Washtenaw Community College Comprehensive Report

CNT 206 Introduction to Networks
Effective Term: Spring/Summer 2024

Course Cover

College: Business and Computer Technologies
Division: Business and Computer Technologies
Department: Computer Science & Information Technology
Discipline: Computer Networking Technology
Course Number: 206
Org Number: 13400
Full Course Title: Introduction to Networks
Transcript Title: Introduction to Networks
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Three Year Review / Assessment Report
Change Information:
Outcomes/Assessment
Rationale: Syllabus update/review based on course assessment.
Proposed Start Semester: Winter 2024
Course Description: In this course, students are introduced to the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of internet protocol (IP) addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple local area networks (LANs), perform basic configurations for routers and switches, and implement IP addressing schemes. This is the first course in the CISCO Certified Network Associate (CCNA) curriculum at WCC and helps students prepare for a portion of the CCNA certification examination.

Course Credit Hours

Variable hours: No
Credits: 4
Lecture Hours: Instructor: 60 **Student:** 60
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 60 **Student:** 60
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

No Level Required

Requisites

General Education

Degree Attributes

High School articulation approved

General Education Area 7 - Computer and Information Literacy

Assoc in Arts - Comp Lit
Assoc in Applied Sci - Comp Lit
Assoc in Science - Comp Lit

Request Course Transfer

Proposed For:

Eastern Michigan University

Student Learning Outcomes

1. Identify the devices and services used to support communications in data networks and the Internet.
   Assessment 1
   Assessment Tool: Outcome-related questions on the Cisco final exam
   Assessment Date: Winter 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: External evaluation
   Standard of success to be used for this assessment: 70% of students will score 70% or higher on the outcome-related questions.
   Who will score and analyze the data: The exam will be automatically graded by the Cisco Networking Academy server. The results will be analyzed by our full-time faculty.

2. Design, calculate, and apply subnet masks and addresses to fulfill given requirements in internet protocol version 4 (IPv4) and IPv6 networks.
   Assessment 1
   Assessment Tool: Outcome-related questions on the Cisco final exam
   Assessment Date: Winter 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: External evaluation
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   Who will score and analyze the data: The exam will be automatically graded by the Cisco Networking Academy server. The results will be analyzed by our full-time faculty.

3. Build and configure a simple Ethernet network using routers and switches.
   Assessment 1
   Assessment Tool: Outcome-related questions on the Cisco final exam
   Assessment Date: Winter 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All students
   Number students to be assessed: All students
   How the assessment will be scored: External evaluation
   Standard of success to be used for this assessment: 70% of students will score 70% or higher on the outcome-related questions.
   Who will score and analyze the data: The exam will be automatically graded by the Cisco Networking Academy server. The results will be analyzed by our full-time faculty.

4. Utilize common network utilities to verify small network operations and analyze data traffic.

Assessment 1

Assessment Tool: Outcome-related questions on the Cisco final exam
Assessment Date: Winter 2025
Assessment Cycle: Every Three Years
Course section(s)/other population: All sections
Number students to be assessed: All students
How the assessment will be scored: External evaluation
Standard of success to be used for this assessment: 70% of students will score 70% or higher on the outcome-related questions.
Who will score and analyze the data: The exam will be automatically graded by the Cisco Networking Academy server. The results will be analyzed by our full-time faculty.

Course Objectives

1. Explain the basic characteristics of a network that supports communication in a small to medium-sized business.
2. Configure initial settings on a network device using the Cisco Internetworking Operating System (IOS) Software.
3. Given an IP addressing scheme, configure IP address parameters on devices to provide end-to-end connectivity in a small to medium-sized business network.
4. Explain how devices on a LAN access resources in a small to medium-sized business network.
5. Build a simple network using the appropriate media.
6. Identify correct statements pertaining to each layer of the Open System Interconnection (OSI) model.
7. Configure a router with basic configurations.
8. Configure IPv6 addresses to provide connectivity in small to medium-sized business networks.
9. Use common testing utilities to verify and test network connectivity.
10. Implement an IPv4 addressing scheme to enable end-to-end connectivity in a small to medium-sized business network.
11. Given a set of requirements, implement a variable length subnet mask (VLSM) addressing scheme to provide connectivity to end users in a small to medium-sized network.
12. Configure switches and routers with device-hardening features to enhance security.
13. Use common show commands and utilities to establish a relative performance baseline for the network.
14. Troubleshoot a network.

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
John Trame	*Faculty Preparer*	*Aug 02, 2023*
Department Chair/Area Director:		
Scott Shaper	*Recommend Approval*	*Aug 04, 2023*
Dean:		

Eva Samulski	*Recommend Approval*	*Aug 04, 2023*
Curriculum Committee Chair:		
Randy Van Wagnen	*Recommend Approval*	*Mar 09, 2024*
Assessment Committee Chair:		
Jessica Hale	*Recommend Approval*	*Mar 13, 2024*
Vice President for Instruction:		
Brandon Tucker	*Approve*	*Mar 15, 2024*

Washtenaw Community College Comprehensive Report

CNT 206 Introduction to Networks
Effective Term: Fall 2020

Course Cover

Division: Business and Computer Technologies
Department: Computer Science & Information Technology
Discipline: Computer Networking Technology
Course Number: 206
Org Number: 13400
Full Course Title: Introduction to Networks
Transcript Title: Introduction to Networks
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Course Change
Change Information:
Consultation with all departments affected by this course is required.
Course description
Outcomes/Assessment
Objectives/Evaluation
Rationale: The Cisco Networking Academy has updated the entire program. We must update our program and syllabi to match theirs in order to maintain our contract and remain an official Networking Academy. The program has been updated in consultation with Cisco's many channel partner companies.
Proposed Start Semester: Fall 2020
Course Description: In this course, students are introduced to the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of internet protocal (IP) addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple local area networks (LANs), perform basic configurations for routers and switches, and implement IP addressing schemes. This course is part of the CISCO networking curriculum at WCC and helps students prepare for a portion of the CISCO Certified Network Associate (CCNA) certification examination.

Course Credit Hours

Variable hours: No
Credits: 4
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Proposed For:

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Student Learning Outcomes

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   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: External evaluation
   Standard of success to be used for this assessment: At least 70% of the students will score 70% or better on the outcome-related questions.
   Who will score and analyze the data: The exam will be automatically graded by the Cisco Networking Academy server. The results will be analyzed by our full-time faculty.

2. Design, calculate, and apply subnet masks and addresses to fulfill given requirements in internet protocol version 4 (IPv4) and IPv6 networks.
   Assessment 1
   Assessment Tool: Outcome-related questions/tasks on the Cisco skills-based final exam
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of the students will score 70% or higher
   Who will score and analyze the data: Departmental faculty
   Assessment 2
   Assessment Tool: Outcome-related questions on the Cisco final exam
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: External evaluation
   Standard of success to be used for this assessment: At least 70% of the students will score 70% or better on the outcome-related questions.

Who will score and analyze the data: The exam will be automatically graded by the Cisco Networking Academy server. The results will be analyzed by our full-time faculty.

3. Build and configure a simple Ethernet network using routers and switches.
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Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
John Trame	*Faculty Preparer*	*Apr 09, 2020*
Department Chair/Area Director:		
Cyndi Millns	*Recommend Approval*	*Apr 10, 2020*
Dean:		
Eva Samulski	*Recommend Approval*	*Apr 14, 2020*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Jul 14, 2020*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Jul 15, 2020*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Jul 16, 2020*