
Network Management
IT340
Saudi Electronic University

Student Manual

What You Can Expect in This Course

In this foundation-level course, you will be expected to assume significant responsibility within the learning experience. Because you are taking this course in a blended (online and face-to-face) format, you will be working independently to a large extent. You will need to study textbook explanations and examples, complete assigned exercises, and fully utilize the online tutorial support provided. Your instructor is, of course, available to help you, too. Hopefully, you will also find it helpful to collaborate with your classmates. You, your classmates, and your instructor will work together to achieve the desired outcomes in this course.

Assignments

The best way to **learn** is to **do**. Therefore, in addition to weekly readings, there are also weekly assignments that contain practice exercises or projects. Some of these are graded and some are used for self-assessment. While completing these exercises, you will apply the techniques and concepts being studied. You may find that you actually need to complete additional practice exercises from the textbook in order to feel really comfortable with certain concepts. You may find it helpful to review earlier assignments to warm up for quizzes and exams. Make a note or print results from any material you do not understand and discuss these with your professor.

Many courses contain online enrichment material. Although this material is not required, it will help you gain a deeper understanding of the weekly topics.

Class Participation

This course includes one face-to-face (F2F) and one virtual class meeting per week. Your interaction with the instructor and your classmates is important. Fully participating in these classes will allow you to have your own questions answered and will give you the opportunity to help classmates who may have questions.

The Textbook

The textbook used in this course was selected because of the clear way in which it presents the material and the special features incorporated to aid students. As part of your Week 1 preparation, you will review the book to familiarize yourself with these features so that you can take full advantage of them.

Some Study Suggestions

You should expect to spend about 9-12 hours a week, studying and completing assignments for this course. In test weeks, additional hours may be required. The concentration this material requires can be very tiring, and for this reason it is best not to try to study or complete

assignments in one 4-6 hour session at a time. Instead, it is generally more effective to split your time into 1 ½- to 2-hour sessions so that you are working a little each day. It is also important that you work during whatever period of the day you are most alert. This will help you to understand, retain the information, and learn more efficiently.

If you run into a problem or concept that you cannot figure out in a reasonable amount of time, take a break and come back to it later. If you still can't figure it out, help is available. You can contact your professor, complete some relevant tutorial exercises or seek tutoring. You can also mark the problem or section and go on to work on a different problem or section. Once you have completed other problems or sections, you can go back and work on problems or sections that you found difficult. In any case, make the most of the time you spend, and do not let yourself get bogged down so that you are not making any progress.

You will find additional study tips throughout your textbook. Take the time to read them, and apply the ones that seem most helpful for your situation.

Best wishes for a successful experience!

Student Responsibilities

Time Commitment

The study of technical courses is cumulative (i.e., an understanding of earlier material is necessary to grasp concepts covered later). Past experience has shown a high correlation between procrastination and low grades. Furthermore, procrastination will severely limit interaction with other students. Students must be committed to completing tasks on time.

Reading assignments should be read in the suggested week and then reread after the concepts have been discussed and students have participated in the appropriate activities.

This course will require **9-12 hours of work per week**. Please note that, in weeks where students have a test, additional hours may be required. This requirement may influence the time allotted to other classes. A student with a "heavy" schedule (e.g., school combined with work and family) should be aware of the dedication that this course requires. These factors cannot be used for special consideration on assignment due dates in the class; therefore, the students must evaluate this requirement before proceeding with the course.

Grading Policy

Assessment in this course is based on mastery of course outcomes. The student's grade for this course will be calculated based on performance. A breakdown of assessments and corresponding point values is shown in the table below.

Course-level grading guidelines:

A	90 – 100% of the total possible points earned for the course
B	80 – 89% of the total possible points earned for the course
C	70 – 79 % of the total possible points earned for the course
D	60 – 69 % of the total possible points earned for the course
E	< 60 % of the total possible points earned for the course

Submission and Return Policy

Assignments must be submitted to the instructor by 11:59 pm on the due date indicated in the Course Schedule. Assignments may be accepted late but will receive a grade penalty based on the following chart. No assignments will be accepted once solutions have been distributed to any section of the course.

