

TDC 311 Syllabus – Computers in Telecom. Systems – Autumn 2019

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Office Hours Thursdays 10:00 – 11:30 (or by appointment)

Website d2l.depaul.edu

Class Location Lewis Center 1108

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. PREREQUISITE(S): none

Resources:

Optional textbook: *Systems Architecture*, 7th edition, by Stephen Burd. **Publisher:** Course Technology; 7 edition (June 9, 2015)

Grade distribution over required coursework

Task	% of final grade
2 Homework assignments	20 %
3 Lab exercises	20 %
Midterm exam	25 %
Final exam	30 %
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 students (enrolled in section TDC 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.

Course policies

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 24th, 2019** is the last date to drop the class with no penalty.

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.

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, which you can reach from the aforementioned website.

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 a certain 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. Kindly refer to DePaul's Center for Students with Disabilities website at <https://offices.depaul.edu/student-affairs/about/departments/Pages/csd.aspx>. 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 17	Course overview Computer Architecture	Ch. 1 Ch. 2	
2	Sept 24	Data Representation Processor technology and Architectures CPU and Digital/Logic Circuit Designs	Ch. 3 Ch. 4	HW 1 posted
3	Oct 1	Memory management File systems and storage hierarchies	Ch. 5	HW 1 due
4	Oct 8	Operating Systems Process Synchronization and Management	Ch. 11	HW 2 posted
5	Oct 15	Caching systems and Personal Clouds Midterm review	Ch. 12	HW 2 due
6	Oct 22	Midterm exam Intro to Linux		Lab 1 posted
7	Oct 29	Principals of Network simulation Mininet – Basic Network Configuration	Ch. 9	Lab 1 due
8	Nov 5	Linux System & Network Administration Performance metrics	Ch. 6	Lab 2 posted
9	Nov 12	Distributed Application Services Directory Service (LDAP)	Ch. 13	Lab 2 due, Lab 3 posted
10	Nov 19	Virtualization Final Exam preparation		Lab 3 due
	Nov 26	Final Exam 17:45 – 20:00		

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

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 (e.g., Kinesthetic learning) to improve the learning experience.

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.