COMP 322/L

Introduction to Operating System and System Architecture and Lab

Fall 2024

Instructor: Mahdi Ebrahimi (mahdi.ebrahimi@csun.edu)

Office Hours: M\W 11:15 AM - 12:15 PM (by appointment – online via Zoom)

Class Details:

Section	Class Title	Days & Times	Room	Class Dates
COMP 322-01 (16276)	INTRO OPRTNG SYST (Lecture)	MoWe 1:00PM - 2:15PM	Online via Zoom	Aug 26, 2024- Dec 10, 2024
COMP 322L-01 (16164)	OPRTNG SYST LAB (Laboratory)	MoWe 2:30PM - 3:45PM	Online via Zoom	Aug 26, 2024- Dec 10, 2024

Final Exam:

Section	Class Title	Exam Date	Exam Time	Exam Room
COMP 322-01 (16276)	INTRO OPRTNG SYST (Lecture)	12/11/2024, Wednesday	12:45PM-2:45PM	Online via Canvas

Communication:

Please use email rather than telephone voice mail for messages. Please keep emails short and focused, and use a clear subject line beginning with "COMP 322 Question". Many technical questions are better handled in person during lectures and lab rather than email since the class might benefit from the discussion.

You may email me (mahdi.ebrahimi@csun.edu) at any time; I will generally respond within 24 hours (during the academic days). Always include your name, course, and CSUN email address in your messages to me; an email address like meqwik@love.com leaves me clueless about who you are**!**

Course Description (from the catalog):

Examination of the principal types of systems, including batch, multi-programming and time-sharing. Discusses networked system. Considers the salient problems associated with implementing systems, including interrupt of event-driven systems, multitasking, storage and database management, and input output. Emphasizes some of the simple algorithms used to solve common problems encountered, such as deadlocks, queue service, and multiple access to data.

Prerequisite: COMP 222, or ECE 422 and ECE 425/L.
Corequisite: COMP 322L.
Recommended Prerequisite: COMP 105C or knowledge of "C" Language.

Course Outline:

Chapter 1: Introduction
Chapter 2: Operating-System Structures
Chapter 3: Processes
Chapter 4: Threads and Concurrency
Chapter 5: CPU Scheduling
Chapter 6: Synchronization Tools
Chapter 7: Synchronization Examples
Chapter 8: Deadlocks
Chapter 9: Main Memory
Chapter 10: Virtual Memory
Chapter 11: Mass-Storage Structure
Chapter 13: File-System Interface
Chapter 14: File-System Implementation

Course Material:

Course material is available on Canvas (https://canvas.csun.edu) as well as the GitHub (https://mebrahimii.github.io/comp322-fall2024/)
Labs, Homeworks, Exams, and grades will be posted on canvas (https://canvas.csun.edu)
Any questions about a homework/exam grade should be addressed within **two** days of posting. After two days, all grades are final.

Textbook:

[1] **Operating System Concepts**, 10th Edition (https://www.os-book.com/OS10/)

Avi Silberschatz, Peter Baer Galvin, and Greg Gagne - ISBN: 978-1-118-06333-0

[2] **Operating Systems: Internals and Design Principles**, 9th Edition

William Stallings - ISBN: 978-0-134-67095-9

[3] **Operating Systems: Three Easy Pieces**, version 1.00 (http://pages.cs.wisc.edu/~remzi/OSTEP/)

Remzi H. Arpaci-Dusseau and Andrea C. Arpaci-Dusseau

http://pages.cs.wisc.edu/~remzi/Classes/537/Spring2018/

[4] Class Hand-outs

Grading:

You will receive a **single combined grade** for the lecture and lab. Your grade is based on the following components:

Component	Weight
Lab Assignments (~ 5)	**25%**
Exam 1	**20%**
Exam 2	**25%**
Exam 3	**30%**
Total	**100%**

Lab assignments will be frequent, typically with two due per week. The exact number of lab assignments has not been set, as this will depend somewhat on how the class progresses. These are low-stakes assignments that are intended to introduce an entirely new concept for the first time. Lab assignments are submitted through Canvas (https://canvas.csun.edu/). In the event that there is a problem with Canvas, you may email your assignment to me (mahdi.ebrahimi@csun.edu), though this should be considered a last resort.

Grading Policy: Exam questions will relate to the contents of both the textbooks **and** *material discussed in class*. To do well, you should attend class regularly, participate in discussions, do all assignments, and take notes. If you miss a class, please arrange with someone to get notes and go over the essential points with them. Total category grade is calculated based on the sum of all grades for the category.

