**Weber State University**

**NTM 4700 - Data and Voice Network Design**

**Spring 2016**

**Instructor:** Larry Welch

**Location and Time**: Davis Campus, Second Building, Room 311, Thursdays 5:30 p.m.

**Contact:** e-mail: [lwelch@weber.edu](mailto:lwelch@weber.edu)

**Office Hours:** Available before class or by appointment

**Textbook:**

No text is required for this class. We will use a combination of free online resources and the WSU Canvas web portal. The instructor will also provided traffic tables for instruction and reference.

**Introduction:**

This class is designed to function as the capstone course for the networking degree. Through assignments designed around real world scenarios, students will demonstrate their knowledge of voice and data network design and implementation.

**Learning Outcomes:**

* Students will demonstrate network design by completing a real world network design that includes LAN infrastructure, WAN design, carrier and service selection, budget, and capacity planning.
* Students will demonstrate knowledge of voice traffic by completing an exam focused on engineering enough capacity to meet demand. Capacity includes number of simultaneous calls and the bandwidth to support those calls.
* Students will be able to justify design decisions using industry metrics and rationale.
* Students will demonstrate understanding of today’s environment of one network with various applications and how these applications - including voice - impact the network design.

**Teaching Methods:**

Voice traffic concepts and engineering will be taught through discussion and online worksheets. There will also be an exam on the voice information provided. The students will then apply the information along with their networking knowledge from other classes to prepare a network design project. The instructor’s role will be to advise and answer questions. The instructor will also act as a marketplace for pricing information on equipment and service.

**Assignments and Labs:**

The main assignment for this capstone class is a network design based on real world information. Students will each complete their own project but may collaborate with other students. It is expected that these diagrams will be clear and understandable to a broad audience, have an attention to detail, and created with collaboration with your team.

There will be several online worksheets on the voice information presented in class. They are to be completed and submitted through the Canvas portal.

An exam will be given on the voice information. It will be available in the testing center during Spring Break and the week before.

**Grading:** voice exam 30% network project 70%

**Grading Scale:** 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-

**Schedule:**

Week 1 - 4 Voice Networking

Week 5 - 8 Data Networking

Week 9 - 15 Completion of Network Design Project

Mar 5 - Mar 18 Voice Test in Testing Centers

**Late Work:**

Students are given two weeks to take the exam, and the entire semester to complete the final project. There will be no late work accepted.

**ADA:**

Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 181 of the Student Services Center. SSD can also arrange to provide course materials (including the syllabus) in alternative formats if necessary.

**Academic Honesty:**

Any attempt to gain unfair advantage during exams, or submitting another student’s work as your own, is considered cheating. If caught cheating in this class, you will fail the class and the university will pursue the matter.

**Campus Closure:**

In the event of the campus being closed, please check the Canvas portal for course instruction.