

# **SYLLABUS**

## **NET 477**

### **Network Security**

### **Fall 2023**

**September 7, 2023**

<b>Instructor:</b>	Dale Buchholz
<b>Class Time:</b>	Thursday 5:45-9:00 pm
<b>Location:</b>	Loop Campus – Lewis 1111
<b>Office Hours:</b>	Thursday 4:00-5:30 pm or by appointment (Zoom)
<b>Phone:</b>	312-362-6819
<b>Office:</b>	CDM 617
<b>E-mail:</b>	dbuchhol@depaul.edu
<b>Prerequisite:</b>	NET 463 (preferred) or CSC 435
<b>E-Text:</b>	<i>CCNA SECURITY 210-260: Official Cert Guide</i> , Santos, Omar; Stuppi, John, Cisco Press, 2015, ISBN 0-13-407785-7
<b>Optional Text:</b>	<i>CCNA SECURITY 640-554: Live Lessons</i> , Barker, Keith, Pearson IT Certification, 2012, ISBN 0-13-325900-5 CCNA SRWE: Switching, Routing, and Wireless Essentials CCNA ENSA: Enterprise Networks, Security, and Automation

#### ***Course Summary:***

Network infrastructure security issues, including perimeter security defense, firewalls, Virtual Private Networks, Intrusion Detection Systems, wireless security, network security auditing tools and ethical considerations. Strategies for the deployment of "Defense-In-Depth" mechanisms in an enterprise computing environment.

#### ***Class Attendance:***

Class attendance (sync or async) is strongly recommended. All class sessions will be recorded for asynchronous viewing.

#### ***Coursework and Grades:***

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

- a) 4 Homeworks (50 pts each; total 200 pts)
- b) 4 Labs (50 pts each; total 200 pts)
- c) Final Design Project (100 pts)

Further details on each assignment will be distributed in class.

Final grades will be calculated as follows: points earned divided by possible points will yield a total course percentage score between 0% and 100%. Letter grades will be assigned as:

Percent	Grade	Percent	Grade
93-100	A	77-79	C+
90-92	A-	73-76	C
87-89	B+	70-72	C-
83-86	B	60-69	D
80-82	B-	< 60	F

***Late Assignments:***

Late assignments will be accepted solely at the discretion of the instructor. You MUST notify the instructor in advance if an assignment will be turned in late.

Any Lab or Homework submitted late will be penalized as follows: 5% per day late; more than 5 days late gets a 30% penalty. Any homework submitted after the Homework Answers have been posted on D2L will receive a score of 15/50. Assignments are due by 11:59 pm on the due date unless otherwise indicated. Homework assignments and labs must be completed individually.

***Class Schedule and E-Text:***

Class dates, topics, readings, and assignments are shown in the Class Schedule below. Each student is enrolled in 2 online CCNA courses: CCNAv7 Intro to Networks (ItN) and CCNAv7 Switching, Routing and Wireless Essentials (SRWE). Note: you are not required to complete any quizzes or Packet Tracer Labs in the CCNA course modules (that is, they are not a part of your NET 477 grade).

***Lab Simulator:***

The preferred lab simulation tool is CML (Cisco Modeling Language). If you choose to use CML, you must use your own personal licensed copy (\$199) or the CML sandbox (free).

You may also use Packet Tracer v8.2 freely available from the Cisco Network Academy site: [netacad.com](http://netacad.com).

# Class Schedule

## NET 477—Fall 2023

### (Sept. 7, 2023)

<i>Week</i>	<i>Topics</i>	<i>Readings</i>	<i>Assignments</i>
Week 1 Sept. 7	Security and Networking Overview	Ch. 1, 2	HW0 due Sept.10
Week 2 Sept. 14	Firewalls 1: Technologies and Filtering	Ch. 4, 9, 10	
Week 3 Sept. 21	Firewalls 2: NAT		Lab 1 due Sept. 17
Week 4 Sept. 28	Firewalls 3: Firewall Architectures		HW 1 due Sept. 24
Week 5 Oct. 5	Cryptography Fundamentals	Ch. 7, 11	Lab 2 due Oct. 1
Week 6 Oct. 12	Cryptography Systems Authentication and PKI	Ch. 5	HW 2 due Oct. 8
Week 7 Oct. 19	Virtual Private Networks	Ch. 8, 10	Lab 3 due Oct. 15
Week 8 Oct. 26	IPSEC VPN Configuration		HW 3 due Oct. 22
Week 9 Nov. 2	Introduction to Intrusion Detection (IDS) and Prevention (IPS)		Lab 4 due Oct. 29
Week 10 Nov. 9	Next Generation Networking		HW 4 due Nov. 5
Week 11 Nov. 16	<b>Security Design Report Due</b>		<b>Thursday, Nov. 16</b>

**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.

### 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 you 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. Please see <https://resources.depaul.edu/teaching-commons/teaching/Pages/online-teaching-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 <https://resources.depaul.edu/teaching-commons/teaching/academic-integrity/Pages/default.aspx>.

## **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: <http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.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>

## **Students with Disabilities**

Students seeking disability-related accommodations are required to register with DePaul's Center for Students with Disabilities (CSD) enabling them to access accommodations and support services to assist with their success. There are two office locations:

- Loop Campus (312) 362-8002
- Lincoln Park Campus (773) 325-1677
- Email: [csd@depaul.edu](mailto:csd@depaul.edu)

Students who register with the Center for Students with Disabilities are also invited to contact Dr. Gregory Moorhead, Director of the Center, privately to discuss how he may assist in facilitating the accommodations to be used in a course. This is best done early in the term. The conversation will remain confidential to the extent possible. Please see <https://offices.depaul.edu/student-affairs/about/departments/Pages/csd.aspx> for Services and Contact Information.