Plus/minus grading is used, according to the scale below. The left column shows the minimum score necessary to receive the grade in the right column. The highest letter grade possible given the score is chosen; e.g., if you receive an 88.2, you'd receive a 'B+' for the course, which corresponds to being >= 86.5.

If your score is >=...	...you will receive...
92.5	A
89.5	A-
86.5	B+
82.5	B
79.5	B-
76.5	C+
72.5	C
69.5	C-
66.5	D+
62.5	D
59.5	D-
0	F

- **NOTE: Failure to take the Final Exam will result in a grade of "WU" which is equivalent to a grade of "F"**
- An important part of this course is the notation, terminology, concepts, and definitions; therefore, I do not answer questions during examinations.
- In fairness to all, I don't give makeup for any missed projects, quizzes, or exams.
- An incomplete (I) grade is given for genuine medical and other certified emergencies only; it is never given to catch up with missed assignments. Furthermore, to receive an Incomplete grade, you must have successfully completed at least two-thirds of the semester with a passing grade.

Plagiarism and Academic Honesty:
Plagiarism in any assignment or cheating in the examinations will result in a grade of F in the entire course.
On an exam, you are expected to submit only your own work. On a lab assignment, it is permissible to discuss solution approaches in a general sense with other students. But when submitting a program for a grade, the program must represent your own work. It cannot be a copy of another student's program, even if you worked in a group with that student. **Penalties for academic dishonesty on a single exam**

or lab assingment may result in a grade of "F" for the entire course. A report will also be made to the Office of the Vice President for Student Affairs. Students who repeatedly violate this policy across multiple courses may be suspended or even expelled.
If you have any doubts about what is considered dishonest, please ask the instructors for guidance before taking such a serious risk. In general, **full disclosure is the best policy** on any submission. In other words, if a friend helped you to complete a project, **state this fact in writing at the beginning of the submission.** Such submission may not earn full points.

Makeup or Extra Credit:
No makeup assignments are given to compensate for poor performance in regularly assigned work. The pressure of work, academic workload from other classes, and schedule extracurricular activities during the semester (e.g., getting married, travel) are unacceptable excuses for missing classes or not submitting the assignments by the due dates. You get no credit by telling me that you already know the stuff; the only way to earn points is by completing the coursework on time. If you know the course material, then please drop this class and enroll in a class that is useful.

Late Policy / Exam Scheduling:
Late assignments will be accepted without penalty if prior arrangements have been made or there is some sort of legitimate emergency (at my discretion). If you must be absent from an exam, contact me ASAP to see if alternative accommodations can be made. Note that all exams have been scheduled ahead of time (see the Class Schedule and List of Topics).
If an assignment is otherwise submitted late, it will be penalized according to the following scale:

If your assignment is late by <= this many days…	**...it will be deducted by...**
1	**10%**
2	**30%**
3	**60%**
4+	**100%**

To be clear, assignments that are submitted four or more days beyond the deadline will not receive credit.

Disabled Students
"If you have a disability and need accommodations, please register with the Disability Resources and Educational Services (DRES) office or the National Center on Deafness (NCOD). The DRES office is located in Bayramian Hall, room 110 and can be reached at (818) 677-2684. NCOD is located on Bertrand Street in Jeanne Chisholm Hall and can be reached at (818) 677-2611. If you would like to discuss your need for accommodations with me, please contact me to set up an appointment."

Changes to Syllabus
Changes may be needed to this syllabus and to the course plan. All such changes will be announced in class and will be announced via email. Students are responsible for this information.

Class Schedule and List of Topics (subject to change)

Exactly which topics are covered and when is subject to change.

Week	Dates	Topics	Notes (exam dates subject to change)
1	8/26 - 8/28	Course overview Introduction to Operating System	Chapter 1
2	9/2 - 9/4	Operating System Structures	Chapter 2
3	9/9 - 9/11	Processes Threads	Chapters 3 and 4
4-6	9/16 – 10/2	Exam 1 CPU Scheduling	**Exam 1 (Ch 1 - 4)** **(online via Canvas in class at 1:00 PM)** Chapter 5
7-8	10/7 – 10/16	Process Synchronization	Chapters 6 & 7
9-10	10/21 – 10/30	Deadlock	Chapter 8
11	11/4 – 11/6	Exam 2	**Exam 2 (Ch 1 - 8)** **(online via Canvas in class at 1:00 PM)**
12	11/11 – 11/20	Memory Managements	Chapter 9
13-14	11/25 – 11/27	Virtual Memory	Chapter 10
15	12/2 – 12/4	Massive Storage Management	Chapter 11
16	12/9	File System Exam 3	Chapters 13 and 14 **Exam 3 (Ch 1-14)** **(online via Canvas in class at 1:00 PM)**