

# COMP 202: DATA STRUCTURES AND ALGORITHMS

## (Spring 2022 Syllabus)

**Instructor:** Alptekin Küpçü

**TAs:** Mustafa Orkun Acar, Burak Can Biner, Ahmet Kerem Özfatura, Javid Baydamirli.

**Office Hours:** Check course calendar for office hours.

**Webpage:** <http://courses.ku.edu.tr/comp202/>

**E-mail:** Always send email to `comp202ta-group@ku` for course-related questions.

**Lecture Notes:** Lecture materials are uploaded on the Blackboard system.

**Text Book:** Goodrich & Tamassia & Goldwasser, “Data Structures and Algorithms in Java”, Wiley. ISBN: 978-0470398807 (required)

- Objectives:**
1. To teach about fundamental data structures: lists, stacks, queues, trees, balanced binary search trees, priority queues, hash tables, graphs.
  2. To introduce you to basic searching, sorting, and graph algorithms.
  3. To provide a basic understanding of how and where different data structures are employed.
  4. To enable you to implement different data structures.

**Learning Outcomes:** At the end of this course, you will be able to

1. determine appropriate data structures and algorithms to solve problems efficiently,
2. employ fundamental data structures in your algorithms,
3. implement yourself and use others' implementations of widely-employed data structures,
4. analyze time and space complexity of algorithms.

**Prerequisite:** Discrete Mathematics and Java. COMP 106 and COMP 132/131/130 needs to be finished before registering to this course.

**Grading:** Catalog-like system, no curve grading. This means, others' performance does not affect your grade.

Assignments (40%), Midterm Exam (30%), Final Exam (30%).

You have to obtain at least 40/100 out of each exam to pass the course.

Grading objection must be done within one week of grade announcement, unless a different time period is announced.

## Code of Conduct:

**Teaching Style:** There are pre-recorded videos and textbook readings assigned to you weekly on Blackboard. Follow them *before* attending the lectures to enhance your understanding.

**Attendance:** Please do not step in and out of the classroom when the lecture/lab is in progress (in important cases, ask for my permission ahead of time). TAs have the same authority as the instructor, and hence you must follow their rules as well. Attendance will not affect your grade, and hence do not come to the class if feeling bad. Health is more important.

**Device Use:** Use of devices such as laptops, cell phones, or similar devices is **strictly forbidden** in the classroom.

**Assignments:** **Late assignments will not be accepted unless you have my permission well ahead of time** with a valid excuse. Do not ask for an extension when it is close to the deadline; such requests will not be granted. Hand-written solutions will be accepted as long as they are legible. It is our right to cut off grade points if we cannot read your answer. Always target *the best possible asymptotic complexity* for full grade.

**Cheating:** Do not cheat. We employ **cheating detection tools** that can easily detect cheating. By national and university-wide rules, any cheating *attempt* may be penalized with **one semester suspension** from the university. The Koç University Student Code of Conduct includes, but not limited to, the following: Your work needs to be your own. It cannot be joint work with any other person (in the class or not). You cannot have someone do the assignment for you (paid or not). You cannot submit an assignment that is based on submissions in earlier semesters. You cannot use a solution manual, or an online solution to the question. To get a grade (other than F) in this course, you must fully comply with the Koç University Student Code of Conduct as seen on: <https://apdd.ku.edu.tr/en/academic-policies/student-code-of-conduct/> Attending any Koç University course means you have read and agreed to this conduct, the course syllabus, and honor codes. Failure to comply will result in a **direct F for your letter grade for the course and disciplinary action**.

**Success:**

1. You need to do **lots of reading**. Do not expect to understand hard topics without reading from *multiple* sources.
2. You need to do **lots of programming**. Do not expect to succeed without *implementing fully-working* programs yourself.
3. Make sure to do the assignments yourself, without finding the solution somewhere else.
4. You need to solve **more exercises than the ones assigned**. The assignments will help, but they will **not** be enough to guarantee success.
5. If you did not understand a particular topic, **ask** before we switch to the next topic. **Work regularly**.
6. **Do not cheat**.
7. Do not forget that this is one of the most fundamental and important courses for Computer Engineering. Try to learn the topics in the best possible way.