Assignment submission date	Maximum grade (% of total possible points)
Up to a maximum of 1 week late	75%
More than 1 week late	No credit

The professor, at his/her sole discretion, may choose to amend this policy to extend the submission deadline in certain cases to accommodate extenuating circumstances. Homework assignments submitted on time for grading will typically be returned within one week of the due date. No assignments will be accepted after Saturday of the last week of class unless other arrangements have been made with the professor.

Object: Syllabus**Syllabus****Student Content****Course Information**

Department: IT	Code: IT340	Course Title: Network Management
Semester: Level 8	Credit Hours: 3	Prerequisites: IT210

Course Description

This course addresses how to manage complex high-speed computer networks running a high-volume mix of data, voice, and video protocols. We study performance-tuning options and monitoring techniques. It will cover both large local-area networks and Internet service provider networks. Special focus will be on network management applications with focus on performance optimization, fault management, and security management.

Also, hardware-oriented management protocols such as SNMP, tools for managing software applications, and policy-based routing protocols such as BGP will be covered. Will also cover Advanced IP configuration using iproute2 package, how to tune networks for real-time traffic such as RTP and VOIP, and network-management tools such as OpenNMS and GroundWork. There will be a programming project involving development of a network-monitoring tool, preferably using Java.

Face to Face (F2F) and Virtual (online) classes will each be held once per week. Please refer to your class schedule for the days and times of these classes. Your professor will provide instructions on how to attend the virtual class. Participation in these classes is mandatory, and to do well in this course, it is expected that you attend all sessions. If there is some reason you cannot attend a class, please notify your professor.

Resources

Textbook

- Subramanian, M., Gonsalves, T., Usha Rani, N. Network management: Principles and practice (2010). Prentice Hall. ISBN-13: 9788131734049 (print edition); no e-book

Learning Outcomes

1. Demonstrate a critical understanding of network management issues and standards. Also, demonstrate a clear critical understanding of automated network management.
2. Understand and evaluate the installation costs and run-time overheads of network management.
3. Demonstrate a clear critical understanding of network performance and reliability and be able to relate these aspects to network management (how network management facilitates the achievement of these).
4. Be able to design a network from analysis of user requirements to selection of equipment, configuration, implementation; and be able to relate aspects of the design to network management (ensuring that the design is manageable - use of managed devices, budgeting for the additional cost of network management etc).
5. Be able to configure routers for network management (specifically includes setting up the SNMP agent).
6. Be competent in the use, selection and evaluation of tools for network management (e.g. HP Openview, OpenNMS and GroundWork) to remotely manage devices such as routers.

Course Point Distribution

- Class Activities & Discussions: 25% (250 points)
- Mid Term: 25% (250 points)
- Final Examination: 50% (500 points)

Object: 1-1: Class Member Introductions (SEU)**1-1: Class Member Introductions****Student Content****Purpose**

The purpose of this assignment is to help you learn more about the members of your learning community.

Action Items

1. Think of two items that are interesting or unique about yourself.
 2. Complete a course introduction noting one or two unique items and background information about yourself. For example, your area of work, professional interests and aspirations, academic goals, why you are taking this course, and your hobbies. Post your introduction to the discussion topic "Class Member Introductions."
 3. Respond to two other class member postings, noting questions and mutual interests.
-

Submission Instructions

Post your introduction and responses before the first face-to-face class meeting.

Due Date

week 1

Object: 1-2: Textbook**1-2: Textbook****Student Content****Purpose**

The purpose of this assignment is to ensure that you have your textbook and other required materials for this course.

Action Items

1. Review the course syllabus and determine the textbook and required materials needed for this course.
 2. Gain access to the textbook or e-book required for this course. Consult your instructor if you are having difficulties accessing the textbook.
 3. Review the **Start Here** item. Make sure that you have all necessary computer technology and are familiar with the Blackboard system and SEU's resources.
-

Submission Instructions

Email your instructor to advise that you have access to the textbook for this course. Inform your instructor as soon as possible if you are having difficulties accessing the textbook.

Object: Digital Library Research



1-3: Digital Library Research

Student Content

Purpose

The purpose of this assignment is to become familiar with the SEU Digital Library and reflect on a course related topic.

