

# COM 341, Operating Systems

American University of Central Asia  
Software Engineering Department

## 1 Course Information

### Course ID

COM 341, 3325

### Place

AUCA new campus, room G30

### Time

Monday 9:25

Friday 8:00

## 2 Prerequisites

COM 112, Programming II. Object Oriented Design and GUI Programming

## 3 Contact Information

### Instructor

Toksaitov Dmitrii Alexandrovich  
toksaitov\_d@auca.kg

### Office

AUCA new campus, room 3xx (TBD)

### Office Hours

- Monday 10:40–12:45
- Wednesday 14:00–15:00
- Friday 9:15–10:15

## 4 Course Overview

This course introduces students to the fundamentals of operating systems design and implementation. Topics include an overview of the components of an operating system, mutual exclusion and synchronization, implementation of processes, scheduling algorithms, memory management and file systems. This course is designed for Software Engineering Majors and Minors.

## 5 Practice Tasks & Quizzes

Students are required to finish 5 practice tasks during the course. These tasks are based on topics discussed during lectures. Each task should be finished during the class to receive a grade.

Students will get four quizzes throughout the course on topics discussed during previous classes.

## 6 Course Project

The course project is to develop a limited simulation of an OS kernel on top of a virtual computer system. For educational and experimental purposes different approaches should be used and each solution should be analyzed and compared with others.

## 7 Reading

Operating Systems Design and Implementation, Third Edition by Andrew S. Tanenbaum (AUCA Library Call Number: QA76.76.O63 T35 2006, ISBN: 0131429388)

### 7.1 Supplemental Reading

1. Understanding the Linux kernel, Third Edition by Daniel P. Bovet and Marco Cesati (AUCA Library Call Number: QA76.76.O63 B683 2006, ISBN: 0596005652)
2. Linux Kernel in a Nutshell by Greg Kroah-Hartman (<http://www.kroah.com/lkn>, ISBN: 9780596100797)

3. Windows Internals, Part 1 (6th Edition) by Mark E. Russinovich and David A. Solomon (AUCA Library Call Number: QA76.76.W56 R885 2012, ISBN: 9780735648739)
4. Windows Internals, Part 2 (6th Edition) by Mark E. Russinovich and David A. Solomon (AUCA Library Call Number: QA76.76.W56 R885 2012, ISBN: 9780735665873)
5. Mac OS X and iOS internals : to the apple's core by Jonathan Levin (AUCA Library Call Number: QA76.774.M33 L48 2013, ISBN: 9781118057650)
6. Mac OS X Internals: A Systems Approach by Amit Singh (AUCA Library Call Number: QA76.76.O63 S564 2007, ISBN: 0321278542)

## 8 Grading

- Practice tasks (30%)
- Quizzes (20%)
- Course project (50%)
- 90%–100%: A
- 80%–89%: A-
- 70%–79%: B+
- 65%–69%: B
- 60%–64%: B-
- 56%–59%: C+
- 53%–55%: C
- 50%–52%: C-
- 46%–49%: D+
- 43%–45%: D
- 40%–42%: D-
- Less than 39%: F

## 9 Rules

Students are required to follow the rules of conduct of the Software Engineering Department and American University of Central Asia.

Team work is NOT encouraged. Equal blocks of code or similar structural pieces in separate works will be considered as academic dishonesty and all parties will get zero for the task.