

**Credit Hours:** 3

**Contact Hours:** This is a 3-credit course, offered in accelerated format. This means that 16 weeks of material is covered in 8 weeks. The exact number of hours per week that you can expect to spend on each course will vary based upon the weekly coursework, as well as your study style and preferences. You should plan to spend 14-20 hours per week in each course reading material, interacting on the discussion boards, writing papers, completing projects, and doing research.

**Faculty Information:** Faculty contact information and office hours can be found on the faculty profile page.

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## COURSE DESCRIPTION AND OUTCOMES

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**COURSE DESCRIPTION:**

This course provides an overview of computer networks including operating systems, networks, the internet and information system design, and the roles and responsibilities of technology professionals. During this course, students are prepared for CompTIA Network + (N10-007) Exam and Network Pro Certification. Students also learn about wireless network and network security and develop the ability to diagnose and troubleshoot common networking problem and issues.

**COURSE OVERVIEW:**

This course introduces networking aspects of information technology (IT) and the policies, terms, situations, and organizational issues facing IT professionals. The course provides a firm understanding of the needs and skill sets of information technology professionals in the workplace. The course offers a variety of problems, needs and scenarios that require technological solutions along with hands-on exercises and assessments that simulate real-world problems/issues. Real issues and common networking problems are provided through discussion, allowing students to explore options as well as to analyze, evaluate, and recommend solutions. Students will also explore growing trends in their industries (current or desired) and evaluate the potential opportunities and risks associated with those trends.

Students will learn how organizations align IT projects with strategic goals. Students will also learn to analyze, review, and evaluate organizational risks to understand technology problems and solutions.

The course will also provide students with the competencies and skills required to prepare for the CompTIA Network Pro (N10-006) exam, which is one of the leading and most respected certifications for Information Technology professionals in the workplace.

**COURSE LEARNING OUTCOMES:**

1. Analyze an organization's information technology needs.
2. Implement viable solutions to meet an organization's information technology needs.
3. Describe networking concepts, terms, hardware, software, and tools.
4. Prepare for the Network Pro exam (N10-007).
5. Synthesize an organization's goals with information-technology initiatives.
6. Identify basic concepts of network security.
7. Evaluate an organization's network based on networking software and tools.

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## PARTICIPATION & ATTENDANCE

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Prompt and consistent attendance in your online courses is essential for your success at CSU-Global Campus. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact your advisor.

Online classes have deadlines, assignments, and participation requirements just like on-campus classes. Budget your time carefully and keep an open line of communication with your instructor. If you are having technical problems, problems with your assignments, or other problems that are impeding your progress, let your instructor know as soon as possible.

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## COURSE MATERIALS

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### Required:

West, J., Dean, T., & Andrews, J. (2016). *Network+ guide to networks* (7<sup>th</sup> ed.). Boston: Cengage Learning. ISBN-13: 9781305090941

LabSim Online Labs. LabSim for CompTIA Network + (N10-006) Exam and Network Pro Certification (provided with course materials)

Testout.com

TestOut Network Pro

18-Month License ISBN: 978-1-935080-43-5

TestOut Network Pro Outline - English 5.0.x

Videos: 130 (17:10:31)

Demonstrations: 78 (8:46:15)

Simulations: 88

Fact Sheets: 136

Exams: 99 (7 Custom Critical Thinking Exams will be created from these, and the TestOut Network Pro Certification Exam will be used as the Final exam to match ITS350.)

***NOTE: All non-textbook required readings and materials necessary to complete assignments, discussions, and/or supplemental or required exercises are provided within the course itself. Please read through each course module carefully.***

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## COURSE SCHEDULE

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### Due Dates

The Academic Week at CSU-Global begins on Monday and ends the following Sunday.

- **Discussion Boards:** The original post must be completed by Thursday at 11:59 p.m. MT and peer responses posted by Sunday 11:59 p.m. MT. Late posts may not be awarded points.
- **Critical Thinking, Portfolio Project, and Final Exam:** Assignments are due Sunday at 11:59 p.m. MT. Critical Thinking assignments and Final Exam are conducted in TestOut LabSim.