Action Items

1. Locate an article on the SEU Digital Library that applies to a relevant topic that you want to learn about in this course.
 2. Post a thread in the Discussion Board that describes this article and why you feel it is relevant to this class. Your post should be approximately 2-3 paragraphs (150-200 words).
 3. Respond to another student's post before the end of the week. Consider and reflect on your fellow student's point of view. Simply saying that you agree or disagree is not a sufficient response.
 4. Bring your article to class for discussion.
-

Submission Instructions

- Post your article description and peer response on the discussion board.
- Bring your article to class for discussion.

Due Date

week 1

Overview, Study Notes, and Media

Object: Week 1 Reading and Preparation



Week 1 Reading and Preparation

Student Content

Learning Outcomes

Upon successful completion of this module, the student will:

- Have access to their textbook and other required course materials.

- Become introduced to fellow students and the professor in this course.
 - Be familiar with the Blackboard navigation.
 - Be familiar with SEU's Digital Library and other resources.
-

Reading

Read the following to prepare for this week:

- The course syllabus
 - The Start Here document
 - A selected article from the SEU Digital Library
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 1-1: Class Member Introductions
 - 1-2: Textbook
 - 1-3: Digital Library Research
-

Deliverables

The following assignment(s) are due this week:

- 1-1: Class Member Introductions
 - 1-2: Textbook
 - 1-3: Digital Library Research
-

Object: 2-1: Chapters 1 and 2 Exercises



2-1: Chapters 1 and 2 Exercises

Student Content

Purpose

To assess your ability to:

- Explain the features of different TCP/IP protocols
- Discuss various challenges of managing corporate network

Action Items

1. Complete the assigned readings for this week before working on this assignment.
2. Refer to exercise questions at the end of Chapter 1 and 2 and answer the following:
 - Chapter 1 Exercise 6
 - Chapter 2 Exercise 4
3. Be thorough in addressing the exercises.

Submission Instructions

Complete and submit this assignment per your professor's instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 30 points

Due Date

week 2

Points

Points available: **30**



Overview, Study Notes, and Media

Object: Week 2 Reading and Preparation



Week 2 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Describe common network problems
 - Describe the features of and services provided by each layer of the OSI protocol/model.
 - Identify the main characteristics of hubs, switches, and routers.
 - Explain the features of different TCP/IP protocols.
 - Explain the characteristics of virtual LANs (VLANs) and Spanning Tree Protocol (STP) and the advantages they provide.
 - Discuss various challenges of managing corporate network
 - Map protocols and addressing, routing, and switching into the appropriate layer of the OSI model
-

Reading

Read the following to prepare for this week:

- Chapters 1 and 2 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- Network Management: An Overview
 - Addressing the Network IPv4: www.youtube.com/embed/FqmtvA1R8A8
 - OSI Network Layer: www.youtube.com/embed/LqkipHausn4
 - VLAN Trunking Protocol or VTP: www.youtube.com/embed/q44j2uSTslk
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 2-1: Chapters 1 and 2 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 2-1: Chapters 1 and 2 Exercises
-

Object: Week 2 Media



Week 2 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 3-1: Chapter 3 Exercises



3-1: Chapter 3 Exercises

Student Content

Purpose

To assess your ability to explain how ASN.1 is applied to specifying management information tree

Action Items

1. Complete the assigned readings for this week before working on this assignment.
 2. Refer to exercise questions at the end of Chapter 3 and answer the following:
 - Chapter 3 Exercise 8
 3. Be thorough in addressing the exercises.
-

Submission Instructions

Complete and submit this assignment per your professor's instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 15 points

Due Date

week 3

Points

Points available: 15

Overview, Study Notes, and Media

Object: Week 3 Reading and Preparation



Week 3 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Describe the various network management standards that are currently in use
 - Compare and contrast different management models
 - Identify functional application of a network management system
 - Explain how ASN.1 is applied to specifying management information tree.
-

Reading

Read the following to prepare for this week:

- Chapter 3 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- Network Management Fundamentals
 - Network Management Principles: www.youtube.com/embed/spbZmJaoitY
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 3-1: Chapters 3 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 3-1: Chapter 3 Exercises
-

