SYLLABUS

IT 263-702/710
Applied Networks and Security
Fall Quarter 2021

Instructor:	Anthony Lombardo
Class Time:	Thursday 5:45 pm – 9:00 pm
Office Hours:	Thursday 5:00 pm – 5:45pm before class starts
Classroom	LEWIS 1216
E-mail:	alombar6@depaul.edu I will respond to emails within 12hrs
E-Text:	Introduction to Networks: Cisco Networking Academy, https://www.netacad.com.

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email

Course Overview

This course introduces the networking and security technologies required to build and maintain a home or small-office network. Networking topics will include client/server application software configuration, network connectivity (cabling, switch and router configuration), basic IP addressing, network address translation and options for public Internet access services. Security topics will include typical threats and responses, firewalls, host hardening, password management and virtual private network (VPNs). PREREQUISITE(S): None.

Coursework, Exams, & Grading

Required coursework components and their contribution to the final grade will be:

- 4 homework assignments (25%)
- 4 lab exercises (25%)
- Midterm Exam (15%)
- Technology report (10%)
- Class Participation (5%)
- Final Exam (20%)

Further details on each assignment will be distributed in class. Assignments received late will be penalized as follows: up to 1 day late is 20% penalty; between 1 day and 2 days late is 30% penalty; between 2 days and 1 week late is 40% penalty; more than 1-week late results in no credit for the particular assignment.

Homework assignments, papers and exams must be completed individually. Grade reductions and other sanctions may be imposed on anyone who submits as his/her own any work which has been prepared by someone else. I expect all students to read and understand DePaul's policy on Academic Integrity.

Class Schedule and E-Text Readings:

Class dates, topics, readings on Cisco Networking Academy (CNA), and Assignments are shown below. Each student is enrolled in an online CNA course - CCNAv7 Intro to Networks (ItN) – which is accessible at https://www.netacad.com. Note: students are not required to complete any of the Quizzes or Labs in the CNA course modules, since they are not a part of IT 263 grading. But students are welcome to complete them on their own to strengthen networking skills.

Date	Topics	NetAcad ItN Readings	Assignments
Sep. 9	Course Goals and Overview Network Basics, Cabling	1.1-1.7, 3.1-3.8, 4.1-4.5	
Sep. 16	Wired Ethernet and Wi-Fi Ethernet Switching	4.6, 5.1-5.2, 6.1-6.3, 7.1-7.4	HW 1 out Lab 1 out
Sep. 23	IPv4 addressing TCP and packet analysis	8.1-8.2, 9.1-9.2, 11.1-11.7, 14.1-14.6	HW 1 due 9/23 Lab 2 out
Sep. 30	IP subnets and routing IP Subnetting	8.4-8.5, 9.1-9.2,	HW 2 out Lab 1 due 9/30
Oct. 7	Routers and Switches	6.3-6.4	HW 2 due 10/7 5:30 pm
Oct. 14	Midterm Exam		Lab 2 due 10/11
Oct. 21	Internet Applications IPv6	8.3, 9.3, 12.1-12.5, 15.1-15.4	HW 3 out Lab 3 out
Oct. 28	Network Security Encryption, Integrity and Authentication	16.1	HW 3 due 10/28 Lab 4 out
Nov. 4	Network Vulnerabilities Firewalls	16.2-16.4	Lab 3 due 11/4 HW 4 out
Nov. 11	Virtual Private Networks Network Address Translation		HW 4 due 11/11 at 5:30 pm Lab 4 due 11/13
Nov. 18	Final Exam:		

The Class Participation grade will be based mainly on class attendance (section 702) or participation in online discussions (section 710).   Attendance will be taken in each class session. Active attendance means that you will respond if I call on you in class.

