Washtenaw Community College Comprehensive Report

CSS 210 Network Perimeter Protection - CCNA Security
Effective Term: Spring/Summer 2016

Course Cover

Division: Business and Computer Technologies
Department: Computer Instruction
Discipline: Computer Systems Security
Course Number: 210
Org Number: 13400
Full Course Title: Network Perimeter Protection - CCNA Security
Transcript Title: Network Perimeter Protection
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 title
Course description
Pre-requisite, co-requisite, or enrollment restrictions
Rationale: Change to the description to accurately reflect course content.
Proposed Start Semester: Spring/Summer 2016
Course Description: In this course, students learn how to implement security solutions that reduce the vulnerability of computer networks. Topics include principles of network security, packet filtering with ACLs, network, configuring and deploying multiple firewall topologies using Cisco devices, implementing virtual private networks (VPNs) and user authentication. This course uses the Cisco Networking Academy curriculum to prepare the student of the CCNA Security certification examination. The titles of this course were previously Computer Security IV and Basic Network Perimeter Protection.

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

Level 1

Requisites

Level II Prerequisite

CNT 206 minimum grade "C"
and
Level II Prerequisite
CNT 216 minimum grade "C"

General Education

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:

Student Learning Outcomes

1. Configure router features to filter ingress and egress traffic.
   Assessment 1
   Assessment Tool: Department-developed final concepts and skills exam
   Assessment Date: Fall 2017
   Assessment Cycle: Every Three Years
   Course section(s)/other population: Minimum of two sections over the three year period
   Number students to be assessed: All students
   How the assessment will be scored: Concepts and skills exams are scored and evaluated with department-developed rubric
   Standard of success to be used for this assessment: At least 80% of students must score 75% or better
   Who will score and analyze the data: Department Faculty and external sources (if available)

2. Configure firewalls to protect inside and DMZ networks against external threats.
   Assessment 1
   Assessment Tool: Department-developed final concepts and skills exam
   Assessment Date: Fall 2017
   Assessment Cycle: Every Three Years
   Course section(s)/other population: Minimum of two sections over the three year period.
   Number students to be assessed: All students in selected sections.
   How the assessment will be scored: Concepts and skills exams are scored and evaluated with department-developed rubric.
   Standard of success to be used for this assessment: At least 80% of students must score 75% or better.
   Who will score and analyze the data: Department Faculty and external sources (if available)

3. Implement various authentication methods on routers and firewalls.
   Assessment 1
   Assessment Tool: Department-developed final concepts and skills exam.
   Assessment Date: Fall 2017
   Assessment Cycle: Every Three Years
   Course section(s)/other population: Minimum of two sections over the three year period.
   Number students to be assessed: All students in selected sections.
   How the assessment will be scored: Concepts and skills exams are scored and evaluated with department-developed rubric.

Standard of success to be used for this assessment: At least 80% of students must score 75% or better.
Who will score and analyze the data: Department Faculty and external sources (if available).

4. Configure and implement Virtual Private Networks.
   Assessment 1
   Assessment Tool: Department-developed final concepts and skills exam.
   Assessment Date: Fall 2017
   Assessment Cycle: Every Three Years
   Course section(s)/other population: Minimum of two sections over the three year period.
   Number students to be assessed: All students in selected sections.
   How the assessment will be scored: Concepts and skills exams are scored and evaluated with department-developed rubric.
   Standard of success to be used for this assessment: At least 80% of students must score 75% or better.
   Who will score and analyze the data: Department Faculty and external sources (if available).

5. Implement 802.1x on switches.
   Assessment 1
   Assessment Tool: Department-developed final concepts and skills exam.
   Assessment Date: Fall 2017
   Assessment Cycle: Every Three Years
   Course section(s)/other population: Minimum of two sections over the three year period.
   Number students to be assessed: All students in selected sections.
   How the assessment will be scored: Concepts and skills exams are scored and evaluated with department-developed rubric.
   Standard of success to be used for this assessment: At least 80% of students must score 75% or better.
   Who will score and analyze the data: Department Faculty and external sources (if available).

Course Objectives

1. Describe security terminology and acronyms
2. Describe Security technologies, products, solutions and design
3. Configure a three interface firewall using a Cisco ASA5510 security appliance.
4. Implement authentication and authorization on Cisco routers, security appliances, and switches.
5. Implement layer 2 Identity Based Network Services and 802.1x
6. Filter network traffic on switches, routers and ASA devices
7. Explain VPN technologies including ISAKMP and IPSec
8. Implement a site-to-site VPN using pre-shared keys and digital certificates
9. Implement a remote access VPN

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Michael Galea	*Faculty Preparer*	*Nov 23, 2015*
Department Chair / Area Director:		
John Trame	*Recommend Approval*	*Dec 04, 2015*
Dean:		
Kimberly Hurns	*Recommend Approval*	*Dec 12, 2015*
Curriculum Committee Chair:		
Kelley Gottschang	*Recommend Approval*	*Jan 20, 2016*
Assessment Committee Chair:		
Michelle Garey	*Recommend Approval*	*Jan 25, 2016*
Vice President for Instruction:		
Michael Nealon	*Approve*	*Jan 25, 2016*