CSE 2431 Systems II – Introduction to Operating Systems
Fall 2023
Tuesday/Thursday 9:35am – 10:55am
Baker Systems 198

Department of
Computer Science and Engineering

http://www.*cse*.ohio-state.edu

Contact Information:
Anthony Baietto
Email address: baietto.2@osu.edu
Office: **Dreese Lab 778**
Office Hours: **Wednesday/Thursday 11:00am – 12:00pm**
Zoom (by appointment): https://osu.zoom.us/my/baietto2?pwd=Zlp1WXp2NC9MV21QZXdvOWJaQmE3QT09

Graduate Student Grader:
Horng-Ruey Huang
Email address: huang.5282@osu.edu
Office: **Baker Systems 406 Station #14**
Office Hours: **Tuesday 4:00pm – 5:00pm**

Description:
Introduction to operating system concepts: process, CPU scheduling, memory management, file system and storage, and multi-threaded programming.

Prerequisites:
2421, or 2451 and ECE 2560; and enrollment in CSE, CIS, Data Analytics, or ECE majors.

Exclusions:
Not open to students with credit for CSE 5431.

Course Goals:
- Be competent with process concepts and CPU scheduling.
- Be competent with memory hierarchy and memory management.
- Be familiar with process control blocks, system calls, context switching, interrupts, and exception control flows.
- Be familiar with process synchronization, inter-process communication, and threads.
- Be familiar with multi-threaded programming.
- Be familiar with file systems and disk scheduling algorithms and I/O.
- Be exposed to security.

Text:

Required: *Operating System Concepts*, Silberschatz, Galvin, Gagne, 9th or 10th Edition, Wiley

The eBook can be accessed for free through the course CarmenCanvas website. For those students who prefer a hardcopy, there will be a limited supply available through OSU Barnes & Noble.

Student Companion Website for *Operating System Concepts*:
http://bcs.wiley.com/he-bcs/Books?action=index&itemId=1118063333&bcsId=7887

Optional: *Computer Systems: A Progammer's Perspective*, Bryant, O'Hallaron, 2nd Edition, Pearson Prentice-Hall

Topics:

- Introduction to operating systems
- Process concepts, scheduling, synchronization, deadlocks
- Multi-thread programming
- Memory hierarchy and memory management
- File systems
- Disk allocation, scheduling
- I/O
- Security

Student Conduct:

Students are required to follow the Ohio State "Code of Student Conduct" which can be found at https://trustees.osu.edu/sites/default/files/documents/2019/08/CodeStudentConduct_0.pdf. Among other restrictions, pay specific attention to the section on Academic Misconduct. Students are prohibited from:

- Providing or receiving information during exams
- Receiving assistance on homework and lab assignments
- Providing assistance on homework and lab assignments to students in the course during this or any other semester
- Submitting plagiarized work for credit

Faculty are required by the University to report any suspected violation of these conditions to the Council on Academic Misconduct (COAM). More information about the Ohio State "Code of Student Conduct" can be found at https://studentconduct.osu.edu/ and more information pertaining to COAM and their hearing processes can be found at https://oaa.osu.edu/academic-integrity-and-misconduct. A statement by the Office of Academic Affairs in light of recent advances in generative artificial intelligence can be found at https://oaa.osu.edu/artificial-intelligence-and-academic-integrity.

Grading:

Lab Assignments (4-5)	35%
Homework Assignments (3-4)	10%
Midterm Exam	20%
Final Exam	35%

Lab Assignments

Programming assignments/labs will be assigned during class. Labs must be submitted to the CarmenCanvas Dropbox by 11:59pm on the date due as specified on the assignment. A late penalty of **10% per hour** will be assessed. For instance, if a lab is submitted between 12:00am and 12:59am, there will be a 10% penalty. Any additional hardcopy materials will be due at the next class after the submission date.
Labs must be the student's own work!

Homework Assignments

Homework assignments will be assigned during class. Homework assignments must be submitted to the CarmenCanvas Dropbox by 11:59pm on the date due as specified on the assignment. A late penalty of **10% per hour** will be assessed. For instance, if homework is submitted between 12:00am and 12:59am, there will be a 10% penalty. All homework must be typed except for needed diagrams which can be drawn and included as images.
Homework must be the student's own work!

Midterm Exam

The midterm exam will be closed notes and closed book.
No calculators, phones, laptops, smartwatches, etc. are permitted.

Final Exam

The final exam is **comprehensive.**
The final exam will be closed notes and closed book.
No calculators, phones, laptops, smartwatches, etc. are permitted.
The exam date and time are determined by the OSU Registrar's Office, and the exam cannot be taken early.

If there are unforeseen emergencies that impact the grading scheme, appropriate adjustments will be made.

Attendance:

Attendance will be taken during class. It is the student's responsibility to find out what material was missed or assignments given if unable to attend class. Makeup exams require that appropriate documentation be provided ahead of time and are up to the discretion of the instructor.

Communication:

[CarmenCanvas](#) will be used for posting course materials and announcements as well as a student discussion platform for the course. Some examples of acceptable topics to discuss include:

- General information
- Concepts as related to lecture or assignments
- Interpretation of assignments
- Problems with coding such as syntax and execution errors, etc.

Please do not post answers to homework problems, and do not post <u>any code</u> for the programming assignments.

Students are responsible for any announcements/information provided on CarmenCanvas.

Important Dates:

First Day of Class	**Tuesday, August 22nd**
Last Day to Drop Class Without a 'W'	Friday, September 1st
Labor Day NO CLASSES	Monday, September 4th
ACSOS23 Conference (Toronto) NO CLASS	Thursday, September 28th
Autumn Break NO CLASSES	Thursday, October 12th Friday, October 13th
Last Day to Drop Class	Friday, October 15th
Midterm Exam	**Thursday, October 19th 9:35am – 10:55am Location: Baker Systems 198**
Veterans Day NO CLASSES	Friday, November 10th
Extra Thanksgiving Break NO CLASS	Tuesday, November 21st
Thanksgiving Break NO CLASSES	Wednesday, November 22nd Thursday, November 23rd
Columbus Day (observed) NO CLASSES	Friday, November 24th
Optional Review Classes	Tuesday, November 28th Thursday, November 30th
Candidacy Exam NO CLASS	Tuesday, December 5th
Last Day to Fill Out Student Evaluation of Instruction (SEI)	Friday, December 8th
Final Exam	**Friday, December 8th 8:00am – 9:45am Location: Baker Systems 198**

Lab and Homework Assignment due dates will be assigned on CarmenCanvas.