Object: Week 3 Media



Week 3 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 4-1: Chapters 4 and 5 Exercises**4-1: Chapters 4 and 5 Exercises****Student Content****Purpose**

To assess your ability to:

- Discuss the historical development of SNMP standard, including RFC, STD, and FYI documents
- Discuss the five areas of functions of SNMP

Action Items

1. Complete the assigned readings for this week before working on this assignment.
2. Refer to exercise questions at the end of Chapter 4 and 5 and answer the following:
 - Chapter 4 Exercise 2
 - Chapter 5 Exercise 7
3. Be thorough in addressing the exercises.

Submission Instructions

Complete and submit this assignment per your professor's instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 35 points

Due Date

week 4

Points

Points available: 35

Overview, Study Notes, and Media**Object: Week 4 Reading and Preparation**

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Discuss the historical development of SNMP standard, including RFC, STD, and FYI documents.
 - Discuss the five areas of functions of SNMP
 - Explain the organization of SNMP management
 - Describe SNMP communication model, including architecture, administrative model, SNMP protocol, and SNMP MIB.
-

Reading

Read the following to prepare for this week:

- Chapters 4 and 5 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- SNMPv1
 - Introduction to SNMP: www.youtube.com/embed/Jnolpod-HCo
 - SNMP Operation: www.youtube.com/embed/tg47MZdtcAE
 - SNMP Configuration: www.youtube.com/embed/VHtQL1574Go
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 4-1: Chapters 4 and 5 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 4-1: Chapters 4 and 5 Exercises
-

Object: Week 4 Media



Week 4 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 5-1: Chapters 6 and 7 Exercises**5-1: Chapters 6 and 7 Exercises****Student Content****Purpose**

To assess your ability to:

- Describe major enhancement introduced in SNMPv2 over that in SNMPv1
- Discuss key features of SNMPv3
- Discuss access control in SNMPv3, including elements of the model, VACM process and VACM MIB

Action Items

1. Complete the assigned readings for this week before working on this assignment.
2. Refer to exercise questions at the end of Chapter 6 and 7 and answer the following:
 - Chapter 6 Exercise 3
 - Chapter 7 Exercise 9
3. Be thorough in addressing the exercises.

Submission Instructions

Complete and submit this assignment per your professor's instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 35 points

Due Date

week 5

Points

Points available: 35

Overview, Study Notes, and Media**Object: Week 5 Reading and Preparation**

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Describe major enhancement introduced in SNMPv2 over that in SNMPv1.
 - Discuss key features of SNMPv3.
 - Explain the five types of applications defined by SNMPv3.
 - Discuss access control in SNMPv3, including elements of the model, VACM process and VACM MIB.
-

Reading

Read the following to prepare for this week:

- Chapters 6 and 7 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- SNMPv2 and SNMPv3
 - SNMPv3 Protocol: www.youtube.com/embed/cqbEc-zhyIQ
 - SNMPv3 Security Mechanism: www.youtube.com/embed/ART2Vb45tqM
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 5-1: Chapters 6 and 7 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 5-1: Chapters 6 and 7 Exercises
-

Object: Week 5 Media



Week 5 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 6-1: Chapter 8 Exercises**6-1: Chapter 8 Exercises****Student Content****Purpose**

To assess your ability to:

- Describe what is meant by remote monitoring (RMON) and its importance in network management
 - Explain the importance of (RMON) in network management
-

Action Items

1. Complete the assigned readings for this week before working on this assignment.
 2. Refer to exercise questions at the end of Chapter 8 and answer the following:
 - Chapter 8 Exercise 1
 3. Be thorough in addressing the exercises.
-

Submission Instructions

Complete and submit this assignment per your professor's instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 15 points

Due Date

week 6

Points

Points available: **15**

Overview, Study Notes, and Media**Object: Week 6 Reading and Preparation**

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Describe what is meant by remote monitoring (RMON) and its importance in network management
 - Explain the importance of (RMON) in network management
 - Identify the key features of RMON and advantages of using RMON devices
 - Describe the RMON groups and their functions
 - Compare and contrast RMON1 and RMON2
-

