

NET 311 Syllabus – Computers in Telecom. Systems – Autumn 2021

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Office Hours	Tuesdays 14:00 – 15:30 (or by appointment)	Website	d2l.depaul.edu
Class Location	LEWIS 01108	Class time	Tuesdays 5:45 pm – 9 pm

--- Any changes made to this syllabus will be announced in class as well as D2L --- This is Version 1: Sept 1 ---

Course Overview

This course is an introduction to computer architecture and operating systems with an emphasis on network systems. Topics covered include computer components and functions, logic circuits, process management, memory management, file management, interrupts and I/O peripheral devices, as well as computer networks, distributed systems, and network administration. Students will have several hands-on labs utilizing a Linux environment and will use Shell script for basic systems and network administration as well.

Resources:

Optional textbook: *Systems Architecture*, 7th edition, by Stephen Burd.

Grade distribution over required coursework

Task	% of final grade
2 Homework assignments	20 %
2 Lab exercises	20 %
1 Quiz	5 %
Midterm exam	25 %
Final exam	25 %
Class participation	5 %

Coursework

Course topics expected to be covered in each class and the corresponding readings from the textbook, are listed on page 3. The Class Participation grade will be earned as follows: students gain 0.5% credit towards their final grade for each lecture actively attended (until the maximum of 5.0% of the final grade). Active attendance means that you will respond/contribute when I call upon you, and/or actively engage in class discussions. Online asynchronous students (enrolled in section NET 311-710) gain 0.5% for each active contribution/discussion based on questions posed in class. These are typically directly at online students, where I call upon them (individually or collectively) to answer a given question or comment on a specific topic/challenge, and expect the response prior to the next class.

Course policies & guidance

General 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. Note that **September 21st, 2021** 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.

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%

Class schedule and topics

Week	Class date	Tentative Topics	Textbook readings	Assignments (on the week of - tentative)
1	Sept 14	Course overview Computer Architecture	Ch. 1 Ch. 2	
2	Sept 21	Data Representation Processor technology and Architectures CPU and Digital/Logic Circuit Designs	Ch. 3 Ch. 4	HW 1 posted
3	Sept 28	Quiz Memory management File systems and storage hierarchies	Ch. 5	HW 1 due
4	Oct 5	Operating Systems Process Synchronization and Management	Ch. 11	HW 2 posted
5	Oct 12	Midterm exam Process Synchronization and Management	Same time for all students	
6	Oct 19	Caching systems and Personal Clouds Intro to Linux	Ch. 12	HW 2 due
7	Oct 26	Principals of Network simulation Mininet – Basic Network Configuration	Ch. 9	Lab 1 posted
8	Nov 2	Linux System & Network Administration Performance metrics	Ch. 6	Lab 1 due
9	Nov 9	Distributed Application Services Directory Service (LDAP)	Ch. 13	Lab 2 posted
10	Nov 16	Virtualization <i>Final Exam preparation</i>		Lab 2 due
	Nov 23	Final Exam 18:00 – 20:15 - same time for all students		

Learning Outcomes

After completing this course, students will be able to:

- Perform numbering conversions and Boolean operations
- Describe the components of a Computer's system architecture, and those of network devices
- Describe the logical components of an operating systems, and their functions
- Perform OS scheduling functions and process synchronization
- Install Linux on a Virtual Machine (VM) environment.
- Perform system and network administration on a VM environment.
- Evaluate system performance using various measurements, and identify pertinent KPIs

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 Lockdown browser. 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.

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).

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.