

# Survival Guide for 02105+02326 Algorithms and Data Structures

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**About the Courses** This note is a short survival guide to the most important things you need to know about *02105 Algorithms and Data Structures 1* and *02326 Algorithms and Data Structures*.

**Structure** Lectures are joint for both courses, while exercise classes are separated into BSc. and BEng. classes. The format of the day for week  $x$  is as follows:

**8.00-9.45** Exercise class with TA on material from week  $x - 1$ .

**10.00-12.00** Lectures on material from week  $x$ . Roughly half of the lecture session is devoted to solving exercises from week  $x$  in groups with help from TAs.

For instance, at the first session of the semester you'll start by working on the exercises in weekplan 0 and then follow a lecture on week 1 and work on the first couple of exercises on weekplan 1.

**Exercises** The order of the exercises on the weekplan is *not* important. Work on the exercises in your preferred order. Do the exercises that challenges you the most at the end and spend little time on the exercises that are particularly easy for you.

Some exercises are marked with a short code  $i [ ]$ , which means the following. Exercises targeted at BEng or BSc students are marked with [BSc] or [BEng] (we encourage you to solve both!). The difficulty of the exercise may be indicated with  $[w]$ ,  $[*]$ , or  $[**]$ , which means warmup exercise, a challenging exercise, and a particularly challenging exercise, respectively. Warmup exercises should be easy if you've mastered the topic for that week. Finally,  $[\dagger]$  means that the exercise is available on CodeJudge. For instance,

- [BSc] This exercise is targeted at BSc students.
- $[\dagger]$  This exercise is challenging and you can check your solution on CodeJudge.

**Mandatory Exercises** There are two types of mandatory exercises. The *mandatory implementation exercise* are about implementing solutions to algorithmic challenges. These need to be submitted to the CodeJudge system, which then checks them. The *mandatory written exercises* are about designing, analyzing, and describing algorithms. These need to be submitted to the Gradescope systems, to allow TAs to grade them and provide feedback. A specific total score for both types of mandatory exercises are needed to participate in the exam. See the homepage for full details, including hand-in procedures, deadline, requirements, etc.

**Exercise Classes** Please see the introduction message for where and how to attend exercise classes in the first week of the course. Full details on exercises classes for the rest of the course are discussed at the first lecture. There are two main types of exercise classes that you can choose between:

**Group Work Exercise Class** Approximately 3/4 of the time is used for group work on exercises. The remaining 1/4 of the time is used for student whiteboard or blackboard presentation of solutions and discussion. The teaching assistant supports the group work and facilitates the presentation and discussion.

**Presentation Exercise Class** Just as the group work exercise class except that approximately only 1/4 of time is used for group work, and the remaining time is used for presentation and discussion.

The presentation exercise class impose extra demands on your preparation and effort in the course, but in return you get the opportunity to gain a deeper insight into the material and learn more. Conversely, if you are not prepared enough to actively present exercises and participate in discussions you will not get benefits of the presentation exercise class. In this case we recommend the group work exercise class.