Reading

Read the following to prepare for this week:

- Chapter 8 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- RMON
 - Remote site Monitoring Tutorial: www.youtube.com/embed/9AvbZUnO7nE
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 6-1: Chapter 8 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 6-1: Chapter 8 Exercises
-

Object: Week 6 Media



Week 6 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 7-1: Chapter 9 Exercises



7-1: Chapter 9 Exercises

Student Content

Purpose

To assess your ability to identify various system utilities for network management, including basic tools, SNMP tools, and Protocol analyzer

Action Items

1. Complete the assigned readings for this week before working on this assignment.
 2. Refer to exercise questions at the end of Chapter 9 and answer the following:
 - Chapter 9 Exercise 6
 3. Be thorough in addressing the exercises.
-

Submission Instructions

Complete and submit this assignment per your professor’s instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 15 points

Due Date

week 7

Points

Points available: **15**

Overview, Study Notes, and Media

Object: Week 7 Reading and Preparation



Week 7 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Identify various system utilities for network management, including basic tools, SNMP tools, and Protocol analyzer.
 - Discuss measurement of network statistics, including traffic load, protocol, data, error, and traffic monitoring using MRTG.
 - Explain the design considerations of NMS.
-

Reading

Read the following to prepare for this week:

- Chapter 9 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- Tools, Systems, and Engineering
 - The importance of Network Performance Management: www.youtube.com/embed/AUM4pwbkWhM
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 7-1: Chapter 9 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 7-1: Chapter 9 Exercises
-

Object: Week 7 Media



Week 7 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 8-1: Midterm Exam



8-1: Midterm Exam

Student Content

Purpose

To assess your learning of the topics covered thus far in this course.

Action Items

1. Review all reading materials, exercises, and problems relevant to the midterm exam.
 2. Note any questions you have about the concepts related to the exam, and email your questions to your professor at least 48 hours prior to the exam.
-

Submission Instructions

Complete this exam in class per your professor's instructions.

Grading Criteria

Exam responses complete and correct: 0 – 250 points

Due Date

week 8

Points

Points available: **250**

Overview, Study Notes, and Media

Object: Week 8 Reading and Preparation



Week 8 Reading and Preparation

Student Content

Reading

Read the following to prepare for this week:

- Review all course materials in preparation for a midterm exam.
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 8-1: Midterm Exam
-

Deliverables

The following assignment(s) are due this week:

- 8-1: Midterm Exam
-

Object: Week 8 Midterm Exam Prep Game



Week 8 Midterm Exam Prep Game

Student Content

This area includes:

- A game designed to help you review and prepare for the midterm exam.
-

Object: 9-1: Chapters 10 and 11 Exercises



9-1: Chapters 10 and 11 Exercises

Student Content

Purpose

To assess your ability to:

- Explain the importance of Telecommunication management network(TMN)
- Discuss network management and system management, including configuration, fault, performance, security, and accounting

Action Items

1. Complete the assigned readings for this week before working on this assignment.
2. Refer to exercise questions at the end of Chapter 10 and 11 and answer the following:
 - Chapter 10 Exercise 4
 - Chapter 11 Exercise 8
3. Be thorough in addressing the exercises.

Submission Instructions

Complete and submit this assignment per your professor’s instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 30 points

Due Date

week 9

Points

Points available: **30**

.....

Overview, Study Notes, and Media

Object: Week 9 Reading and Preparation



Week 9 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Explain the importance of Telecommunication management network(TMN).
 - Discuss TMN service management architecture and TMN service management (operation, administration, maintenance, and provisioning; OAMP).
 - Describe TMN conceptual models, including customer, service providers, network, operation support systems, and system operators.
 - Discuss TMN standards, documentation, and architecture.
 - Discuss network management and system management, including configuration, fault, performance, security, and accounting.
-

Reading

Read the following to prepare for this week:

- Chapters 10 and 11 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- TMN and Applications Management
 - Telecommunications Network Evolution: www.youtube.com/embed/5QIN6rXugk0
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 9-1: Chapters 10 and 11 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 9-1: Chapters 10 and 11 Exercises
-

