

NTM 2300
Introduction to Networking and Telecommunications
Fall 2014, Tuesday - Thursday 1:30pm-2:45am
Main Campus, EH-318

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Text: CompTIA Network+ Certification All-in-One Exam Guide, McGraw-Hill, Michael Meyers, ISBN: 0-07-178922-7. Book is also available through the library via [Safari Books Online](#).

Course Description:

Knowing how to install, configure, and troubleshoot a computer network is a highly marketable and exciting skill. This course first introduces the fundamental building blocks that form a modern network, such as protocols, topologies, hardware, and network operating systems. It then provides in-depth coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission, and security. The course will prepare you to select the best network design, hardware, and software for your environment. You will also have the skills to build a network from scratch and maintain, upgrade, and troubleshoot an existing network. Finally, you will be well prepared to pass CompTIA's (the Computing Technology Industry Association's) Network+ certification exam. The course will also introduce the fundamentals of voice and data concepts of telecommunications, to include state-of-the art technologies and applications.

Learning Outcomes: At the completion of this course students will be able to:

1. Identify network cable and network types
2. Identify common network standards
3. Select and install network interface cards
4. Identify wired and wireless network components
5. Set up a wired or wireless network
6. Manage static and IP addressing
7. Manage network protocols
8. Configure network security
9. Manage network traffic
10. Configure remote access to a network
11. Troubleshoot common network issues

Policies:

1. Attendance: It is important that you are in class every day. Much of the information presented goes beyond the textbook. You are responsible for all announcements made and material

covered in class. Make arrangements with someone to share notes and pick up the handouts for you if you are absent.

2. **Ethics:** Failure to maintain academic ethics/academic honesty including the avoidance of cheating, plagiarism, collusion, and falsification will result in a E in the course, and may result in charges being issued, hearings being held and/or sanctions being imposed.
3. **Special Needs:** Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 181 of the Student Service Center. SSD can also arrange to provide course materials (including this syllabus) in alternative formats if necessary.
4. **Meeting times:** the class is scheduled to run Tuesday and Thursday, because of the nature of the class I lecture on Tuesday and do labs on Thursday. I try very hard to stay on schedule so will do everything possible to follow the syllabus precisely.
5. Lab are listed below but because this is the first time some of these have been tested I reserve the right to change assignment at anytime it is necessary.
6. **Students who are outside Weber, Davis, or Morgan counties may request a proctor for secure online testing. See the Chi Tester Users' Manual for information about setting up a Remote Proctor.**

Grading:
Quizzes 40%
Labs 40%
Assignments 20%

Schedule

WEEK of

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|-----------------|--|
| 1) August 24 | Chapter 2: Network Models
Assignment: Home Network Diagram
Lab: Peer-to-Peer file sharing |
| 2) September 31 | Chapter 3/4: Cabling and Topology/Ethernet Basics
Lab: Construct patch cable |
| 3) September 7 | Chapter 5/6: Modern Ethernet/Installing a Physical Network
Assignment: Cable speed chart
Lab: Punchdown Panel |
| 4) September 14 | Chapter 7: TCP/IP Basics
Quiz 1 – Chapters 2-4
Assignment: Binary Conversion
Lab: Basic usage |

VM Lab: Install Ubuntu and Windows 7or8 with static IP configuration.

- 5) September 21
Chapter 8: The Wonderful World of Routing
Quiz 2 – Chapters 5-7
Assignment: Packet Tracer Basic Router Configuration
VM Lab: Windows 2012 R2 Routing and RAS, DHCP, NAT
Rack Lab: configure routers in rack
- 6) September 28
Chapter 9: TCP/IP Basics
Assignment: Port Sheet
VM Lab: Web Server and FTP
- 7) October 5
Chapter 10: Network Naming
Assignment: Modify host file and DNS settings
VM Lab: Windows 2012 DNS
- 8) October 9
Chapter 11: Securing TCP/IP
Quiz 3 – Chapters 8-10
Assignment: MD5 Image File
VM Lab: File share authentication and SSH
- 9) October 16
Chapter 12/13: Advanced Network Devices/IPv6
VM Lab: Configure Firewall
Rack Lab: Configure VLAN
- 10) October 23
Chapter 14: Remote Connectivity
VM Lab: Remote Desktop & VNC
- 11) November 2
November 6
Chapter 15: Wireless Networking
Assignment: Configure Wireless AP
- 12) November 9
Chapter 16: Protecting Your Network
Assignment: Security Assessment Using Belarc
VM Lab: Use NMAP and Nessus
- 13) November 16
Chapter 18/19: Network Management/Building a SOHO Network
- November 18 No Class maybe (FBLA Competition), room may be available by class time.**
Quiz 4 – Chapters 11-13
VM Lab: Data Backup and Printer Installation
- 14) November 23
Chapter 20: Network Troubleshooting

November 27

No Class (Thanksgiving)

15) November 30

Review

16) December 7

Finals Week

Final is scheduled to be December 9, at 1:30, Quiz 6 (Final) – Chapters 17-20, but will be available all week in the testing center and will be the last quiz.