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## WEEKLY READING AND ASSIGNMENT DETAILS

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## MODULE 1

### Readings

- Sections 0.0, 1.0, & 2.0 in Testout LabSim: NetworkPro
- Chapters 1 & 4 in *Network+ Guide to Networks*

### Discussion (25 points)

#### Critical Thinking (50 points)

#### **Options 1 and 2: Sections 0.0, 1.0, and 2.0**

Complete the Week 1 Critical Thinking assignment in LabSim, which can be accessed from your TestOut LabSim home page per the following instructions:

To the right of the ITS315 course name under My Classes, click **New Exam** to access the Assessment Exam dialog box. Then click **Begin** to start the **Week 1 Critical Thinking assignment**. You will have *one opportunity and a limit of three* hours to complete this assignment, so it is strongly recommended that you prepare by completing all videos, simulations, and exam questions provided in this week's LabSim module.

When you have finished the Critical Thinking assignment, take a screen shot of the final screen showing the score to certify that you have completed all tasks. Then paste the screen images into a Word document with your name, date, school name, section, course name, and instructor name and submit as the deliverable for this assignment.

**Note:** Internet Explorer or Mozilla Firefox required for LabSim assignments. For more information and steps on how to access LabSim with Google Chrome, click [here](#).

## MODULE 2

### Readings

- Sections 3.0, 4.0, & 5.0 in Testout LabSim: NetworkPro
- Chapters 2 & 5 in *Network+ Guide to Networks*

### Discussion (25 points)

#### Critical Thinking (50 points)

#### **Options 1 and 2: Sections 3.0, 4.0, and 5.0**

Complete the Week 2 Critical Thinking assignment in LabSim, which can be accessed from your TestOut LabSim home page per the following instructions:

To the right of the ITS315 course name under My Classes, click **New Exam** to access the Assessment Exam dialog box. Then click **Begin** to start the **Week 2 Critical Thinking assignment**. You will have *one opportunity and a limit of three* hours to complete this assignment, so it is strongly recommended that you prepare by completing all videos, simulations, and exam questions provided in this week's LabSim module.

When you have finished the Critical Thinking assignment, take a screen shot of the final screen showing the score to certify that you have completed all tasks. Then paste the screen images into a Word document with your name, date, school name, section, course name, and instructor name and submit as the deliverable for this assignment.

**Note:** Internet Explorer or Mozilla Firefox required for LabSim assignments. For more information and steps on how to access LabSim with Google Chrome, click [here](#).

## MODULE 3

### Readings

- Sections 6.0 & 7.0 in Testout LabSim: NetworkPro
- Chapter 3 in *Network+ Guide to Networks*

### Discussion (25 points)

### Critical Thinking (50 points)

#### **Options 1 and 2: Sections 6.0 and 7.0**

Complete the Week 3 Critical Thinking assignment in LabSim, which can be accessed from your TestOut LabSim home page per the following instructions:

To the right of the ITS315 course name under My Classes, click **New Exam** to access the Assessment Exam dialog box. Then click **Begin** to start the **Week 3 Critical Thinking assignment**. You will have *one opportunity and a limit of three* hours to complete this assignment, so it is strongly recommended that you prepare by completing all videos, simulations, and exam questions provided in this week's LabSim module.

When you have finished the Critical Thinking assignment, take a screen shot of the final screen showing the score to certify that you have completed all tasks. Then paste the screen images into a Word document with your name, date, school name, section, course name, and instructor name and submit as the deliverable for this assignment.

**Note:** Internet Explorer or Mozilla Firefox required for LabSim assignments. For more information and steps on how to access LabSim with Google Chrome, click [here](#).

