**CSCI 4401/5401: Principles of Operating Systems**

**Fall 2023 Syllabus**

**I. Course Information**

**Sections:** 4401-P001(10208), 4401-W001(11200), 5401-W001(11218), 5401-P001(11373)

**Days:** Tu/Th 6:30pm – 7:45pm

**Room(s):** Math 320, [Zoom Link](https://uno.zoom.us/j/84175848620?pwd=bnlueTB3TWdncEFEMzB5cjFZbnJ3UT09), Zoom ID: 841 7584 8620 (pass: 4401)

**Instructor:** Dr. James Wagner

**Email:** jwagner4@uno.edu

**Office:** Math329-B

**Student (aka Office) Hours**

* Mo/We/Fr: 10:00am – 12:00pm
* You can either attend in person at Math 329-B or Zoom
* [Zoom Link](https://uno.zoom.us/j/89510863369?pwd=TE5CMWRVdFRyMERwZW55QkRZZ0tpUT09), Zoom ID: 895 1086 3369 (pass: 329)

**Course Homepage (Canvas):** <https://uno.instructure.com/>

**Prerequisites**

* CSCI 2125: Data Structures
* CSCI 2467: Systems Programming Concepts

**Required Text:**

* Modern Operating Systems (4th Edition)   
  By Tanenbaum et al.   
  ISBN 978-0133591620

**Additional Reading:**

* Posted as necessary

**II. Course Policies**

**Accommodations**

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to [the Office of Disability Services](http://www.ods.uno.edu/).

**Verification and Proctoring**

To ensure academic integrity, all students enrolled in distance learning courses at the University of New Orleans may be required to participate in additional student identification procedures. At the discretion of the faculty member teaching the course, these measures may include online proctored examinations, or other reasonable measures to ensure student identity. Authentication measures for this course are identified below and any fees associated are the responsibility of the student. Fees are explained here, on the student [Moodle and Educational Technology](https://www.uno.edu/cti/moodle/students) support site.

**Class Attendance**

Attendance is required for all lectures. Attendance is a formal component of the grading rubric.

In-person students are expected to attend lectures in Math 320. If your schedule does not allow you to attend the live lectures in Math 320, you are not meeting course expectations.

Online students are expected to do your best to be present, attentive, and engaged during the live lectures. All lectures will be recorded and posted on Canvas under “Panopto”. It is your responsibility to make up material that you miss. If you are unable to attend the live sessions, you are required to watch lectures within 48 hours. If your schedule does not allow you to attend live lectures or watch lecture recordings within 48 hours, you are not meeting the course expectations, which you should discuss with me.

**Graduate Credit**

CSCI 5401 students will have additional questions to answer on the exams, assignments, and quizzes.

**Regarding Email Communication**

Please begin the subject line of any email to me with “CSCI 4401/5401” so that I can easily identify your messages. I will reply to email messages within one business day after the day I receive them; therefore, questions that are only received by me on an assignment’s due date are not guaranteed replies before the assignment is due. Please plan accordingly and begin the assignments early enough to ask questions and receive answers. If you are having problems, send me a detailed description of the problems you are having; I will guide you in locating and solving your problems yourself, rather than simply solve your problems for you. For general questions, please consult the syllabus, course announcements, and course discussion forum on the course web site for answers before emailing me. Please do not use the comment field of the assignment submission system to send me questions.

**Regarding Academic Integrity**

Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the [Academic Dishonesty Policy](https://www.uno.edu/media/15321) for further information.

The use of Chegg.com (and other pay-for-solution websites) is specifically forbidden in this class. The “experts” often post incorrect solutions, and students are often tempted to copy or confused with what they can copy from these websites. If you copy a solution from Chegg.com (or other pay-for-solution websites), you will receive a grade of 0 for that assignment or exam, and I will file an academic misconduct report without any discussion.

**COVID-19 HEALTH-RELATED CLASS ABSENCES**

Students should evaluate their health status regularly, refrain from coming to campus if they are ill, and seek appropriate medical attention for treatment of illness. Students should notify (email) their instructors about their absence as soon as possible, so that accommodations can be made.  In the event of COVID-19 illness, students should also complete the [Campus Reporting Form](https://uno.guardianconduct.com/incident-reporting). Please note that medical excuse may be required at the discretion of the department chair and/or college dean.

