**NTM 1300**

**Networks and Emerging Technologies**

## Fall 2015

Instructor: Ken Cuddeback Office: D02-311

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Text: No text required. We will use instructor prepared modules in the Canvas online portal.

**Course Description**

This course is designed to introduce the fundamentals of voice and data networking technologies. The course includes topics such as history of telecommunications, history of data networking, study of industry, transport media, common networking protocols, and emerging technologies.

**Learning Outcomes**

* Knowledge of circuit and packet switched networks
* Knowledge of analog vs digital communication and signaling
* Knowledge of legal and regulatory issues facing the networking industry
* Ability to use information about the history of networking technologies and the current industry to help predict future trends
* Knowledge of job market, career paths, and common industry certifications
* Ability to convert between binary, hexadecimal, and decimal
* Knowledge of addressing methods at data link and internet layers
* Knowledge of workgroup, domain, and peer networking
* Knowledge of the history of telecommunications and data networking
* Knowledge of network topologies
* Knowledge of transmission speeds and multiplexing methods

**Policies**

1. Attendance: Attendance in class every day is important since much of the information will only be covered in class discussions.
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.

**Grading:** Quizzes 30%

 Assignments 30%

 Paper 20%

 Final 20%

 Final Grade: 95% - 100% = A 90% - 94% = A- 87% - 89% = B+

 83% - 86% = B 80% - 82% = B- 77% - 79% = C+

 73% - 76% = C 70% - 72% = C- 67% - 69% = D+

 63% - 66% = D 60% - 62% = D-

**Quizzes:**

The lowest quiz score will be dropped. Quizzes taken after the day given in class will be reduced 10 percentage points. Prior arrangements must be made if you know you are going to miss a quiz.

**Assignments:**

Assignments will include research on topics given in class, interviewing a professional in the networking field, and discussion posts in the Canvas portal. We will also be having several discussions in class that will count as assignments.

**Paper:**

The major writing assignment for this class is a five-page paper where you will apply what you have learned to make a prediction about the future of a certain technology. The instructor will provide you with a list of appropriate subjects. The paper will be graded on writing style, correctness of current and past technologies, and vision of the future.

**Final:**

The final exam will be available in secure testing centers. It will be multiple choice format and cover topics from all the previous quizzes.

**Semester Schedule:**

Week 1 Introductions: syllabus, course overview

Week 2 History: telecommunications

Week 3 History: networking, Ethernet, TCP/IP

Week 4 History: internet, government regulation, industry regulation

Week 5 Networking: analog/digital, circuit/packet, network topology

Week 6 Networking: transmission speeds, data sizes, multiplexing

Week 7 Networking: binary/hex/decimal conversions, addressing

Week 8 Networking: convergence, OSI

Week 9 Networking: capacity, managing networks

Week 10 Industry: ISP, hardware, service

Week 11 Industry: careers, certifications

Week 12 Industry: US/World markets, security

Week 13 Future: emerging technologies, social issues

Week 14 Future: emerging careers

Week 15 Discussion on final papers