Final grades will be calculated as follows: points earned divided by possible points in each category will be multiplied by the contribution percentages shown to yield a total course percentage score between 0% and 100%. Letter grades will be assigned as:

A = 90% - 100%	A- = 88% - 90%	B+ = 86%-88%	B = 80% - 86%
B- = 78% - 80%	C+ = 76% - 78%	C = 70% - 76%	C- = 68% - 70%
D+ = 66% - 68%	D = 60% - 66%	F = 0% - 60%	

Course Learning Outcomes

After completing IT 263, students will be able to:

- Describe network components, such as hubs, switches and routers, and how each of them forward and modify data packets.
- Describe packet forwarding through each network component
- Calculate IP address assignments using subnetting
- Discuss various types of security attacks and how to mitigate them
- Understand how to secure a network from common attacks
- Describe components of public key infrastructure (PKI) for web security
- Describe how secure web services (HTTPS) and virtual private network (VPN) services are provided using encrypted content and site authentication provided via PKI.
- Use tools such as Wireshark to analyze network traffic

COVID-19 Health and Safety Precautions

Keeping our DePaul community safe is of utmost importance in the pandemic. Students, faculty and staff are expected to (1) wear a mask as required at all times while indoors on campus; (2) refrain from eating and drinking in classrooms; (3) keep current with their COVID-19 vaccinations or exemptions; (4) stay home if sick; (5) participate in any required COVID-19 testing; (6) complete the online Health and Safety Guidelines for Returning to Campus training; and (7) abide by the City of Chicago Emergency Travel Advisory. By doing these things, we are Taking Care of DePaul, together. The recommendations may change as local, state, and federal guidelines evolve. Students who do not abide by the mask requirement may be subject to the student conduct process and will be referred to the Dean of Students Office. Students who have a medical reason for not complying with any requirements should register with DePaul's Center for Student with Disabilities (CSD).

Respect for Diversity and Inclusion At DePaul University as aligned with our Vincentian Values

At DePaul, our mission calls us to explore "what must be done" in order to respect the inherent dignity and identity of each human person. We value diversity because it is part of our history, our traditions and our future. We see diversity as an asset and a strength that adds to the richness of classroom learning. In my course, I strive to include diverse authors, perspectives and teaching pedagogies. I also encourage open dialogue and spaces for students to express their

unique identities and perspectives. I am open to having difficult conversations and I will strive to create an inclusive classroom that values all perspectives. If at any time, the classroom experience does not live up to this expectation, please feel free to contact me via email or during office hours.

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide students with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect. Please see https://resources.depaul.edu/teaching-commons/teaching/Pages/onlineteaching-evaluations.aspx for additional information

Academic Integrity and Plagiarism
This course will be subject to the university's academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/. If students have any questions, they should consult their professor.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at: cdm.depaul.edu/enrollment.

Students with Disabilities
Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: csd@depaul.edu.

Drop Date
Students wishing to drop this class should check the date to drop without penalty by visiting the following link: https://academics.depaul.edu/calendar/Pages/default.aspx

Incomplete Grades

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions cases will receive such approval. Information about the Incomplete Grades policy can be found at http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx

Preferred Name & Gender Pronouns

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter so that I may make appropriate changes to my records. Please also note that students may choose to identify within the University community with a preferred first name that differs from their legal name and may also update their gender. The preferred first name will appear in University related systems and documents except where the use of the legal name is necessitated or required by University business or legal need. For more information and instructions on how to do so, please see the Student Preferred Name and Gender Policy at http://policies.depaul.edu/policy/policy.aspx?pid=332

Notice of Copyright

Materials in this course—unless otherwise indicated—are protected by United States copyright law [Title 17, U.S. Code]. Materials including but not limited to recordings, assignments, or presentations are presented in an educational context for personal use and study and should not be shared, distributed, or sold in print—or digitally—outside the course without permission. Personal recording without the consent of the instructor is prohibited. As a student your ability to post or link to copyrighted material is also governed by United States copyright law. The law allows for students to post or link to copyrighted materials within the course environment when the materials are pertinent to course work. Instructors—or other staff of the institution—reserve the right to delete or disable your post or link if in their judgment it would involve violation of copyright law. If you are found to be in violation, an immediate F for the course will be given and academic integrity violation will be filed.