SYLLABUS

IT 263-601
Applied Networks and Security
Spring Quarter 2022

Instructor:	Greg Brewster
Class Time:	Tu/Th 1:30 pm – 3:00 pm
Office Hours:	Tu/Th 12:45 – 1:30 pm (reserve on BlueStar) or by appt.
Office	CDM 850
E-mail:	gbrewste@depaul.edu
E-Text:	Introduction to Networks: Cisco Networking Academy, https://www.netacad.com.

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). The course has a lab component where students apply wired and wireless technologies to design and administer a small network with various applications. 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 Quiz (15%)
- Technology report (20%)
- Final Quiz (15%)

Further details on each assignment will be distributed in class. The Midterm Quiz and Final Quiz will be administered as D2L online quizzes. Assignments received late will be penalized as follows: up to 1 day late is 5% penalty; between 1 day and 2 days late is 10% penalty; between 2 days and 1 week late is 20% penalty; Labs submitted more than 1 week late will have 30% penalty. Homeworks cannot be submitted more than 1 week late.

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.

Course topics expected to be covered in each class and the corresponding readings in the Network Academy Introduction to Networks (ItN) course are listed in the table below. Note: you are not required to do any Activities or Labs within the ItN course unless specifically stated, but you are encouraged to complete them for extra practice if you wish.

Class Schedule

Date	Topics	NetAcad ItN Readings	Assignments
Mar. 29	Course Goals and Overview	1.1-1.5	
Mar. 31	Network Basics, Cabling	3.1-3.3, 4.1-4.2	
Apr. 5	Wired Ethernet and Switching	4.3-4.4, 5.1-5.3	Lab 1 out; HW 1 out
Apr. 7	Wi-Fi Networks		
Apr. 12	IP addressing and DHCP	2.1, 2.2.1, 2.3, 6.1, 7.1, 7.3	HW 1 due 4/13
Apr. 14	TCP and packet analysis	9.1, 9.2	Lab 2 out
Apr. 19	IP subnets and routing	6.2	HW 2 out Lab 1 due 4/20
Apr. 21	Subnetting	8.1-8.3	
Apr. 26	Routers and Switches	6.3-6.4	HW 2 due 4/27
Apr. 28	Midterm Review		Lab 2 due 4/30
May 3	Midterm Quiz: 1:30 pm – 3:00 pm		
May 5	NAT		
May 10	IPv6	6.1.4, 7.2, 8.3	HW 3 out; Lab 3 out
May 12	DNS, Internet Applications	10.1-10.2, 11.1	
May 17	Privacy and Network Security	1.4.3	HW 3 due 5/18
May 19	Integrity, Encryption, Authentication		HW 4, Lab 4 out; Lab 3 due 5/25
May 24	Network Vulnerabilities	11.2	
May 26	Firewalls		HW 4 due 5/31
May 31	Virtual Private Networks (VPNs)		Lab 4 due 6/3
June 2	Wrapup and Review		Tech Report due 6/7
June 9	Final Quiz: 11:30 am – 1:45 pm		

The Technology Report will consist of an individual report on a relevant information security topic. More details on this assignment will be provided in Week 3.

The Class Participation grade will be earned as follows: students gain 0.25% credit for each lecture actively attended (total of up to 5.0% of final grade for 20 class sessions). Active attendance means that you will respond if I call on you.

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:

- Understand foundational networking topics and concepts
- Understand and describe packet forwarding through switches and IP routers
- Plan IP address assignments through subnetting
- Discuss various types of security attacks and how to mitigate them
- Understand how to secure a network from common attacks
- Use tools such as Wireshark to analyze network traffic

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.

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.