University of California Santa Cruz
Baskin School of Engineering
Computer Science Department

CMPS111 Winter 2018

Syllabus

Introduction

This course addresses the design and implementation of operating systems and examines fundamental concepts such as resource management, concurrency, protection and security. Examples drawn from a range of modern operating systems illustrate these concepts and project work provides practical experience in the design and implementation of operating systems.

Learning Objectives

Students who pass this course should be able to **explain**:

- What an operating system is, what it does, and how it is designed and constructed.
- The process and thread concepts, including lifecycle and concurrency models central to operating system design.
- Process scheduling, inter-process communication, process synchronization and deadlock handling.
- Memory management schemes, including paging and virtual memory.
- Basic mechanisms for protection and system security.

Students who pass this course will have **gained**:

- Experience in writing operating system code.
- An appreciation of impact upon performance of design choices including the selection of algorithms within an operating system kernel.
- A practical understanding of a large body of production quality code written by parties unknown.
- Some familiarity with Unix/Linux; C programming, APIs, and System Calls.

Assessment

This course will be internally assessed through the following:

- Administration   (not graded, but mandatory)
- Written Homework x 5   25%   (5% each)
- Lab 1   5%
- Lab 2   15%
- Lab 3   15%
- Final Examination   40%

Mandatory Course Requirements

You must pass every component (administration, homeworks, labs, and final) to pass the course.

For example, doing well on the homeworks and final but submitting poor (or no) lab solutions will see you fail the class. Similarly, doing well on the labs and homeworks but failing the final will result in you failing the class.

Late Submission Policy

Homeworks:
      No late submissions allowed.

Labs:

00-24 hours late	15% reduction
24-48 hours late	30% reduction
48-72 hours late	45% reduction
> 72 hours late	no credit

It is your responsibility to submit your work on time.

If exceptional circumstances arise **_before_** the due date and time, notify me as soon as you become aware of the issue and it will be taken into consideration.

Extension requests received after the submission deadline will be ignored.

Workload

In order to maintain satisfactory progress, you should plan to spend an average of 10 hours per week on this class. A plausible and approximate breakdown for this time would be:

- Lectures: 3 hours
- Labs: 3 hours
- Homework: 2 hours
- Independent study: 2 hours

Grading Bands

Grade	Range	Midpoint	Characterisation
A+	90-100	95	Outstanding
A	85-89	87	Excellent
A-	80-84	82	Excellent in most respects
B+	75-79	77	Very good
B	70-74	72	Good
B-	65-69	67	Good overall, but some weaknesses
C+	60-64	62	Satisfactory to good
C	55-59	57	Satisfactory
* C-	50-54	52	Adequate evidence of learning
* D	45-49	47	Some evidence of learning
F	0-44	22	Below the required standard; fail

* Pass, but cannot be used to satisfy a major requirement or a general education requirement, and cannot satisfy a prerequisite for another course.

For more information, see the registrar's site:

https://registrar.ucsc.edu/navigator/section4/performance/letter-grades.html

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