IT 263 Syllabus – Applied Networks and Security – Fall 2022

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Office Hours	Tue 3:30 PM – 5:30 PM (zoom)	**Website**	d2l.depaul.edu
	Th 3:30 PM – 5:30 PM (in-person & zoom)		
Class Location	LEWIS 1216 Loop (**Section 702**)	**Class time**	Th 5:45 – 9:00 PM (**Section 702**)

--- Any changes made to this syllabus will be announced in class as well as D2L ---

Communication: Email is the best way to reach me, and I'll respond within 48 hours.
Zoom Office Hours: Tue and Th, 3:30 PM – 5:30 PM: https://depaul.zoom.us/j/99003196998

Course Overview & Resources:

This course introduces the networking and security technologies required to build and maintain a home or small-office network. Networking topics will include TCP/IP protocol stack, client/server application, network connectivity, basic IP addressing, network address translation. Security topics will include computer security, Information security, network security, typical threats and responses, firewalls, virtual private network (VPNs). The course has a lab component (Cisco Packet Tracer).

PREREQUISITE(S): None.

Optional E-Text: Introduction to Networks: Cisco Networking Academy, which you can access at https://www.netacad.com.

Grade Distribution over Required Coursework

Task	% of final grade
Participation	10 %
Quizzes	10 %
lab exercises	10 %
Homework assignments	15 %
Midterm exam	25 %
Final exam	30 %
Total	100 %

Coursework

Lecture slides will be posted every week on D2L, and you can study the related reading material in the Network Academy Introduction to Networks (ItN) e-text or any other reference books. Note: you are not required to do any activities or Labs within the ItN course however, you are highly encouraged to complete them for extra practice if you wish. **Class Participation will be earned as follows**: students gain 1% credit towards their final grade for each week actively attended (until the maximum of 10% of the final grade). Active attendance means that you will respond/contribute when I call upon you, and/or actively participate in discussions in class and on D2L Forum Discussions.

Course Policies & Guidance

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. Note that September 20 is the last date to drop the class with no penalty.

Mental Health and Academic Assistance

Balancing the hard work of achieving your educational goals with the other demands of life is difficult at the best of times. For many of us, for a variety of reasons, things are all the more difficult now. I want to make sure you feel comfortable, not embarrassed, reaching out to me for support. I will also point out where the University has great resources just a phone call or email away. These have been created and maintained for you, so use them. Sometimes people feel like their situation isn't the worst possible, so they assume they do not need help, but don't let that prevent you from reaching out!

- *DePaul University Counseling Services* – mental health is as important as physical health, and we have professionals just a call away: https://offices.depaul.edu/student-affairs/about/departments/Pages/ucs.aspx (call (773) 325-7779 or 911 for emergency).
- The kind people at the *Office of the Dean of Students* can help you with a wide range of topics, including figuring out if you should withdraw or apply for an incomplete: https://offices.depaul.edu/student-affairs/about/departments/Pages/dos.aspx.
- There are lots of additional, more specific resources listed here with the *Office of Student Affairs*, including crisis hotlines and sexual assault resources: https://offices.depaul.edu/student-affairs/support-services/counseling/Pages/Crisis-Hotlines.aspx.

Plagiarism

There is a "zero-tolerance policy" regarding plagiarism. This stands for both the plagiarizer and the person(s) facilitating plagiarism (e.g., allowing someone to plagiarize their work). There's a great resource put together by DePaul University, which you can find here: https://resources.depaul.edu/teaching-commons/teaching-guides/learning-activities/Pages/avoiding-plagiarism.aspx

Academic Integrity

One of the core principles of education is establishing Academic Integrity. It is a viable component in the classroom, one by which learning objectives could be honestly and efficiently met. The principles of academic integrity should span all of your learning endeavours, within and beyond this course. For more information on Academic Integrity, especially definitions and norms, please visit: https://resources.depaul.edu/teaching-commons/teaching/academic-integrity/Pages/default.aspx. This will be the basis of all of our interactions in this course. If you have any questions or concerns, feel free to drop by and see me. All students are expected to abide by the University's Academic Integrity Policy which prohibits cheating and other misconduct in student coursework. Publicly sharing or posting online any prior or current materials from this course (including exam questions or answers), is considered to be providing unauthorized assistance prohibited by the policy. Both students who share/post and students who access or use such materials are considered to be cheating under the Policy and will be subject to sanctions for violations of Academic Integrity.

Deadlines and submission policies

Assignments are due on D2L by 11:59 pm on the deadline day posted on each assignment, unless otherwise announced. All of your work (exams, assignments, report, etc) must be your original work. Any evidence of departure from Academic Integrity will be reported, and ensuing sanctions will be pursued. You are expected to read, understand and comply with DePaul's policy on Academic Integrity. Late submissions receive a 10% penalty for every 24-hour delay, starting from the minute past the deadline.

