

Administration

CS 537: Introduction to Operating Systems

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University of Wisconsin - Madison

Fall 2023

CS 537 : Introduction to Operating Systems

Tell Me About Yourself (Quiz 0)

You must use your UW-Madison account to access.

<https://tinyurl.com/cs537-fa23-q0>



Who Am I?

Louis Oliphant

BA in Mathematics Education @ BYU, 1995

Taught High School for several years

MS and PhD in Computer Science @ UW-Madison

Dissertation in Machine Learning, 2009

Adaptively Finding and Combining First-Order Rules for Large, Skewed Datasets

Taught at Hiram College from 2009 - 2023

Who Are You?

Levels

Freshman	0
Sophomore	0
Junior	50
Senior	295
Graduate	45
Special or Guest	36

Program

General Course - BS Degree	274
Computer Engineering	46
Computer Sciences(GRAD)	39
Univ Spcl-Capstone Cert(USPC)	34
General Course - BA Degree	11
Electrical Engineering(GRAD)	4
Electrical Engineering	3
Mechanical Engineering	2
Business Undergraduate	2
Applied Math & Engr Physics	2
Biomedical Engineering	1
Agricultural & Life Sciences	1
Art	1
Mechanical Engineering(GRAD)	1
Chemical Engineering	1
Engineering Mechanics	1
G252L	1
Univ Spcl-International Stdnt(USPC)	1
Univ Spcl-Intl Ugrd Visitor(USPC)	1

Today's Agenda

- What will you do in this course?
- What is an OS and why do you want one?
- Why study operating systems?

Outcomes and Prerequisites

Course Learning Outcomes

- Explain fundamental Types of OS abstractions
- Design and implement OS components (system libraries and kernel calls)
- Assess system performance
- Explain the impact of algorithms and data structures

Pre-requisites

- CS 354 (Computer Systems)
- CS 367 (Data Struct.) or 400 or graduate standing or capstone certificate

Familiarity with **basic computer organization** (e.g. processors, memory, and I/O devices) and data structures (e.g. **stacks and hash tables**). Need to **program in C in Linux** environment.

Assessments

- Quizzes (5%) (Best 20 out of ~25)
- Projects (50%)
- Code Review (5%)
- Exams (40%)

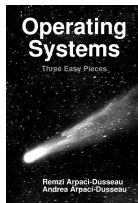
Three exams, all in-person

- Exam 1 – Oct 12, During Class (15%)
- Exam 2 – Nov 9, Evening (10%)
- Exam 3 – Lec 1: Dec 18 @ 12:25-2:25pm (15%), Lec 2: Dec 20 @ 10:05-12:05, Lec 10: Dec 19 @ 7:25-9:25pm

Projects

- **Project 1 - Unix Utilities (Released Today) (50 pts)**
 - **Due Sep 19th at 11:59pm**
- Project 2 - XV6 System Call (50 pts)
- Project 3 - Shell Program (100 pts)
- Project 4 - XV6 Scheduler (100 pts)
- Project 5 - XV6 Memory Management (100 pts)
- Project 6 - Concurrency (100 pts)
- Project 7 - File System (100 pts)

Materials & Resources



Textbook:
Operating Systems: Three Easy Pieces
cs.wisc.edu/~remzi/OSTEP/

Course Website:
cs.wisc.edu/~oliphant/cs537-fall23/

Piazza:
piazza.com/wisc/fall2023/cs537

Computer Lab:
Linux Labs & Basement 109 (past vending machines)

Format

Lecture

Tuesday & Thursday

Lec 1: 9:30-10:45am

1100 Grainger Hall

Lec 2: 2:30-3:45pm

2650 Humanities

Tuesday

Lec 10: 5:30-8:30pm

Epic Campus

In-person, Synchronous

Discussion

Wednesdays

Many sections

- Explain program projects
- Practice for exams

Personnel - 16 Course Staff!

Instructor: Louis Oliphant

Teaching Assistants: Abigail Matthews, John Shawger, Yurun Yuan, Danial Saleem, Omid Rostamabadi, Sunaina Krishnamoorthy, Fariha Tabassum, Aditya Sarma, Vojtech, Aschenbrenner

Peer Mentors: Marco Kurzynski, Xinxi You, Peter Yang, Wenhan Ji, Richik Sinha Choudhury, Arnie Jhingran

Office Hours

- Instructor Office Hours:
 - Office: 7358 Computer Sciences
 - Wednesdays 10-11:45, Thursdays 4-5
 - Cancelling Nov 22, 23 (Thanksgiving)
 - Or By Appointment
- TA/Peer Mentor Hours
 - At CSL Labs and Basement 109
 - Check Piazza, Canvas

Course Policies

Time Management

- Projects are back-to-back so **start early**. 10 percentage points lost per day late, max of 3 days late.
- Slip Days: 2 for projects 1-4, 2 for projects 5-7 (for emergencies)

Academic Integrity

- It is **OK** to:
 - Discuss projects in general terms
 - Discuss how library routines / system calls work
 - Ask the TA or professor for as much help as you need!
- It is **NOT OK** to:
 - Bug someone else for a lot of help
 - Share your code

Course Policy: Inclusion

- Create an environment where everyone can learn and thrive
- Always feel free to ask a question!
- Create a climate where we treat everyone with respect

Administration Summary

- Quizzes, Programming Projects, Code Review, Exams
- Materials & Resources
- Course Policies (Academic Integrity, Time Management, Inclusion)
- Action Items
 - Check out Course Website, Syllabus
 - Sign up for course on Piazza