Syllabus for ICS412
Operating Systems
Fall 2009

Learning Objective:

- Gain a fundamental understanding of operating systems, focusing on the fundamental principles of operating system design and implementation, including OS kernel organization and structure, processes and threads, concurrency and synchronization, memory management, file systems, and communication.
- Understand key features of operating systems of practical importance, including Linux and Windows.
- Understand and learn how to use fundamental system calls in a Linux environment
- Learn to modify an existing operating system kernel

This course is a hands-on course and will involve a fair amount in programming, mostly in C (or C++).

Prerequisites:
ICS212 and ICS312, or consent

Textbook:
Operating System Concepts, 8th Edition, by Silberschatz, Galvin, and Gagne. Wiley Publisher, 2008.

Lecture Time an Place:
Tuesday / Thursday, 3PM-4:15PM, POST 127

Instructor:
Henri Casanova
Office/Phone: POST 310C / 956-2649
Office hours: Wednesdays 1PM-3PM
e-mail: henric@hawaii.edu

Course Website:
http://navet.ics.hawaii.edu/~casanova/courses/ics412_fall09
The Website will be updated very regularly and is the source of all relevant information pertaining to the course (reading assignments, homework assignments, exam announcements, additional lecture material, misc. announcements).

Course Organization:

- **Lectures:** The lectures present the core of the material
- **Readings:** Reading assignments will provide preparation and a reference for the lectures. They are not substitutes for the lectures. At times the lecture may go further in depth than the textbook, and at times the textbook will go further in depth than the lecture, in which case the instructor give specific instruction as to which reading material is required.
- **Homework Assignments:** These are “pencil and paper” assignments. There will be approximately 4 homework assignments, with some questions taken from the book. Their role is to reinforce the readings and lectures

- **Programming Assignments:** These are programming mini-projects, some using existing operating systems such as Linux, some using the Nachos instructional operating system. There will be approximately four such assignments.
- **Exams:** There will be a midterm exam, and a comprehensive final exam.

Grading:
- Homework assignments: 20%
- Programming assignments: 30%
- Midterm exam: 20%
- Final exam: 30%

Grading will be as follows

> 90%	A
≥ 80% and < 90%	B
≥ 70% and < 80%	C
≥ 60% and < 70%	D
< 60%	F

Assignments: What to turn in?
- Turn in your own work. It is okay to discuss homework with others, and in fact is encourage as it can lead to fruitful discussions and discoveries, but the work you turn in should always be your own.
- Answers should **always** include how the answer was derived.

Assignments: How and When to turn in?
- *E-mail* (preferred)*:* to henric@hawaii.edu, including the course number and the assignment number in the subject line of the e-mail
- *Hard copy:* At the beginning of the lecture on the day the assignment is due. But note that most assignments will require that you write software, and thus an electronic copy will be necessary.
- Assignments are always due at 11:59PM on the due date.

Late Work:
Assignment grade will be reduced by 20% for each day the assignment is late. For instance, if an assignment is due (at 11:59PM) on 10/25, an assignment turned in at 2AM on 10/26 will have 20% grade reduction, and an assignment turned in at 11PM on 10/27 will have a 40% grade reduction.

Academic Dishonesty:
All occurrences of academic dishonesty, as defined below, will result in a grade of 0 for the assignment or exam, and in a memo in your ICS department file describing the incident. Which will be done for all students involved. Should there be more than one memo of this type in your file, the incident will be referred to the Dean of Students. Disciplinary sanctions range from a warning to expulsion from the university, as seen at: http://www.hawaii.edu/student/conduct/discipline.html.

The University of Hawaii defines academic dishonesty as follows:

Because UHM is an academic community with high professional standards, its teaching, research, and service purposes are seriously disrupted and subverted by academic dishonesty. Such dishonesty includes cheating and plagiarism as defined below. Ignorance of these definitions will not provide an excuse for acts of academic dishonesty.

1. Cheating includes but is not limited to giving or receiving unauthorized assistance during an examination; obtaining unauthorized information about an examination before it is given; submitting another's work as one's own; using prohibited sources of information during an examination; fabricating or falsifying data in experiments and other research; altering the record of any grade; altering answers after an examination has been submitted; falsifying any official University record; or misrepresenting of facts in order to obtain exemptions from course requirements.
2. Plagiarism includes but is not limited to submitting, in fulfillment of an academic requirement, any work that has been copied in whole or in part from another individual's work without attributing that borrowed portion to the individual; neglecting to identify as a quotation another's idea and particular phrasing that was not assimilated into the student's language and style or paraphrasing a passage so that the reader is misled as to the source; submitting the same written or oral or artistic material in more than one course without obtaining authorization from the instructors involved; or "drylabbing," which includes obtaining and using experimental data and laboratory write-ups from other sections of a course or from previous terms.