Missing exams and/or deadlines

Emergencies happen and that is quite understandable. If you miss an exam due to an emergency (e.g., accident, emergency hospitalization, etc) please communicate with me as soon as you can to resolve any outstanding issues. If a major illness hinders you from attending an exam or submitting a deliverable (assignment), you need to contact me beforehand via e-mail. Notices received after the deadline will not be accounted for (unless for an emergency as highlighted above). If the illness occurred after the deadline, even if accompanied with a doctor's note, you would receive a zero for that exam/deliverable. Otherwise, missing an exam without prior approval will warrant an automatic zero. Generally, all extensions are considered on a case-by-case basis. Falling sick prior to a deadline does not automatically warrant an extension. If you have any questions or concerns, please don't hesitate in contacting me.

Disability Accommodation

Feel free to speak to me as soon as possible regarding any difficulties you feel you might be encountering in this course, ideally within our first week of classes. If you feel that any given disability is hindering you, or you are not sure and wish for a consult, please reach out to CSD at csd@depaul.edu; they are trained to help out and point you to the appropriate resources.

Class schedule and topics

Week	Tentative Topics
1	Course overview
	Network basics
2	Network basics & Cabling
	Link Parameters
3	Protocols & Models
	Data Encapsulation
4	Layer 2 - Mac Address and Switches
	IP Subnets
5	Layer 3- IP addressing & Routers
	Numbered systems
6	Subnetting
	DHCP & NAT
7	IPv6 & tunneling
	Midterm exam
8	Midterm recap (answers & discussion)
	Layer 4 – Multiplexing & Demultiplexing Layer 5 – DNS & HTTP
9	Computer and Information security
	Network security
10	Firewalls & Virtual Private Networks (VPNs)
	Course review and *Final Exam preparation*
11	**Final Exam**

Grade calculation

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%

Learning Outcomes

After completing this course, students will be able to:

- Understand foundational networking topics and concepts
- Analyze and maintain Local Area Networks
- Plan IP address assignments through subnetting
- Discuss various types of security attacks and how to mitigate them
- Use tools such as Packet tracer to analyze network traffic

Exams for section 710 (midterm and final) will be carried out using LockDown

Students in Section 710 will take their exams remotely on D2L, using the Lockdown browser setting.
Please read about LockDown Browser here:
https://resources.depaul.edu/teaching-commons/teaching-guides/technology/desire2learn/tools/Pages/live-proctoring.aspx

- Assessments are displayed full-screen and cannot be minimized.
- Browser menu and toolbar options are removed, except for Back, Forward, Refresh and Stop.
- Prevents access to other applications including messaging, screen-sharing, virtual machines, and remote desktops.
- Printing and screen capture functions are disabled.
- Copying and pasting anything to or from an assessment is prevented.
- Right-click menu options, going to previous screens (i.e. previous questions), function keys, keyboard shortcuts and task switching are disabled.
- An assessment cannot be exited until the student submits it for grading.

Class Participation:

Attendance Expectations for <u>On-Campus</u> (those enrolled in <u>Section 702</u>):

We're going to meet in class. You are expected to actively participate in discussions in class and on D2L Forum and demonstrate that you are engaged with the material. Throughout the lectures, you may be called upon to answer questions and/or engage in discussions. Your participation grade is earned through these interactions.

Attendance Expectations for <u>ASYNC</u> – Remote asynchronous students (those enrolled in <u>Section 710</u>):

The lectures will be recorded for offline viewing and will be posted on D2L at the end of the day. You are expected to watch **all class recordings**. You are required to *actively* participate in D2L discussions and demonstrate that you are engaged with the material. Your participation grade is earned through these interactions. This is vital to sustain a lively "remote class" environment.

Async students are <u>not</u> exempt from the participation requirement, <u>you are expected watch the full recordings of all classes</u>.

COVID-19 Health and Safety Precautions
For the latest news and resources, please visit DePaul's response to COVID-19 page.

Online Course Evaluations

During the course, your feedback on how well the course is running (pace, difficulty, resources, etc) will be solicited. This is a vital component of improving and tailoring this course to your learning objectives. While all students are expected to achieve the learning outcomes highlighted above, each of us inevitably learn differently. This course is designed to meet the aforementioned learning outcomes, and I will endeavor to incorporate different activities to improve the learning experience. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Please see https://resources.depaul.edu/teaching-commons/teaching/Pages/online-teaching-evaluations.aspx for additional information.

If you have any concerns about how the course is running, or would like to suggest an improvement, feel free to reach out to me. Also, on week 10, we will hold the official course evaluations in class.