## MODULE 4

### Readings

- Section 8.0 & 9.0 in Testout LabSim: NetworkPro
- Chapter 7 in *Network+ Guide to Networks*

### Discussion (25 points)

### Critical Thinking (50 points)

#### **Options 1 and 2: Sections 8.0 and 9.0**

Complete the Week 4 Critical Thinking assignment in LabSim, which can be accessed from your TestOut LabSim home page per the following instructions:

To the right of the ITS315 course name under My Classes, click **New Exam** to access the Assessment Exam dialog box. Then click **Begin** to start the **Week 4 Critical Thinking assignment**. You will have *one opportunity and a limit of three* hours to complete this assignment, so it is strongly recommended that you prepare by completing all videos, simulations, and exam questions provided in this week's LabSim module.

When you have finished the Critical Thinking assignment, take a screen shot of the final screen showing the score to certify that you have completed all tasks. Then paste the screen images into a Word document with your name, date, school name, section, course name, and instructor name and submit as the deliverable for this assignment.

**Note:** Internet Explorer or Mozilla Firefox required for LabSim assignments. For more information and steps on how to access LabSim with Google Chrome, click [here](#).

## MODULE 5

### Readings

- Section 10.0 in Testout LabSim: NetworkPro
- Chapter 6 in *Network+ Guide to Networks*

### Discussion (25 points)

#### Critical Thinking (50 points)

##### **Options 1 and 2: Section 10.0**

Complete the Week 5 Critical Thinking assignment in LabSim, which can be accessed from your TestOut LabSim home page per the following instructions:

To the right of the ITS315 course name under My Classes, click **New Exam** to access the Assessment Exam dialog box. Then click **Begin** to start the **Week 5 Critical Thinking assignment**. You will have *one opportunity and a limit of three* hours to complete this assignment, so it is strongly recommended that you prepare by completing all videos, simulations, and exam questions provided in this week's LabSim module.

When you have finished the Critical Thinking assignment, take a screen shot of the final screen showing the score to certify that you have completed all tasks. Then paste the screen images into a Word document with your name, date, school name, section, course name, and instructor name and submit as the deliverable for this assignment.

**Note:** Internet Explorer or Mozilla Firefox required for LabSim assignments. For more information and steps on how to access LabSim with Google Chrome, click [here](#).

## MODULE 6

### Readings

- Sections 11.0 & 12.0 in Testout LabSim: NetworkPro
- Chapters 8 & 11 in *Network+ Guide to Networks*

### Discussion (25 points)

#### Critical Thinking (50 points)

##### **Options 1 and 2: Sections 11.0 and 12.0**

Complete the Week 6 Critical Thinking assignment in LabSim, which can be accessed from your TestOut LabSim home page per the following instructions:

To the right of the ITS315 course name under My Classes, click **New Exam** to access the Assessment Exam dialog box. Then click **Begin** to start the **Week 6 Critical Thinking assignment**. You will have *one opportunity and a limit of three* hours to complete this assignment, so it is strongly recommended that you prepare by completing all videos, simulations, and exam questions provided in this week's LabSim module.

When you have finished the Critical Thinking assignment, take a screen shot of the final screen showing the score to certify that you have completed all tasks. Then paste the screen images into a Word document with your name, date, school name, section, course name, and instructor name and submit as the deliverable for this assignment.

**Note:** Internet Explorer or Mozilla Firefox required for LabSim assignments. For more information and steps on how to access LabSim with Google Chrome, click [here](#).

## MODULE 7

### Readings

- Sections 13.0 and 14.0 in Testout LabSim: NetworkPro
- Chapter 10 in *Network+ Guide to Networks*

### Discussion (25 points)

#### Critical Thinking (50 points)

#### **Options 1 and 2: Sections 13.0 & 14.0**

Complete the Week 7 Critical Thinking assignment in LabSim, which can be accessed from your TestOut LabSim home page per the following instructions:

To the right of the ITS315 course name under My Classes, click **New Exam** to access the Assessment Exam dialog box. Then click **Begin** to start the **Week 7 Critical Thinking assignment**. You will have *one opportunity and a limit of three* hours to complete this assignment, so it is strongly recommended that you prepare by completing all videos, simulations, and exam questions provided in this week's LabSim module.

