Computer Networking 2
Course Syllabus

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Description:
This is a comprehensive class building on the foundation that students have learned from the Computer Networking 1 course. Students will continue to learn about the advanced network communications, advanced computer maintenance, and a broad spectrum of technology integration topics. During the course of the class, various career fields are discussed and give students a greater understanding of the career field and what career paths exist. At the conclusion of the course, students will be prepared to sit for the CCNA and A+ certification exams.

Course Objectives:
- Help students recognize the significant impact of networking on their lives
- Teach students how to build and support a home or small business network with wireless equipment
- Instill a sense of awe in students and encourage them to learn more about how things work and to pursue careers in networking
- Prepare students for entry-level jobs in the industry by employing interactive and engaging instructional approaches that help them understand general theory and gain practical experience
- Teach students the fundamental concepts of networking
- Provide opportunities for extensive hands-on interaction with PC and networking equipment to prepare students for careers and certification exams
- Establish the relevancy of networking in our everyday lives

Skills: Upon completion of the senior year, students will be able to complete the following tasks:
- Implement a LAN for an approved network design
- Configure a switch with VLANs and inter-switch communication
- Implement access lists to permit or deny specified traffic
- Implement WAN links
- Configure routing protocols on Cisco devices
- Perform LAN, WAN, and VLAN troubleshooting using a structured methodology and the OSI model
- Gather customer requirements
- Design a simple Internetwork using Cisco technology
- Design an IP addressing scheme to meet LAN requirements
- Create an equipment list to meet LAN design requirements
- Create and present a proposal to a customer
- Install and configure a prototype Internetwork

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- Obtain and upgrade Cisco IOS Software in Cisco devices

Course Outline:

Chapter	Introducing Routing and Switching In the Enterprise	Designing and Supporting Enterprise Networks
1	Networking in the Enterprise	Introducing Network Design Concepts
2	Exploring the Enterprise Network Infrastructure	Gathering Network Requirements
3	Switching in an Enterprise Network	Characterizing the Existing Network
4	Addressing in an Enterprise Network	Identifying Application Impacts on Network Design
5	Routing with a Distance Vector Protocol	Creating the Network Design
6	Routing with a Link-State Protocol	Using IP Addressing in the Network Design
7	Implementing Enterprise WAN Links	Prototyping the Campus Network
8	Filtering Traffic Using Access Control Lists	Prototyping the WAN
9	Troubleshooting an Enterprise Network	Preparing the Proposal
10	Course Summary: Putting It All Together	

Textbooks:
All materials used in this course will be provided. They will include a mixture of printed materials and online curriculum. The online curriculum is provided by Cisco Systems and is titled "CCNA Routing and Switching".

Supplies:
Students will be responsible for their own organization. It is recommended that student get a pocket folder for this class to keep all materials in.
Pencils
Pens (blue or black)
Signed internet permission

Assignment Policy:
All assignments including homework are to be turned in electronically by the end of class the day they are due unless stated otherwise. All work after that time is considered late and will be for half credit only. Exceptions to this rule are for students with excused absences. Students caught cheating or plagiarizing work will be given a zero for the assignment as well as a report sent to their dean for fit punishment.

Attendance:
If a student misses one or more days, it is the students' responsibility to collect make-up work. A student has an additional day for every day of their absence to make up work missed.

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<u>Expectations:</u>
Students are expected to be safe, respectful, responsible, and follow all school / classroom rules at all times including the dress code.

<u>Grading:</u>
All grades are calculated by points using the schools policy of:

      100 – 90 = A   89 – 80 = B   79 – 70 = C   69 – 60 = D   59 – 0 = F

<u>Projects:</u>
All seniors will be required to complete an "end of course" project called "The Senior Project". Students will be given a packet in the first few weeks of school that outlines all procedures and policies surrounding this requirement. All papers MUST be turned in on time for the project as specified on the calendar or the papers will be subject to the same docking of points as stated above in the assignment policy.

All seniors will also be responsible for participating in a Customer Service program that is run during the course of the class. Students will be expected to dress appropriately and go into other classrooms to repair and maintain technology in the CTC building. Specific policies are setup and will be handed out at a later date regarding this program.