

# CSIT 243: CISCO NETWORKING FUNDAMENTALS

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## 1. Course Information

**Subject**

CSIT - Computer Science/ Information Technology

**Course Number**

243

**School**

Science, Technology, Engineering, Mathematics

**Course Title**

Cisco Networking Fundamentals

## 2. Hours

**Semester Hours**

3

**Lecture**

3

**Lab**

0

**Practicum**

0

## 3. Catalog Description

**For display in the online catalog**

This course provides a deep dive into the Cisco network. The course introduces network fundamentals (OSI model, IPs, Subnetting, etc.), an overview of Cisco products, hardware components, how to perform Layer 1 and Layer 2 basic Cisco configurations tools, such as PuTTY, TFTP/SFTP/FTP servers, loopback plugs, and Microsoft Windows basic. After this initial understanding (which will cover CCT routing and switching) the course will cover an introduction into basic configurations on Cisco routers work, common switching/routing issues, network/device architectures, outline basic threat defense technologies, and describing the functions and features of Cisco IOS and NX-OS.

## 4. Requisites

**Corequisites**

CSIT 186

## 5. Course Type

**Course Fee Code**

3

**Course Type for Perkins Reporting**

vocational (approved for Perkins funding)

## 6. Justification

**Describe the need for this course**

Students in the cybersecurity field will benefit from understanding and knowing how to utilize current Cisco fundamentals to be successful in their academic and professional careers.

## 7. General Education

Will the college submit this course to the statewide General Education Coordinating Committee for approval as a course, which satisfies a general education requirement?

No

If the course does not satisfy a general education requirement, which of the following does it satisfy:

Program-specific requirement

## 8. Consistency with the Vision and Mission Statements, the Academic Master Plan, and the strategic initiatives of the College

Please describe how this course is consistent with Ocean County College's current Vision Statement, Mission Statement, Academic Master Plan, and the strategic initiatives of the College:

Add item	
1	Demonstrating the college's commitment to offer comprehensive educational programs that develop intentional learners of all ages. (Mission Statement)
2	Seeking to ensure that students will thrive in an increasingly diverse and complex world. (Vision Statement)
3	Preparing students for successful transfer to other educational institutions and/or entrance into the workforce. (Academic Master Plan)
4	Seeking to empower students through the mastery of intellectual and Practical Skills. (Academic Master Plan)
5	Challenging students to transfer information into knowledge and knowledge into action. (Academic Master Plan)

## 9. Related Courses at Other Institutions

### Comparable Courses at NJ Community Colleges

#### Institution

Bergen CC

#### Course Title

Networking Fund I

#### Course Number

INF-164

#### Number of Credits

3

#### Institution

Sussex County CC

#### Course Title

Networks and Telecommunications

#### Course Number

COMS 230

#### Number of Credits

3

#### Institution

Raritan Valley CC

#### Course Title

NTWK 270

#### Course Number

Introduction to Cisco Networking

**Number of Credits**

3

**Institution**

Raritan Valley CC

**Course Title**

Routing and Switching Essentials

**Course Number**

271

**Number of Credits**

3

**Institution**

Mercer County CC

**Course Title**

Fundamentals of Computer Networks

**Course Number**

NET104

**Number of Credits**

3

**Institution**

Passaic County CC

**Course Title**

Networking Essentials

**Course Number**

CIS 180

**Number of Credits**

3

**Transferability of Course****Georgian Court University**

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
CSCISEC Comp. Science/Info Systems Elective, 3	Elective	

**Kean University**

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
CPSX1003 Computer Science Free Elective , 3	Elective	

**Monmouth University**

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
FE001 100-Level Free Elective, 3	Elective	

**Rowan University**

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
CST 09295, Advanced Networking, 3	Elective	

**Rutgers - New Brunswick, Mason Gross School of the Arts**

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
04:547:331, Networking and Internet Technology, 3	Required for Information Technology and Informatics Major	Will not transfer

**Stockton University**

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
CSISEC computer Science & Info Systems Elective, 4	Elective	

**10. Course Learning Outcomes****Learning Outcomes**

Students who successfully complete this course will be able to:	
CLO1	Understand fundamental networking concepts
CLO2	Understand network access and segmentation techniques, including VLANs
CLO3	Understand network routing and switching using Cisco Devices
CLO4	Understand various services in an IP network, including DNS and DHCP
CLO5	Understand key network security concepts, including L2, L3, and WLAN Security

**11. Topical Outline**

(include as many themes/skills as needed)

	Major Themes/ Skills	Assignments (Recommended but not limited to)	Assessments (Recommended but not limited to)	Course Learning Outcome(s)
T01	Basic Network Connectivity and Communications	Reading Class discussion Research	Quiz Exam	CLO1
T02	Ethernet Concepts	Reading Class discussion Research	Quiz Exam	CLO1, CLO3
T03	Communicating Between Networks	Reading Class discussion Research	Quiz Exam	CLO3
T04	IP Addressing	Reading Class discussion Research	Quiz Exam	CLO1, CLO3, CLO4
T05	Network Applications Communications	Reading Class discussion Research	Quiz Exam	CLO1, CLO4,
T06	Building and Securing a Small Network	Reading Class discussion Research	Quiz Exam	CLO3, CLO4, CLO5
T07	Switching Concepts and VLANs	Reading Class discussion Research	Quiz Exam	CLO2, CLO3
T08	Redundant Networks	Reading Class discussion Research	Quiz Exam	CLO1, CLO4
T09	Available and Reliable Networks	Reading Class discussion Research	Quiz Exam	CLO1, CLO4

T010	L2 Security and WLANs	Reading Class discussion Research	Quiz Exam	CLO1, CLO2, CLO5
T011	Routing Concepts and Configuration	Reading Class discussion Research	Quiz Exam	CLO3

## 12. Methods of Instruction

In the structuring of this course, what major methods of instruction will be utilized?

- a. Class Lecture
- b. Discussion
- c. Demonstrations
- d. Labs
- e. Online presentations, online activities, and assessments.

## 13. General Education Goals Addressed by this Course (this section is to fulfill state requirements)

Information

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**Technological Competency**

Yes

**Related Course Learning Outcome**

CL01-CL05

**Related Outline Component**

T01-T011

**Assessment of General Education Goal (Recommended but not limited to)**

N/A

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**Information Literacy**

Yes

**Related Course Learning Outcome**

CL01-CL05

**Related Outline Component**

T01-T011

**Assessment of General Education Goal (Recommended but not limited to)**

N/A

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**Independent/Critical Thinking**

Yes

**Related Course Learning Outcome**

CL01-CL05

**Related Outline Component**

TO1-TO11

**Assessment of General Education Goal (Recommended but not limited to)**

N/A

## **14. Needs**

**Instructional Materials (text etc.):**

Appropriate textbook(s) will be selected. Please contact the department for current adoptions.

**Technology Needs:**

N/A

**Human Resource Needs (Presently Employed vs. New Faculty):**

N/A

**Facility Needs:**

N/A

**Library needs:**

N/A

## **15. Grade Determinants**

The final grade in the course will be the cumulative grade based on the following letter grades or their numerical equivalents for the course assignments and examinations

**A: Excellent**

**B+: Very Good**

**B: Good**

**C+: Above Average**

**C: Average**

**D: Below Average**

**F: Failure**

**I: Incomplete**

**R: Audit**

For more detailed information on the Ocean County College grading system, please see Policy #5154.

## **16. Board Approval**

**History of Board approval dates**

Board of Trustees Approval Date: March 17, 2023