When you have finished the Critical Thinking assignment, take a screen shot of the final screen showing the score to certify that you have completed all tasks. Then paste the screen images into a Word document with your name, date, school name, section, course name, and instructor name and submit as the deliverable for this assignment.

**Note:** Internet Explorer or Mozilla Firefox required for LabSim assignments. For more information and steps on how to access LabSim with Google Chrome, click [here](#).

## MODULE 8

### Readings

- Sections 15 & 16 in Testout LabSim: NetworkPro
- Chapters 9 & 12 in *Network+ Guide to Networks*

### Discussion (25 points)

#### Portfolio Project (200 points)

#### **Options 1 and 2: Comprehensive and Secure Networking Solution (Written)**

##### **Scenario**

Rocky Mountain Corporation (RMC) has relocated to a new building that was previously wired and set up for a local area network (LAN). The company implemented a 50-user client/server-based wireless network, using WPA in which all printers, folders, and other resources are shared; everyone has access to everything and there is no security outside of the defaults that were in place when the system was set up.

You have been hired to secure the RMC network and ensure that the company has a properly designed network that allows for future growth (500 users in 12 months) and for the highest levels of security to protect against internal and external attacks.

RMC has scheduled a meeting with its key executives and you in order to provide you with any additional information you may need.

##### **Instructions**

In an 8- to 10-page proposal, address the following three sections and their action items to provide a comprehensive secure environment:

##### **Section 1: Topology (type of network) and Network Devices**

RMC needs to set up a network; it requires clarification regarding the type of network (or topology) in order to properly configure the connections among all PCs within the organization. The company is

looking for guidance regarding the type of network devices that will connect devices to the local area network (LAN).

- The company asks that you explain what internal and external networking components are required (explain each and justify why you chose the network devices you did).
- Provide a cryptography method that will ensure vital data is encrypted. Provide an explanation of what network protocols will be used on the LAN and why.
- Ensure that the network has the capacity to:
  - Connect all users to company resources (e.g. printers, scanners, and other items);
  - Provide file sharing options;
  - Manage these resources in a central location;
  - Allow for internal users to access the internet; and,
  - Allow external users and vendors to access the LAN remotely.
- Your proposal should include budgetary cost estimates for the chosen topology.

### **Section 2: IP Infrastructure**

RMC has asked that you provide details regarding an IP structure (which includes static, DHCP—or the possibility of both—and proper IP class assignment), which is mindful of the company’s expectation of continued growth.

- Provide a remote access plan to ensure that users who access the network remotely do so in a secure and efficient manner.

### **Section 3: Security**

Basic security has been in place and now the company would like you to make this a more secure facility in hopes of protecting against internal and external security threats.

- Generate a plan to provide secure access control methods for all internal-user access including a viable password policy, which includes complexity, duration, and history requirements.
- Provide a thorough plan to protect the network from malware and various types of malicious attacks.

### **Submission Requirement**

Your proposal should include all of the bulleted elements in the three sections above, with support, detail, and elaboration for each section explicitly grounded in knowledge from the assigned readings and media along with outside sources.

1. Your paper must be 8-10 pages in length, not including the required cover and references pages.
2. Include a minimum of six sources. (For each of the three sections, include at least two scholarly references as well as material from the Network Pro LabSim.) The CSU-Global Library is a great place to find your sources.
  - You cannot use your textbook as your primary source of information. You must draw on other sources such as books, websites, business and trade journals, legal and compliance journals, government agencies, professional associations, and industry standards, for example.
  - Visit the Library’s special research guide for this discipline.
  - If you have questions about the format or content of references, discuss it with your instructor.
3. Ensure your entire document, including citations of sources, is in conformity with the CSU-Global Guide to Writing and APA. Visit the CSU Global Writing Center to find numerous guides on how to write and research papers including an APA template paper.
4. Your submission should include the following (title each portion accordingly):
  - Cover page.
  - Abstract: The abstract is an “executive overview” of your paper. It must be a 50- to 100-word summary that would be appropriate to present to a manager. The abstract provides the reader with the essence of your project without reading the paper in its entirety.

