

# Introduction to the Computer Operating Systems Course

BLG 312E

## Instructor

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## Resources and Web Page

Ninova

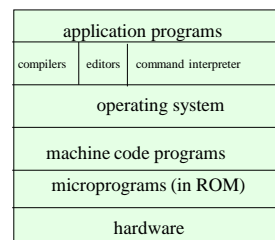
## Course Objectives

- Basic operating system concepts
- Main operating system components
- Operating systems design issues
- Parallel programming using system calls, mutual exclusion and synchronization primitives

## Operating System

- Software for using the hardware
- Controls and shares the system resources
- Provides a program development environment
- kernel = operating system

## Computer System



## Operating System

- direct access to hardware is not allowed
- user mode x kernel mode
- hides difficulties of using hardware
- Provides interface between user and hardware through «system calls»

## Operating System Responsibilities

- resource sharing
- virtual machine

### Topics

Introduction to course
Operating Systems Overview
Process Management
Operating System Threads
Interprocess Communication
Interprocess Communication – Classical Problems
Deadlock
Scheduling
Memory Management - 1
Memory Management - 2
File System
Input / Output

## Resources

- *Modern Operating Systems*, Andrew S. Tanenbaum, Prentice Hall, 2007.
- *Operating System Concepts 8th Ed.*, A. Silberschatz, P. B. Galvin, G. Gagne, Wiley, 2010.
- *Operating Systems 3rd Ed.*, H. M. Deitel, P. J. Deitel, D. R. Choffnes, Prentice Hall, 2003.

## Grading

Midterm	30%
Homework 1	n/a
Homework 2	10%
Homework 3 (Project)	20%
Final Exam	40%

## To be allowed to take the final exam, the following are required:

- Attendance to at least 70% of classes
- Submission of the **3rd** homework (aka Project): You have to achieve at least 20 out of 100 points on the project for its submission to be accepted. A project with a lower grade will not be considered as submitted. Submitting parts of the codes provided in class will not be sufficient to achieve a grade of 20.
- A minimum weighted average of 30 out of 100 from the midterm exams and the homeworks.

### Please note!

- You are expected to work individually on all exams and homeworks.
- All forms of collaboration are discouraged and will be treated as cheating.