

Montgomery County Community College  
 CIS 257  
 Network Planning, Project Management and Implementation Capstone  
 3-2-2

**COURSE DESCRIPTION:**

This course will provide a final capstone project experience on planning, implementing and managing a Local Area Network using Microsoft Server Administration, Linux and CISCO routing skills. The course will introduce students to key aspects of project management such as defining the project scope, identifying deliverables, establishing timelines, and evaluating project cost. Students will also work on career planning through completing an industry site visit with a Network Administrator, crafting a professional resume, and defining a strategy to advance their career post course. Professional skills, such as ethical conduct, interviewing, collaboration, teamwork and communication skills, will be discussed and practiced. It is recommended that this course be taken in the final semester of study.

**PREREQUISITE(S):**

CIS 171 – Networking Routing Fundamentals and

CIS 141 – Introduction to Linux and

CIS 158 – Windows Server Administration and Support

**CO-REQUISITE(S):**

None

Upon successful completion of this course, the student will be able to:

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
1. Develop a project plan using contemporary Project Management tools.	Lecture/Discussion Demonstration Project	Project Plan Tests or Quizzes
2. Compare the features, benefits, syntax and costs of network solutions.	Lecture/Discussion Project Research	Tests or Quizzes Presentation Paper

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
<p>3. Demonstrate a working knowledge of the following network administration tasks:</p> <ul style="list-style-type: none"> <li>a. Establish network domains</li> <li>b. Create and maintain users</li> <li>c. Plan, configure and secure the file system and Directory</li> <li>d. Configure and control printing</li> <li>e. Plan and configure network subnetting</li> </ul>	<p>Lecture/Discussion Tests or Quizzes Project</p>	<p>Final Project Project Presentation</p>
<p>4. Research Network Administration and Cyber Security career path options and how they support organizations.</p>	<p>Assigned Reading Lecture / Discussion Videos Interviews Job Shadowing Project</p>	<p>Tests or Quizzes Project Paper</p>
<p>5. Develop a professional resume and profile as part of an employment-seeking strategy.</p>	<p>Assigned Reading Lecture Discussion Assignments</p>	<p>Resume Tests or Quizzes Paper Professional Profile</p>
<p>6. Examine ethical issues related to a career in the Networking field.</p>	<p>Assigned Reading Lecture Discussion Assignment Case Studies</p>	<p>Ethics Project Tests or Quizzes</p>

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Director of Educational Effectiveness. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

**SEQUENCE OF TOPICS:**

1. Introduction to Project Management tools and concepts
2. Project overview discussion and planning requirements
3. Project Implementation which Includes:
  - Establishing and securing domains
  - Creating and managing user accounts
  - Designing the file system
  - Implementing folder and file rights
  - Managing network printing
  - Configuring subnets
  - Preparing documentation and/or a project report
4. Compare and contrast network solutions
  - Linux versus Microsoft Server
  - Hardware selection considerations
  - Cloud Computing options
5. Research and discuss the role of a Network Administrator and related career options including:
  - Industry overview
  - Careers options
  - Employment opportunities
  - Professional resume development
  - Job search and career building skills / Best Practices
  - MCCC career resources
  - Job shadow or site visit with an IT professional
7. Examine Ethical considerations within the profession

**LEARNING MATERIALS:**

Projects and textbooks specific to course requirements

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

COURSE APPROVAL:

Prepared by: Marie Hartlein and Karon Crickmore  
VPAA/Provost or designee Compliance Verification:  
Victoria L. Bastecki-Perez, Ed.D.

Date: 11/13/2012

Date: 5/21/2013

Revised by: Anil Datta  
VPAA/Provost or designee Compliance Verification:  
Victoria L. Bastecki-Perez, Ed.D.

Date: 12/2014

Date: 1/2015

Prepared by: Marie Hartlein  
Provost or designee Compliance Verification:

Date: 1/3/2020

Date: 2/26/2020



*This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.*