Faculty of Arts and Sciences
Department of Computer Science
CMPS 253 – Software Engineering
Course Syllabus – Spring 2021-2022

Logistics

Instructor: Mahmoud Bdeir, `mbdeir@aub.edu.lb`, office hours: TR 1:30 PM - 3:00 PM, and by appointment

Teaching Assistants:

- TBA, `tba@mail.aub.edu`

Meeting Times:

- Lectures:
  - L1: MWF 08:00–08:50 AM
  - L2: MWF 10:00–10:50 AM
  - L3: MWF 11:00–11:50 AM

Important Dates:

- Midterm Exam: Sat Mar 5, 10:00 AM - 12:00 PM
- Final Project Presentations: Sat Apr 30, 8 AM - 5 PM
- Final Exam: TBD by the registrar

Description

This course introduces practical industry-standard software engineering best practices to students that have already written moderate sized software. Students are exposed to full development lifecycle from choosing the right SDLC, to requirements management, software design, development, patterns, testing and UAT. A group term project provides a holistic hands-on experience building an end-to-end software application emulating a real-world environment often for real clients with real needs. Other topics covered include working in a team, professionalism, project management, risk, and ethics. *Prerequisites: CMPS 252. Annually.*

Textbook

No textbook is required for this course.
Electronic Resources: Lecture slides, recordings, assignments, exams, online references and tutorials, and other materials will be posted on Moodle and on Slack.

Grading

A tentative breakdown of the final grade for the course is as follows:

- Homework: 20%
- Midterm Exam: 20%
- Final: 25%
- Project: 30%
- Participation: 5%

Outline

0. Requirements
1. Defining Software
2. Software Development Life Cycle
3. Design Patterns
4. Cloud Computing
5. Software Architecture & Software Design
6. Quality Assurance (covered in CMPS 252)
7. Software Management
8. Professional Practice
9. Ethics

Learning Outcomes
At the end of the course, you should be able to:

0. Elicit, write, and manage software requirements.
1. Model various aspects of software.
2. Learn about various testing methods and cycles.
3. Use best practice implementation techniques such as design patterns.
4. Design software following life cycle models with focus on agile practices.
5. Use CASE tools to design and build software.
6. Use cloud computing resources.
7. Work with a group of people to achieve a shared goal or outcome in an effective way.

Policies
Attendance: Attendance will be taken at every session. Students may attend any of the three lectures, however, you must get permission to switch the lecture section for which you are registered. Lectures are a sequence; if you skip one you will not be able to understand the lecture that follows, unless you catch up on your own with the lecture you missed. Catching up with lectures is your responsibility and is done on your own time. Points for class participation are awarded to those that participate during lectures.

Ethics: Although you are encouraged to discuss the homework and programming assignments with other students, all work handed in for credit must be done independently. Please be aware of the university policy regarding plagiarism.

Exams: There will be one midterm exam and a final exam. Quizzes and final exam will be closed book, closed notes. Supporting materials will be provided when needed. Makeup exams will only be given in extremely rare circumstances after presenting a solid and convincing case to the instructor and the Office of Student Affairs. Missed exam will result in a zero grade for the particular exam.

Grades: The deadline for valid grade adjustment requests is three days after posting the grade; no requests for grade changes/updates will be accepted after this date. Late submissions of assignments will be penalized with 10% per day. Late submissions will not be accepted after 2 days of the due date.

Communication: You are requested to check your email/Slack/Moodle accounts on regular basis since you are responsible for all the information communicated to you in class and via these tools.

University Policies
a. Academic Integrity: Please refer to the `AUB Student Code of Conduct`, in particular section 1.1, which concerns academic misconduct including cheating, plagiarism, in-class disruption, and dishonesty. Please be aware that misconduct is vigorously prosecuted and that AUB has a zero tolerance policy. Course policy is that credible evidence of cheating will result in course failure.

b. Special Needs: AUB strives to make learning experiences as accessible as possible. If you anticipate or experience academic barriers due to a disability (including mental health, chronic or temporary medical conditions), please inform me immediately so that we can privately discuss options. In order to help establish reasonable accommodations and facilitate a smooth accommodations process, you are encouraged to contact the Accessible Education Office: `accessibility@aub.edu.lb` or `rs242@aub.edu.lb` +961-1-350000, x3246; West Hall, 314.

c. Non-Discrimination: AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by Title IX. The University's non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University's Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at `http://www.aub.edu.lb/titleix`. To report an incident, contact the University's Title IX Coordinator Mitra Tauk at 01-350000 ext. 2514, or titleix@aub.edu.lb. An anonymous report may be submitted online via `EthicsPoint`.