**III. Course Details**

**Topics and Summary**

This is an introductory course into (general purpose) operating systems. Specific topics to be covered include:

• Process Management

Processes, threads, CPU scheduling, synchronization, deadlocks

• Memory Management

Memory paging & segmentation, virtual memory

• Storage Management

File system implementation, mass storage (RAID)

**Grading**

* Attendance: 10% (25/28 lectures excluding the midterm)
* Quizzes: 12% (6 quizzes)
* Assignments: 32% (4 assignments)
* Exams: 46% (midterm and final)

A: [100 – 90]%, B: [90-80]%, C: [80-70]%, D: [70-60]%, F: [60 >]%

*Attendance*: There are a total of 28 lectures for this course excluding the midterm. Points will be deducted once you miss more than 3 lectures. No extra credit for attending more than 25 lectures. To receive credit, students enrolled in the in-person section, must be present in the classroom. Students enrolled in the online section must either attend the live lecture via Zoom or watch the recording within 48 hours.

*Quizzes:* There will be a total of 6 “take-home” quizzes submitted through Canvas. The due date for quizzes will be announced approximately one week before they are due. Late submissions for quizzes will not be accepted.

*Assignments*: There will be a total of four programming assignments. All assignments are expected to be turned in on time. Lateness penalties are as follows: 1 day late – 10% off, 2 days late – 20% of, 3 days late – 40% off, > 3 days late will not be accepted.

*Exams:* There will be one in-class midterm exam around Week 7 or Week 8. There will be a final exam during the respective time slot of the University of New Orleans final exam week.

**IV. Course Performance and Expectations**

*Class Attendance.* Attending lectures (or watching the recordings within 48 hours) is required. There are very few exceptions. Skipping class for work, other classes, etc. is not an acceptable excuse, but rather poor time management.

*Expected Effort.* You are expected to spend 6 – 9 hours/week preparing for a 4000/5000-level course. If you miss more than a week of coursework, you need to talk to me ASAP.

*Partial Credit.* I do give partial credit for work on the assignments and exams. The more work you show, the more I can justify partial credit. If you do not show work, it makes it harder for me to assign partial credit.

*Exams.* Everyone (both in person and online sections) will take exams at the same time. In-person students will take exams in the classroom. Online students will take exams through Canvas. Online students are expected to find a place with a stable internet connection (e.g., campus). However, if your internet does go out, and you let me know immediately, I might allow you time to find somewhere with an internet connection. I will not offer a make-up exam if you email after the exam that your internet was out.

*Make-up Exams.* I will consider make-up exams before the scheduled exam in special circumstances or emergencies. You must let me know in advance with supporting documentation. I will not offer a make-up exam if you contact me after the exam has happened. Also, any make-up exam will be significantly more difficult than the original.

*Behavior.* You are expected to act professionally both in the classroom and in office hours. Some examples include:

* Put all electronics away during class unless they contribute to your lecture engagement.
* Do not take phone calls during class.
* Do not take phone calls or text while you are in office hours.
* If you have a specific question about your assignment, do not come up to me or message me during the middle of the lecture. Save it for before/after class, an email, or office hours.
* If you have a specific question that is unrelated to the lecture topic, do not interrupt the lecture. Save it for before/after class, an email, or office hours.
* If you miss a lecture, do not ask me what you missed. It is your responsibility to either watch the lecture and/or get notes from another student.
* If you show up late to class, do not ask me to repeat what we talked about.

**Topics and Tentative Schedule**

Week 1: Introduction to Operating Systems and System Calls

Weeks 2 - 3: Processes

Week 4: Threads

Week 5: CPU Scheduling

Week 6: Process Synchronization

Week 7: Deadlocks

Week 8: Review & Midterm Exam

Week 9 - 11: Main Memory & Virtual Memory

Weeks 12 – 13: File Systems

Week 14: Mass Storage

Week 15: Security

**Import Dates**

First Day of Class: Monday, August 14th

Labor Day Holiday: Monday, September 4th

Fall Break: Monday, October 9th & Tuesday, October 10th

Thanksgiving Break: Wednesday, November 22nd – Friday, November 24th

Last Day of Classes: Wednesday, November 29th

Final Exam: Thursday, December 7th @ 8:00pm – 10:00pm