- Table of Contents: This lists the sections of your paper with corresponding page numbers. Include tables and figures (if you have more than two in your paper), and any appendices.
- Introduction: In this section, state the basis of the Detailed Technical Proposal— Comprehensive and Secure Solution example that you will be presenting. Discuss how this analysis will be based upon the concepts studied in the course.
- Body of the paper: Include discussion, implications, and conclusion/recommendations. Provide a thorough discussion of your findings and the implications of your study. Use as headings each of the three sections under Instructions.
- References.

5. Review the Portfolio Project Grading Rubric in the Module 8 folder.

### **Final Exam (250 points)**

#### **Options 1 and 2: TestOut Network Pro Certification Exam**

Before midnight of Week 8, complete the TestOut Network Pro certification exam, which can be accessed from your home page in LabSim

The exam includes up to 15 questions and up to 50 tasks. You are allowed 120 minutes (two hours) to complete it. You will be allowed to take the exam only once.

#### **TestOut Network Pro Certification**

The TestOut Network Pro Certification measures an examinee's ability to perform tasks commonly performed by IT network professionals, including systems administrators, network administrators, network engineers, and related careers. The core responsibilities of these job roles typically revolve around the management of hardware and software networking components and include IP configuration, setting up wireless and wired networks, managing networks, basic network security, software updates, hardware upgrades, and network protocols. IT network professionals must also master fundamental computer support and maintenance, which are covered in TestOut's PC Pro certification exam

#### **Skills Assessed:**

The TestOut Network Pro certification exam measures an examinee's ability to complete tasks related to the following topics:

- Cables and connectors
- Wired and wireless networks
- IP configuration
- Network management
- Network security
- Ethernet configuration.

When you have finished the TestOut Network Pro certification exam, take a screen shot of the final screen showing the score. Paste the screen images into a Word document with your name, date, school name, section, course name, and instructor name, and submit as the deliverable for this assignment.



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## COURSE POLICIES

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### Course Grading

20% Discussion Participation  
35% Critical Thinking Assignments  
20% Final Portfolio Project  
25% Final Exam

| Grading Scale |               |
|---------------|---------------|
| A             | 95.0 – 100    |
| A-            | 90.0 – 94.9   |
| B+            | 86.7 – 89.9   |
| B             | 83.3 – 86.6   |
| B-            | 80.0 – 83.2   |
| C+            | 75.0 – 79.9   |
| C             | 70.0 – 74.9   |
| D             | 60.0 – 69.9   |
| F             | 59.9 or below |

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## IN-CLASSROOM POLICIES

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For information on late work and incomplete grade policies, please refer to our [In-Classroom Student Policies and Guidelines](#) or the Academic Catalog for comprehensive documentation of CSU-Global institutional policies.

### **Academic Integrity**

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /repurposing your own work (see *CSU-Global Guide to Writing and APA Requirements* for percentage of repurposed work that can be used in an assignment), unauthorized possession of academic materials, and unauthorized collaboration. The CSU-Global Library provides information on how students can avoid plagiarism by understanding what it is and how to use the Library and Internet resources.

### **Citing Sources with APA Style**

All students are expected to follow the *CSU-Global Guide to Writing and APA Requirements* when citing in APA (based on the APA Style Manual, 6th edition) for all assignments. For details on CSU-Global APA style, please review the APA resources within the CSU-Global Library under the “APA Guide & Resources” link. A link to this document should also be provided within most assignment descriptions in your course.

### **Disability Services Statement**

CSU-Global is committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Disability Resource Coordinator at 720-279-0650 and/or email [ada@CSUGlobal.edu](mailto:ada@CSUGlobal.edu) for additional information to coordinate reasonable accommodations for students with documented disabilities.

### **Netiquette**

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults, or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom. If you have concerns about something that has been said, please let your instructor know.