**COMP 7212: Operating / Distributed Systems** **Fall 2025**
**Syllabus**

**Instructor:** Andrew Neel (aneel@memphis.edu)
**Office hours:** By Appointment only (Please arrange by email 2-3 days in advance)
**Location:** DUNN HALL 119
**Time:** Tues/Thurs 4:20PM-5:45PM
**Date:**

| | |
|---|---|
| Term: | Aug 25th – Dec 12th |
| Last Day: | Dec 3rd |
| Final Exam: | Wed, Dec 11th @ 4:20PM – 5:45PM |
| | *(Subject to Change)* |

**Holidays:**

| | |
|---|---|
| Labor Day: | Sept 1st |
| Fall Break: | Oct 11th – 14th |
| Thanksgiving Holiday | Nov 26th – Nov 30th |

**Text:** Distributed Systems: Principles and Paradigms (2nd Edition)
by Andrew S. Tanenbaum and Maarten Van Steen
ISBN: 978-0132392273
*The 3rd Edition of this text is acceptable*

## Course Description

Overview of operating system architecture for centralized and distributed systems; storage device and file systems; process management, scheduling, synchronization, interprocess communications and security; case studies of selected operating systems. PREREQUISITES: COMP 2150 and 3410 or permission of instructor.

## Professional Conduct

Students are expected to conduct themselves in a professional manner at all times. This expectation includes but is not limited to the showing respect to the instructor and students during class times, staying focused during class time, preparing yourself to learn, submitting assignments in a timely manner, asking questions, and attending class.

Each student is further held accountable to The University of Memphis's code of conduct.

## Classroom Expectations

I expect each student to appear in class prepared to discuss the topics of this course. Appropriate preparation includes but is not limited to reading the text, and reviewing recommended online materials, review of source code when needed. I further expect that each student will participate in classroom discussions.

## Grading:

Mastery of this course's material will be evaluated as follows:

| | |
|---|---|
| Two (2) exams | 50% |
| Class project | 30% |
| Homework (Programming Assignments, Current research review, etc.) | 20% |

NOTE: I require all students to bring one blue exam booklet for themselves on exam day.

## Limited Collaboration Policy:

Students are permitted and encouraged (but not required) to discuss the ideas and concepts of any classroom topic or assignment. Unless otherwise specified, the product of each assignment and test is expected to be sole, individual work each student. Specifically, students can discuss ideas and concepts; but one student is not permitted to write code or prose for another student. All help is expected to be documented and credited appropriately.

> *Warning 1: Each student should accept help with care. It is very easy to mislead yourself into believing that you understand a concept when others are providing aid or assisting. In a crunch (such as an exam), this error can prove fatal.*
>
> *Warning 2: Please give help with care. Collaboration is intended to improve the classes understanding of a concept. If too much help is given, students may be enabled to fail!*

Plagiarism or cheating behavior in any form is unethical and detrimental to proper education and will not be tolerated. All work submitted by a student (projects, programming assignments, lab assignments, quizzes, tests, etc.) is expected to be a student's own original work. The plagiarism is incurred when any part of anybody else's work is passed as your own (no proper credit is listed to the sources in your own work) so the reader is led to believe it is therefore your own effort. Students are allowed and encouraged to discuss with each other and look up resources in the literature (including the internet) on their assignments, but appropriate references must be included for the materials consulted, and appropriate citations made when the material is taken verbatim.

If plagiarism or cheating occurs, the student will receive a failing grade on the assignment and (at the instructor's discretion) a failing grade in the course. The course instructor may also decide to forward the incident to the University Office of Student Conduct for further disciplinary action. For further information on U of M code of student conduct and academic discipline procedures, refer to: http://www.memphis.edu/studentconduct/academic-misconduct/process.php

## Limited Artificial Intelligence (AI) Policy:

My express opinion is that AI can be a great tool to help you learn if used well. Even before AI came to be, students benefited from learning and studying the materials. You do this by struggling with the concepts, memorizing terms, and thinking for yourself. Anytime AI is substituted for legitimate effort in learning, you (the student) will invariably fail at some point. Therefore, my policy is simply. Do not use AI in place of the effort expected of you to learn the materials of the course. In most cases, this would constituted academic misconduct and/or plagiarism. For example, if you use AI in complete your assignment, it is considered plagiarism; and you will fail the course.

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## Course Outline:

1. Introduction
2. Architectures
3. Processes
4. Communication
5. Naming
6. Synchronization
7. Consistency and Replication
8. Fault Tolerance
9. Security

Other topics may include:

a. Distributed Web Based Systems
b. Distributed Document-Based Systems
c. Distributed Coordination-Based Systems
d. Distributed Object Based Systems
e. Distributed File Systems