Networking Technology: Cisco

Award Type: AAS
Initiating College: Estrella Mountain Community College
Effective First Year/Term: 2008 Fall
Program Availability: Shared by: CGCC, EMCC, GCC, GWCC
Overall G.P.A.: 2.00
Total Credits: 60-64

Major Code: 3816
CIPS Code: 11.09.01
Faculty Initiator: Jim Nichols
Instructional Council: Computer Information Systems (12)

Description: A Cisco Systems recognized Regional or Local Academy, prepares students for industry-recognized certification. The curriculum is taught by Cisco Systems Certified Professionals. The Associate in Applied Science (AAS) in Networking Technology: Cisco provides training for a supervisory position working with Cisco Systems networking and Internet hardware. Knowledge and skills are developed to install, configure, maintain, and troubleshoot Cisco routers and components, advanced routing protocols, Local Area Networks (LANs), and Wide Area Networks (WANs); troubleshoot problems with various common hardware and software configurations; perform administrative tasks in a network; develop methods for customer service. Courses in the program also prepare students for the Cisco Certified Networking Associate examination.

Job Description: A Cisco networking Administrator will be required to perform various tasks such as designing, installing, maintaining and troubleshooting Cisco routers and components, Local Area Networks (LANs), and Wide Area Networks (WANs). Additional skills that are necessary include troubleshooting problems with various common hardware and software configurations, performing administrative tasks in a network, developing methods for customer service, and utilizing electronic systems.

Job Opportunities: Cisco systems is the world's largest manufacturer of networking and Internet hardware and has seen tremendous growth of market share. The employment opportunities for trained Networking Administrators are outstanding.

Program Notes:
Students must earn a grade of “C” or better for each course listed in the “Required Courses” area.
+ indicates course has prerequisite and/or corequisites
++ indicates Any Module
A course cannot be used to satisfy both the Required Course and Restricted Electives Area.

Admission Criteria: None

Program Prerequisites: None

Required Courses: Credits: 20-24
+ BPC170 Computer Maintenance I: A+ Prep 3
+ CIS126 UNIX/Linux Operating System (Any Module) (3) OR
+ MST150 Microsoft Windows Professional (Any Module) (3) 3

One of the following 2 tracks must be fulfilled:
Track 1 – Exploration:  Credits:  14 - 18
CNT140 Cisco Networking Basics (4) OR
CNT140AA Cisco Networking Fundamentals (4) OR
CNT138 CCNA Discovery - Networking for Home and Small Businesses (3) AND
+ CNT148 CCNA Discovery - Working at a Small-to-Medium Business
or Internet Service Provider (3) 4-6
+ CNT150 Cisco Networking Router Technologies (4) OR
+ CNT150AA Cisco Routing Protocols and Concepts (4) 4
+ CNT160 Cisco Switching Basics and Intermediate Routing (3) OR
+ CNT160AA Cisco Local Area Networking (LAN) Switching and Wireless (4) 3-4
+ CNT170 Cisco Wide Area Networks (WAN) Technologies (3) OR
+ CNT170AA Cisco Accessing the Wide-Area Network (WAN) (4) 3-4

Track 2 – Discovery:  Credits:  14
CNT138 CCNA Discovery - Networking for Home and Small Businesses 3
+ CNT148 CCNA Discovery - Working at a Small-to-Medium Business
or Internet Service Provider 3
+ CNT158 CCNA Discovery - Introduction to Routing and Switching
in the Enterprise 4
+ CNT168 CCNA Discovery - Designing and Supporting Computer Networks 4

