

Networking Technology: Cisco

Award Type: **AAS**

Effective First Year/Term: 2008 Fall

Overall G.P.A.: 2.00

Initiating College: **Estrella Mountain Community College**

Program Availability: Shared by: CGCC, EMCC, GCC, GWCC

Total Credits: 60-64

Major Code: **3816**

Faculty Initiator: Jim Nichols

CIPS Code: 11.09.01

Instructional Council: Computer Information Systems (12)

District Curriculum Committee Online Agenda Date: 9/22-08 to 9-25-08

MCCCD Governing Board Approval Date: 10-28-08

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:

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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

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+ 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	
+ 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
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Critical Reading

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

Any Approved General Education course with a MAT subject	3
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DISTRIBUTION: Credits: 10

Humanities and Fine Arts

Any approved general education course in the Humanities and Fine Arts area	3
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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))
5. Design, install, and troubleshoot a Local Area Network (LAN) using industry standards. (CNT138, CNT148, CNT158, CNT168, CNT140, CNT140AA, CNT150AA, CNT160AA, CNT170AA)
6. Configure, install and troubleshoot Cisco router switched network. (CNT150, CNT138, CNT148, CNT158, CNT150AA, CNT160AA, CNT170AA)
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)