Object: Week 9 Media



Week 9 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 10-1: Chapter 12 Exercises



10-1: Chapter 12 Exercises

Student Content

Purpose

To assess your ability to describe the role of M4 interface in ATM management

Action Items

1. Complete the assigned readings for this week before working on this assignment.
 2. Refer to exercise questions at the end of Chapter 12 and answer the following:
 - Chapter 12 Exercise 5
 3. Be thorough in addressing the exercises.
-

Submission Instructions

Complete and submit this assignment per your professor's instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 15 points

Due Date

week 10

Points

Points available: 15

Overview, Study Notes, and Media

Object: Week 10 Reading and Preparation



Week 10 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Explain the role of SNMP and ILMI in ATM management.
 - Describe the role of M4 interface in ATM management.
 - Compare and contrast ATM, MPLS, optical, and MAN feeder networks.
 - Identify the key features of the following WAN technologies: Leased Lines, SONET, Frame Relay, ATM, and Metro Ethernet.
-

Reading

Read the following to prepare for this week:

- Chapter 12 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- WAN Management
 - Wide Area Networks: www.youtube.com/embed/xdoPDmzpBNw
 - Computer Network: www.youtube.com/embed/Z8sqPruWG6Y
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 10-1: Chapter 12 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 10-1: Chapter 12 Exercises
-

Object: Week 10 Media



Week 10 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 11-1: Chapter 13 Exercises



11-1: Chapter 13 Exercises

Student Content

Purpose

To assess your ability to identify the key features of the following remote access technologies: cable modem, DSL, and ADSL

Action Items

1. Complete the assigned readings for this week before working on this assignment.
 2. Refer to exercise questions at the end of Chapter 13 and answer the following:
 - Chapter 13 Exercise 9
 3. Be thorough in addressing the exercises.
-

Submission Instructions

Complete and submit this assignment per your professor’s instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 15 points

Due Date

week 11

Points

Points available: **15**

Overview, Study Notes, and Media

Object: Week 11 Reading and Preparation



Week 11 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Identify the key features of the following remote access technologies: cable modem, DSL, and ADSL.
 - Explain the criteria used to select a WAN service provider.
 - Compare and contrast cable access network, ADSL network, and PON.
-

Reading

Read the following to prepare for this week:

- Chapter 13 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- Wired Network Management
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 11-1: Chapter 13 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 11-1: Chapter 13 Exercises
-

Object: Week 11 Media



Week 11 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 12-1: Chapter 14 Exercises



12-1: Chapter 14 Exercises

Student Content

Purpose

To assess your ability to:

- Identify tools that can be used to test a wireless network design.
- Discuss the management of fixed wireless access network.

Action Items

1. Complete the assigned readings for this week before working on this assignment.
2. Refer to exercise questions at the end of Chapter 14 and answer the following:
 - Chapter 14 Exercise 7
3. Be thorough in addressing the exercises.

Submission Instructions

Complete and submit this assignment per your professor’s instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 15 points

Due Date

week 12

Points

Points available: **15**

Overview, Study Notes, and Media

Object: Week 12 Reading and Preparation



Week 12 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Discuss basic principles of wireless propagation.
 - Identify tools that can be used to test a wireless network design.
 - Describe the fading phenomena in wireless propagation.
 - Discuss the management of fixed wireless access network.
 - Explain the three major categories of fixed wireless broadband access networks.
 - Compare and contrast mobile wireless networks and satellite networks.
-

Reading

Read the following to prepare for this week:

- Chapter 14 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- Wireless Network Management
 - Mobile Device Security: www.youtube.com/embed/jqmU7qZqU_4
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 12-1: Chapter 14 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 12-1: Chapter 14 Exercises
-

Object: Week 12 Media



Week 12 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 13-1: Chapter 15 Exercises



13-1: Chapter 15 Exercises

Student Content

Purpose

To assess your ability to discuss various issues associated with deployment and management of WLAN

Action Items

1. Complete the assigned readings for this week before working on this assignment.
 2. Refer to exercise questions at the end of Chapter 15 and answer the following:
 - Chapter 15 Exercise 4
 3. Be thorough in addressing the exercises.
-

