# ➥ Course Information

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|---|---|
| Instructor: | Zhi Wang |
| | zwang@cs.fsu.edu (preferred means of communication) |
| | (850)645-0476 |
| | 172 Love Building |
| Class meeting: | M, W, F 12:20pm - 1:10pm |
| | HCB 216 |
| Office hour: | Monday 1:30pm - 3:30pm, or by appointments |
| Course homepage: | http://www.cs.fsu.edu/~zwang/cop4610.html |
| Required textbook: | *Silberschatz, Galvin, and Gagne*, **Operating System Concepts**, *Wiley, 9th edition, (ISBN 978-1-118-06333-0)* |

# ➥ Objective

- Define, explain, and apply introductory operating systems concepts: *process management*, *interprocess communication*, *memory management*, *I/O systems*, *file systems*, and the like.

- Understand how key OS concepts are implemented in modern operating systems, particularly in Xv6 (a teaching OS developed by MIT), Windows and Linux.

- Understand and use the UNIX OS interface (e.g., *pthread*) to implement programs in the C language; design and implement a correct concurrent program requiring synchronization

- Gain experience in implementing and debugging operating system components, including system calls, virtual memory, scheduling

# ➥ Prerequisites

- COP4530 Data Structures

- CDA3100 Computer Organization I

- Working knowledge of the Linux programming environment

- Proficiency in the C programming language

# ➥ Tentative Schedule

The schedule of the lectures mostly follows the textbook with a few adjustments. Tentatively, the course will cover the first fifteen chapters of the book, which provide a fairly complete introduction of a modern operating system. It will subsequently introduce the design of the Linux kernel.

| Chapter | Topic |
|---|---|
| Chapter 1 | Class Information and Introduction |
| Chapter 2 | Operating System Structure |
| Chapter 3 | Process |
| Chapter 4 | Threads |
| Chapter 5 | Process Synchronization |
| Chapter 6 | CPU Scheduling |
| Chapter 7 | Deadlock |
| Chapter 8 | Main Memory |
| Chapter 9 | Virtual Memory |
| Chapter 10 | Mass-Storage Structure |
| Chapter 11 | File System Interface |
| Chapter 12 | File System Implementation |
| Chapter 13 | I/O Systems |
| Chapter 14 | Protection |
| Chapter 15 | Security |
| Chapter 18 | The Linux System |

(Note the schedule is tentative and subject to change with advanced announcements.)

# ➡ Your Responsibilities

- Understand the lecture slides and reading assignments

- Attend the lectures

- Attend office hours for extra help, as needed

- Uphold academic honesty in completing your assignments, projects, and exams

- Turn in your assignments on time

- Check the course homepage, blackboard, and your university email account regularly

# ➡ Grading

The course will be graded according to the following proportions,

| | |
|---|---|
| Projects | 25% |
| Homework | 20% |
| Midterm | 25% |
| Final | 25% |
| Quizzes | 5% |

and the letter grade will be assigned as:

|  | $A$: [100, 92] | $A^-$: (92, 90] |
|---|---|---|
| $B^+$: (90, 88] | $B$: (88, 82] | $B^-$: (82, 80] |
| $C^+$: (80, 78] | $C$: (78, 72] | $C^-$: (72, 70] |
| $D^+$: (70, 68] | $D$: (68, 62] | $D^-$: (62, 60] |
|  | $F$: (60, 0] |  |

*Note:* CGS5765 students will need to get a $B^-$ or better to receive a **S** in the final grade.

**Project and Homework:** projects are an important part of the course. There will be 4 or 5 increasingly challenging projects. The projects and homework are an individual effort. No collaboration is allowed in any of the assignments unless specified by the instructor.

**Grading:**

- To ease the burden of grading inscrutable handwritten papers and reduce errors in grading, *homework and projects MUST be typed and submitted through blackboard*. NO hand-written submission will be accepted.

- Late submission to the homework or projects will be accepted up to *three days after the deadline* with a penalty of *10%* of the assignment *each day*. Students with legitimate excuses should contact the instructor before the deadline, if possible, and submit appropriate document afterwards to be exempted from this rule (however, you must still submit the assignment).

- Disputes to any grading must be resolved with the TA or the instructor *within two weeks* after the score is released to the students.

**Exams:** there will be one midterm and one final. The final is comprehensive. Both exams are close-booked. No make-up exam will be arranged in the middle of the semester for missed midterms. A single comprehensive make-up exam will be arranged for missed midterm or final exam according to the official FSU calendar (as such, you can make up at most one missed exam.)

**Quizzes:** the university requires attendance in all classes. Although no attendance will be taken (except the first class), quizzes will be given regularly at the beginning of the classes as an incentive to encourage attendance and participation. There will be *no make-up for the quizzes*. Students will legitimate reasons (e.g., sick, family emergency, or religious) can be excused with documented reasons. Documents must be submitted within one week of the missed quiz.

# ➥ Course Policies

**Academic Honor Policy:**

Academic integrity is the key to the fairness and equality of all courses. Students are required to strictly follow the rules and guidelines laid out in the Florida State University Academic Honor Policy. It is important for the students to use their best possible judgment in everyday academic activities, and live up to their pledge to "be honest and truthful and will strive for personal and institutional integrity at Florida State University." Particularly, students are prohibited from collaborating on assignments unless explicitly allowed, or seeking answers or helps off the Internet. Anything submitted as the homework or a project must be his or her own original work.

**Americans with Disabilities ACT:**

Students with disabilities needing academic accommodation should:

- register with and provide documentation to the Student Disability Resource Center; and

- bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the:

**Student Disability Resource Center**
108 Student Services Building
874 Traditions Way
Tallahassee, FL 32306-4167
(850) 644-9566 (voice) (850) 644-8504 (TDD)
sdrc@admin.fsu.edu
http://www.disabilitycenter.fsu.edu

# ➥ Acknowledgment

The content of this course is partially inspired by and may incorporate some materials from similar offerings from Dr. Andy Wang and Dr. Xuxian Jiang. It also contains the supplementary materials for the book provided by the authors and the publisher.