

COM 421, 430, Software Engineering I, II

American University of Central Asia
Software Engineering Department

1 Course Information

Course IDs

COM 421, 3705
COM 430, 3881

Course Repositories

<https://github.com/auca/com.421>
<https://github.com/auca/com.430>

Place

AUCA new campus, room G30

Time

Monday 12:45
Wednesday 12:45

2 Prerequisites

COM 112, Programming II. Object Oriented Design and GUI Programming
COM 324, Algorithm Analysis

3 Contact Information

Instructor

Toksaitov Dmitrii Alexandrovich
toksaitov_d@auca.kg

Office

AUCA new campus, room 315

Office Hours

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

4 Course Overview

The course introduces students to software engineering, teaching each of the individual steps of the software life cycle: requirements, design, coding, testing and software delivery. The course covers estimating man months to complete a project and writing project proposals. Along with the theory, students will go through all the stages of software development on their own projects. This is a two-semester course designed for Software Engineering majors and minors.

5 Topics Covered

- Software Engineering Concepts
- Software Development Methodologies
- Agile Software Development
- Requirements Engineering
- System Design and Modeling
- System Implementation
- Software Testing
- Software Evolution
- Project Management
- Dependability and Security

6 Practice Tasks

Students are required to finish 10 practice tasks. The tasks are based on topics discussed during lectures. Each task should be finished during the class to receive a grade.

7 Course Projects

The course contains two projects for each semester. Each project requires to develop a software product for an imaginary customer. Small teams of 4 students will compete to deliver solutions to a specified problem. Teams will go through all steps of software production such as requirements specification, software design, construction, testing, deployment, and maintenance.

8 Reading

Software Engineering (9'th Edition) by Ian Sommerville (AUCA Library Call Number: QA76.758.S657 2011, ISBN: 978-0137035151)

8.1 Supplemental Reading

1. The Mythical Man-Month: Essays on Software Engineering, Second Edition by Frederick P. Brooks Jr. (ISBN: 858-0001065793)
2. Code Complete: A Practical Handbook of Software Construction by Steve McConnell (AUCA Library Call Number: QA76.76.D47M39 2004, ISBN: 079-0145196705)
3. Design Patterns: Elements of Reusable Object-Oriented Software by Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides (AUCA Library Call Number: QA 76.64 D47 1995, ISBN: 978-0201633610)
4. Refactoring: Improving the Design of Existing Code by Martin Fowler, Kent Beck, John Brant, William Opdyke, Don Roberts (AUCA Library Call Number: QA76.76.R42 F695 1999, ISBN: 978-0201485677)

9 Grading

- Practice tasks (40%)
- Course projects (several parts)
 - Major part of the final grade (60%)
- 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

10 Rules

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