

FSU COP 5611 Advanced Operating Systems (Fall 2026)

Course Syllabus (version 8/23/2026)

Lecture: TTh 1:20 pm – 2:35 pm LOV 307

Contact Information

Andy Wang (aawang@fsu.edu)

Zoom office hours: <https://fsu.zoom.us/j/93473189572>, TuTh 4-5 pm, after class, and by appointment

Class website: http://www.cs.fsu.edu/~awang/courses/cop5611_f2026

Objectives

At the end of the course, the student will demonstrate familiarity with current and classic operating systems literature in writing and in oral discussions, research and critique a specific topic in modern operating systems design, develop a research project, and write a research paper in an area of operating systems that is appropriate to the graduate student level.

Prerequisites

- COP 4610 or an equivalent level of maturity in understanding the principles of operating systems design and implementation
- CDA 3100 or an equivalent level of maturity in understanding the principles of computer hardware design and implementation
- Working knowledge of the UNIX programming environment
- Proficiency in C

Delivery Mode

Traditional

Course Material

- Lecture notes (posted on the class website)
- Papers (posted on the class website)
- No required textbook
- Recommended background textbooks
 - Arpaci-Dusseau, Arpaci-Dusseau, Operating Systems: Three Easy Pieces (background)
 - Tanenbaum, *Modern Operating Systems* (background)

Class Grading

Paper summaries and critiques	5%
Project	35%
Peer evaluation of projects	5%
Exam 1	15%
Exam 2	15%
Final	25%

Every week during the first ten weeks, you will submit a one-page critique of papers from specified venues in class and a reflection paragraph on what you learned in class/papers read that can be applied to your research area of interest, through Turnitin.com (via Canvas). You will develop a project aligned with your interests and skill level in teams of two or three. Each week, each team must submit a one-page progress report demonstrating steady progress. By the fifth week, you will submit a two-page proposal for your term project and deliver a short presentation in class. In the final two weeks of the course, you will submit a 15-page final paper and present your final project. Each team member must identify which pages (at least five) they wrote. Additionally, you will submit critiques of two class projects that are not your own.

We will hold in-class, closed-book examinations unless otherwise specified. Examinations will likely be in the form of essays or short answers that involve applying the knowledge and concepts learned in class.

Computer Accounts

You will need an account at fsu.edu to receive class emails and use the discussion board.

Your Responsibilities

- Understand the lecture slides and assigned papers
- Uphold academic honesty in completing your assignments and exams
- Attend office hours for extra help
- Turn in your projects on time
- Check the class web page regularly

Course Calendar (Tentative)

Lecture	Week	Date	Lecture	Due Dates
1	1	8/25	Course overview, Course introduction, Advanced file systems issues	
2		8/27	FFS, LFS, and RAID, File system extensibility non-disk file systems	
3	2	9/1	Composite-file file system, F2FS, Nova, Strata, possible course projects	Hw1
4		9/3	Silhouette, Memory management and caching for file systems	
5	3	9/8	SysSPEC, SolidAttention, Threads, events, and scheduling	Hw2
6		9/10	Interprocess communications, large address space	
7	4	9/15	Class canceled due to university meetings	Hw3
8		9/17	Networks	
9	5	9/22	Exam 1	Hw4
10		9/24	Project proposal presentations	
11	6	9/29	Operating systems organization	Hw5
12		10/1	Operating systems organization part II	
13	7	10/6	Distributed operating systems part I	Hw6
14		10/8	Distributed operating systems part II	
15	8	10/13	Distributed operating systems part III	Hw7
16		10/15	IPC in distributed systems	
17	9	10/20	Distributed file systems	Hw8
18		10/22	Distributed file systems part II	
19	10	10/27	Exam 2	Hw9
20		10/29	The Google File System	
21	11	11/3	OceanStore, Facebook Photo Storage, SPOCA	Hw10
22		11/5	RAMCloud, CORFU	
23	12	11/10	S3-FIFO, MemLiner, Operating systems security	
24		11/12	Operating systems security part II	
25	13	11/17	Automated worm fingerprinting	
26		11/19	Meltdown, Security Landscape, Bitcoin, Cashtags	
27	14	11/24	Operating systems reliability, failure-oblivious computing, LFuzz	
28		11/26	Thanksgiving Day Holiday—no classes	
29	15	12/1	Project presentations	
30		12/3	Project presentations	Peer evaluations and project report due
	16	12/10	Final exam in LOV 307 (Thursday)	12:30-2:30pm

Course Policies

University attendance policy: Excused absences include documented illness, deaths in the family, and other documented crises, as well as calls to active military duty or jury duty, religious holy days, and official university activities. These absences will be accommodated without arbitrarily penalizing students with valid excuses. Consideration will also be given to students whose dependent children experience serious illness.

Academic honor policy: The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "... be honest and truthful and ... [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy>)

Americans with Disabilities Act: FSU is committed to providing reasonable accommodation for all persons with disabilities in a manner that is consistent with the academic standards of the course while empowering the student to meet the integral requirements of the course. Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Office of Accessibility Services; and (2) request a letter from the Office of Accessibility Services to be sent to the instructor indicating the need for accommodation and what type; and (3) meet (in person, via phone, email, zoom, etc...) with each instructor to whom a letter of accommodation was sent to review approved accommodations. Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided. This syllabus and other class materials are available in an alternative format upon request. For the latest version of this statement and more information about services available to FSU students with disabilities, contact the:

Office of the Accessibility Services
874 Traditions Way
108 Student services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu
<http://dsst.fsu.edu/oas>

Syllabus change policy: Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.