Restricted Electives:  Credits:  15
BPC110 Computer Usage and Applications (3) OR
CIS105 Survey of Computer Information Systems (3) 3
+ CIS126 UNIX/Linux Operating System (Any Module) (3) OR
+ MST150 Microsoft Windows Professional (Any Module) (3) 3
+ CIS190 Introduction to Local Area Networks (3) OR
MST140 Microsoft Networking Essentials (3) 3
+ CIS270 Essentials of Network and Information Security 3
+ CIS296WA Cooperative Education (1) OR
+ CIS296WB Cooperative Education (2) OR
+ CIS296WC Cooperative Education (3) OR
+ CIS296WD Cooperative Education (4) 1-4
CIS298AA Special Projects (1) OR
CIS298AB Special Projects (2) OR
CIS298AC Special Projects (3) 1-3
BPC/CIS121AB MS-DOS Operating System I 1
CIS102 Interpersonal and Customer Service Skills for IT Professionals 1
CIS110 Home Entertainment and Computer Networking 3
ELT100 Survey of Electronics 3
BPC/CIS224 Project Management Microsoft Project for Windows 3
+ CNT145 Voice and Data Cabling 4
+ CNT181 Cisco Securing IOS Networks 4
+ CNT182 Cisco Secure PIX Firewall Configuration 3
+ CNT183 Cisco Secure Virtual Private Network Configuration 3
+ CNT184 Cisco Secure Intrusion Detection Systems 4
+ CNT185 Cisco Network Security 4
Center for Curriculum & Transfer Articulation
Division of Academic & Student Affairs

+ CNT186 Fundamentals of Wireless LANs 4
+ CNT187 Cisco SAFE Implementation 3
+ CNT190 Cisco Network Design 3
++ CNT2++ Any 200 level course with a CNT Prefix 1-4
+ BPC270 Microcomputer Maintenance II 3
+ BPC273 Advanced Server Computer Maintenance: Server+ Prep 3
+ CIS127DL Linux Utilities 3
+ CIS238DL Linux System Administration 3
+ CIS239DL Linux Shell Scripting 3
+ CIS240DL Linux Network Administration 3
+ CIS241DL Apache Web Server Administration (Linux/Unix) 3
+ CIS271DL Linux Security 3
+ CIS274DL Linux Enterprise Network Security 3
+ MST152++ Microsoft Windows Server 3
+ MST155 Implementing Windows Network Infrastructure 3
+ MST157 Implementing Windows Directory Services 3
+ MST232 Managing a Windows Network Environment 3
+ CIS250 Management of Information Systems 3
CIS280 Current Topics in Computing 3

+ CIS290AA Computer Information Systems Internship (1) OR 1-3
+ CIS290AB Computer Information Systems Internship (2) OR
+ CIS290AC Computer Information Systems Internship (3) 1-3

Free Electives: None

General Education:

General Education: Credits: 25

CORE: Credits: 15
First-Year Composition
ENG101 First-Year Composition (3) OR 3
ENG107 First-Year Composition for ESL (3)

ENG102 First-Year Composition (3) OR 3
ENG108 First-Year Composition for ESL (3) OR
ENG111 Technical Writing

Oral Communication
Any approved general education course in the Communication area 3

Critical Reading
CRE101 Critical and Evaluative Reading I (3) OR 3
Equivalent by assessment

Mathematics
Any Approved General Education course with a MAT subject 3

DISTRIBUTION: Credits: 10

Humanities and Fine Arts
Any approved general education course in the Humanities and Fine Arts area 3
Social and Behavioral Sciences
   Any approved general education course in the Social and Behavioral Sciences area 3

Natural Sciences
   Any approved general education course in the Natural Sciences area 4

Program Competencies

1. Identify basic personal computer architecture and components. (BPC170)
2. Troubleshoot problems with various common hardware and software configurations. (BPC170)
3. Describe methods of meeting customer stated expectations, and determining customer satisfaction. (BPC170, CNT138, CNT170AA)
4. Perform day-to-day administrative tasks in a network. (CIS126DA, MST150 (any module))
7. Configure advanced routing protocols, Local Area Networks (LANs), and LAN switching. (CNT160, CNT150, CNT170, CNT148, CNT158, CNT168, CNT150AA, CNT160AA, CNT170AA)
8. Design and configure advanced Wide Area Network (WAN) projects using Cisco IOS command set. (CNT170, CNT168, CNT170AA)