Submission Instructions

Complete and submit this assignment per your professor's instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 15 points

Due Date

week 13

Points

Points available: 15

Overview, Study Notes, and Media

Object: Week 13 Reading and Preparation



Week 13 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Describe the various components of home networking technologies.
 - Discuss various issues associated with deployment and management of WLAN.
 - Discuss transport infrastructure and protocols for wired and wireless home distribution networks.
-

Reading

Read the following to prepare for this week:

- Chapter 15 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- Home Network Management
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 13-1: Chapter 15 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 13-1: Chapter 15 Exercises
-

Object: Week 13 Media



Week 13 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 14-1: Chapter 16 Exercises



14-1: Chapter 16 Exercises

Student Content

Purpose

To assess your ability to discuss CORBA-based network management technology

Action Items

1. Complete the assigned readings for this week before working on this assignment.
 2. Refer to exercise questions at the end of Chapter 16 and answer the following:
 - Chapter 16 Exercise 3
 3. Be thorough in addressing the exercises.
-

Submission Instructions

Complete and submit this assignment per your professor's instructions.

Grading Criteria

Accuracy and completion of assignment: 0 – 15 points

Due Date

week 14

Points

Points available: 15

Overview, Study Notes, and Media

Object: Week 14 Reading and Preparation



Week 14 Reading and Preparation

Student Content

Learning Outcomes

Upon completion of this week's activities, you will be able to:

- Discuss the factors that influence the power of a management technology protocol.
 - Explain major limitations of SNMP management.
 - Discuss CORBA-based network management technology.
 - Discuss XML-based network management technology.
 - Compare and contrast different management technologies discussed in the course.
-

Reading

Read the following to prepare for this week:

- Chapter 16 in the course textbook
-

Videos

Watch the following video(s), which can be accessed either in the Weekly Media area or by clicking on the links below:

- Advanced Management Topics
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 14-1: Chapter 16 Exercises
-

Deliverables

The following assignment(s) are due this week:

- 14-1: Chapter 16 Exercises
-

Object: Week 14 Media



Week 14 Media

Student Content

This area includes:

- Course Videos
 - Video PowerPoint Presentation screens
 - Chapter Resource PowerPoints
 - Additional videos or media
-

Object: 15-1: Course Review



15-1: Course Review

Student Content

Purpose

To review and help you better understand any topics covered during this course.

Action Items

1. Review your completed assignments and the course materials. Note any topics about which you would like a better understanding.
2. Bring your notes to class to review with your instructor.

Due Date

week 15

Overview, Study Notes, and Media

Object: Week 15 Reading and Preparation



Week 15 Reading and Preparation

Student Content

Learning Outcomes

This week is reserved to help you prepare for the final exam that will be taken next week.

Reading

- Review all course material and submitted assignments to prepare for next week's exam.
 - The **Week 15 Final Exam Prep Game** will also help you prepare for the final exam.
-

New Assignments

There are no new assignments this week.

Deliverables

The following assignment(s) are due this week:

- 15-1: Course Review
-

Object: Week 15 Final Exam Prep Game



Week 15 Final Exam Prep Game

Student Content

This area includes:

- A game designed to help you review and prepare for the final exam.
-

Object: 16-1: Final Exam



16-1: Final Exam

Student Content

Purpose

To assess your learning of the topics covered in this course

Action Items

1. Review all reading materials, exercises, and problems relevant to the final exam.
 2. Note any questions you have about the concepts related to the exam, and email your questions to your professor at least 48 hours prior to the exam.
-

Submission Instructions

Complete this exam in class per your professor's instructions.

Grading Criteria

Exam responses complete and correct: 0 – 500 points

Due Date

week 16

Points

Points available: **500**

Overview, Study Notes, and Media

Object: Week 16 Reading and Preparation



Week 16 Reading and Preparation

Student Content

Reading

Read the following to prepare for this week:

- Review all course materials in preparation for a final exam.
-

New Assignments

The following assignment(s) are new this week. Read the assignments and contact your professor if you have any questions:

- 16-1: Final Exam
-

Deliverables

The following assignment(s) are due this week:

- 16-1: Final Exam
-