOTAL 32.50

Computer Network Administration with Emphasis: Microsoft


A.S. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements | Units
---|---
CSNT 110 Hardware and O.S. Fundamentals | 4
CSNT 111 Networking Fundamentals | 4
CSNT 120 Windows Client | 3
CSNT 121 Windows Server | 3
CSNT 221 Windows Infrastructure Administration | 3
CSNT 222 Plan and Manage a Windows Infrastructure | 3
CSNT 224 Active Directory Services Administration | 3
CSNT 230 Design Windows Active Directory & Infrastructure | 2.5
CSCI 108 Survey of Computer Science | 4
CSCI 235 Microsoft Exchange Server | 3

TOTAL UNITS 32.50

COURSE OFFERINGS

CSNT 110 Hardware and O.S. Fundamentals (4)
3½ hours lecture - 1½ hours laboratory
Note: May be taken 3 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to build a solid foundation in computer networking. Includes networking fundamentals, the OSI model, subnetting, features and functions of networking components, and the skills needed to install, configure, and troubleshoot basic networking hardware peripherals and protocols.

CSNT 120 Windows Client (3)
2½ hours lecture - 2 hours laboratory
Note: May be taken 4 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to install and configure Microsoft Windows Client on stand-alone computers and on client computers that are part of a network.

CSNT 121 Windows Server (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of ‘C’ in CSNT 120 and A minimum grade of ‘C’ in CSNT 110 and CSNT 111, or concurrent enrollment in CSNT 110 and CSNT 111
Note: May be taken 4 times
Transfer acceptability: CSU
Provides the knowledge and skills necessary to install, configure, and administer a Microsoft Windows Server in a Network. Typical network services and applications include file and print, database, messaging, proxy server or firewall, dial-in server, desktop management, and Web hosting.

CSNT 140 Linux Administration (4)
2 hours lecture - 3 hours laboratory
Prerequisite: A minimum grade of ‘C’ in CSCI 130
Transfer acceptability: CSU
For users of Linux (or UNIX) who want to start building skills in systems administration to a level where they can attach and configure a workstation on an existing network.

CSNT 141 Linux Networking and Security (3)
2 hours lecture - 3 hours laboratory
Prerequisite: A minimum grade of ‘C’ in CSNT 140
Transfer acceptability: CSU
A hands on introduction to important administration activities required to manage a Linux network configuration. Course will cover topics configuring TCP/IP, DNS, PPP, send mail, Apache Web Server and the firewall.

CSNT 160 Cisco Networking Fundamentals (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of ‘C’ in CSNT 110
Recommended preparation: CSNT 111
Note: May be taken 3 times
Transfer acceptability: CSU
Emphasis on the OSI model and industry standards. Includes network topologies, IP addressing, subnet masks, basic network design and cable installation. This 70-hour course of instruction prepares the student for Cisco certification examination.

CSNT 161 Cisco Router Configuration (3)
2½ hours lecture - 2 hours laboratory
Prerequisite: A minimum grade of ‘C’ in CSNT 160
Note: May be taken 3 times
Transfer acceptability: CSU
Development of knowledge and skills to install, configure, customize, maintain and troubleshoot Cisco routers and components. This 70-hour course of instruction prepares the student for Cisco certification examination.

CSNT 180 Wireless Networking (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
Provides a hands-on guide to planning, designing, installing and configuring wireless LANs that prepares students for the Certified Wireless Network Administrator (CWNA) certification. In-depth coverage of wireless networks with ex-
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
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http://www.palomar.edu/cs

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

E lectives (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

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