

NET 4700 Syllabus

This course is designed to be a capstone to your program here at Weber State University. The learning outcomes expected are:

- provide students with an understanding of the different traffic analysis methods
- be able to properly engineer voice networks with adequate capacities for business phone systems.
- students will understand the impact voice and voice applications have on networks
- be able to engineer solutions to accommodate voice on the network.

- Simulate a real world network design
- Based on this simulation provide the opportunity to design conceptually:
 1. LAN infrastructure
 2. WAN design
 3. carrier selection
 4. service selection
 5. equipment required
 6. capacity planning

The course and your grade will be broken into 2 parts. There will be lectures and class time spent focused on traffic analysis and engineering which will culminate in an exam offered on Chi Tester during spring break. This test will be graded using the normal percentage scale and be worth 25% of each students overall grade. To aid each student in passing this exam, there are a series of quizzes students can take. There are no points earned for taking these quizzes, however these quizzes are examples of the questions that will be asked on the exam.

The majority of the course will be spent on preparing and presenting a complete network design which is worth 75% of each students grade. Each student will participate in group project where each group will submit a single report complete with network diagrams describing what they are proposing and why. In addition to the network report, each student will provide an outline of what their team did individually toward completing the project. All reports will be submitted electronically via Canvas.

The report will include:

- overview of the company's needs and applications that need to be supported.
- capacity estimates by application
- verbal descriptions of the LAN and WAN designs with justification supporting your recommendations
- network diagrams of the LAN for each location (5 locations are needed as a minimum), complete rack diagrams, and WAN diagrams.
- cost estimates to implement solution

The instructor's role is to advise and answer questions. The instructor will review each report and give one of four scores (1, 2, 3, 4) which will represent your grade. He will also randomly divide the class into teams.

The scores are:

1. a failing grade meaning the student did not demonstrate adequate knowledge or participation to pass the class
2. a passing grade equal to a C+ which is the minimum required to pass/graduate
3. a better than average grade equal to a B+ showing extra effort, demonstrated understanding of the concepts by applying previous experiences or learning to the project
4. an exceptional grade equal to an A for excellent diagrams, clear and precise presentation of the material to a broad audience, an attention to detail, and successful collaboration as a team. You will also need to have the report submitted before the last week of class.

Class time will be spent in open discussion as well as time for teams to collaborate. The first few weeks will be spent reviewing key concepts that each student should have learned in previous courses. After the first few weeks the class time will be spent working on the projects.

Course Fees: Course fees in the Network Management Technology major are designed to cover the costs of equipment maintenance and replacement, software, consumable materials and supplies, instructional resources, and certification.

Use Canvas to submit questions outside of class so that everyone will benefit from the answer. You can email the instructor anytime at lwelch@weber.edu with individual issues.