IT4400 - Cisco Enterprise Networking, Security, and Automation

Fall 2021 Syllabus

This class instructs students in the installation, configuration and troubleshooting of Cisco routers and switches. Upon completion of this course, you will be prepared to take the CCNAv7 Certification Exam.

Prerequisites: IT3400 and IT3150 with a C grade or better, or instructor’s permission

Course fee: $20, used to assist in maintaining CIT infrastructure.

One section:
- IT4400-01 MWF 8am-8:50am Smith Computer Ctr 107
- Final exam: Wednesday December 9 @ 7am

Instructor:
- Jay Sneddon
- Office: Burns 235
- Office hours: MW 11am-11:50am, TR 8am-8:50am, F 10am-10:50am or by appointment. Zoom appointments may be arranged.

Objectives

At the end of the course, students will be able to:

- Implement OSPF protocols in both point-to-point and broadcast multiaccess networks.
- Explain how vulnerabilities, threats, and exploits can be mitigated to enhance network security.
- Implement ACLs as part of a network security policy.
- Configure NAT services on the edge router to provide IPv4 address scalability.
- Implement protocols to manage the network.
- Explain the characteristics of scalable network architectures.
- Troubleshoot enterprise networks.

Resources

The textbook is all online through Cisco’s Networking Academy (https://www.netacad.com/). Students are required to have an active account there.

Cisco PacketTracer is required for many of the homework assignments. The latest version is available for download on the netacad site.

Labs

The computers in the Smith Computing Center is specially equipped for CIT courses and had Cisco PacketTracer and Wireshark installed for CIT student use.

These computers require a valid CIT username and password. If you do not already have a CIT login, visit the CIT password self service page to create one, or ask a lab assistant to help you sign up for one.

Course Information

You are responsible for being informed regarding announcements, the schedule, and other resources posted on this website. Grading and assignments are managed on Canvas.

Assignments and Exams

Assignments

Assignments will be graded based on completeness and a grading rubric. Assignments will either be done using Cisco Packet Tracer or NetLabs.

(See the Late Work policy for more information)
All assignments are due Saturday night at 11:59 pm, unless otherwise noted on Canvas. The primary reason for this is the Smith Computing Center is not open on Sundays.

**Exams**

This course will feature weekly quizzes and four exams, culminating in a final.

**Grading**

Assignments, quizzes and exams each contribute to your point total. PacketTracer (30%), Module Exams (20%), Netlabs (20%), Skills Exam (15%), and Final Exam (15%).

Here is the grading scale:

\[ \begin{align*}
&>= 94 = A \quad >= 90 = A- \quad >= 87 = B+ \quad >= 84 = B \quad >= 80 = B- \\
&>= 77 = C+ \quad >= 74 = C \\
&>= 70 = C- \quad >= 67 = D+ \\
&>= 64 = D < 64 = F
\end{align*} \]

**Course Policies**

**Absences**

Students are responsible for material covered and announcements made in class. School-related absences may be made up only if prior arrangements are made. The class schedule on Canvas presented is approximate. The instructor reserves the right to modify the schedule according to class needs. Changes will be announced in class and posted to the website. Exams and quizzes cannot be made up unless arrangements are made *prior* to the scheduled time.

**Time**

Courses should require about 2 hours of outside work per lecture hour of class. This class will require about 6 hours of work per week on the part of the student to achieve a passing or higher grade. Be sure to evaluate your schedule before committing to this course.

**Late work**

Assignments are due on the date specified in the schedule. The instructor has the right to reject any late assignments.

**Disability/Accessibility Resources**

DSU welcomes all students and strives to make the learning experience accessible. If you are a student with a medical, psychological, or learning disability that may require accommodations for this course, you are encouraged to contact the Disability Resource Center (DRC) as soon as possible. You may request reasonable accommodations at any time during the semester; however, they are not retroactive. The DRC is located next door to the Testing Center in the North Plaza Building (435 652-7516, drc@dixie.edu, drcenter.dixie.edu).

**Cheating and Collaboration**

Limited collaboration with other students in the course is permitted and encouraged. Students may seek help learning concepts and developing programming skills from whatever sources they have available, and are encouraged to do so. Collaboration on assignments, however, must be confined to course instructors, lab assistants, and other students in the course. See the section on cheating.

Cheating will not be tolerated, and will result in a failing grade for the students involved as well as possible disciplinary action from the college. Cheating includes, but is not limited to, turning in homework assignments that are not the student’s own work. It is okay to seek help from others and from reference materials, but only if you learn the material. As a general rule, if you cannot delete your assignment, start over, and re-create it successfully without further help, then your homework is not considered your own work.

You are encouraged to work in groups while studying for tests, discussing class lectures, and helping each other identify errors in your homework solutions. If you are unsure if collaboration is appropriate, contact the instructor. Also, note exactly what you did. If your actions are determined to be inappropriate, the response will be much more favorable if you are honest and complete in your disclosure.

Where collaboration is permitted, each student must still create and type in his/her own solution. Any kind of copying and pasting is *not* okay. If you need help understanding concepts, get it from the instructor or fellow classmates, but never copy another’s written work, either electronically or visually. It is a good idea to wait at least 30 minutes after any discussion to start your independent write-up. This will help you commit what you have learned to long-term memory as well as help to avoid crossing the line to cheating.
Policy for Absences Related to College Functions

Students may periodically miss classes for various college-related functions or military functions; these include athletics, club events, or to fulfill the requirements of a course or a program. Military functions may include: Reserve and Guard activation, activation, special assignments or other approved events or activities. These absences may often conflict with the instruction, assignments, and tests in this course.

Please provide an advanced written notification from your activity supervisor that explains the nature of the activity, and the anticipated time missed.

Disruptive Behavior Policy/Classroom Expectations

The classroom needs an atmosphere of learning and sharing. Class members need to feel safe and able to concentrate. Disruptive behavior that seriously detracts from this environment or inhibits the instructor’s ability to conduct proper instruction will not be allowed. Disruptive behavior includes:

- Physical violence, verbal abuse, or harassment
- Intoxication or illegal drug use
- Use of profanity
- Failing to respect others when expressing their own viewpoints
- Talking while the instructor or another student is talking
- Constant questions or interruptions that interfere with classroom presentation

Disruptive class members will be warned. Continued misbehavior may lead to dismissal from class or the course. If necessary, Campus Police may be called.

College Policies

Additional college policies, calendars, and statements are available online at [http://new.dixie.edu/reg/syllabus/](http://new.dixie.edu/reg/syllabus/).