

ESO207 First Course Handout

(2026-27-I Semester)

- **Title** ESO 207: Data Structures and Algorithms

- **Instructor**

Name: Rajat Mittal
Office: RM 202, CSE Department
Email: rmittal@iitk.ac.in
(Please mention [ESO 207] in the subject line.)

- **Meeting times**

Class: MWF 10-10:50 AM at **L7**, LHC
Labs: MW 2-5 PM
Extra classes/Quizzes/Labs: M 2PM – 5 PM

There will be four guided labs and one lab exam.

- **Tutors** There are tutors assigned for this course. These tutors are experts in algorithms and they are there to help you. So, feel free to email them. They will keep doubt clearing sessions time to time, the location and time will be announced on hello. Our TA will take care of hello/gradescope. Please email him if there is any issue with those sites. The list of tutors and TA's will be made available to you on the communication platform.

- **Syllabus**

- Algorithms and complexity (with examples)
- List, Stack, Queue, Binary trees
- Divide and conquer paradigm
- Graph algorithms and data structures
- Greedy and dynamic programming paradigm
- Additional topics (depending on time)

- **Resources**

Lectures will be delivered using the blackboard/writing pad. Students are encouraged to take detailed lecture notes. No particular textbook will be thoroughly followed. As a reference, you may look at the following two books.

- Dasgupta, Sanjoy, Christos H. Papadimitriou, and Umesh Virkumar Vazirani. Algorithms. McGraw-Hill Higher Education, 2008.
- Cormen, Thomas H., Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein. Introduction to algorithms. MIT press, 2022.

- **Evaluation criteria**

Guided labs (4)	8%
Quizzes (3)	30%
Lab exam (1)	20%
Midsem	15%
Endsem	25%
Attendance	2%

Some deviation in the above are possible.

- **Course Policies**

1. Coding: A strong C coding ability is essential to do well in the course. There will be coding labs and a coding test that will constitute a large portion of your final score in this course. There will be in-person labs on the assigned days on some weeks. The schedule will be shared later. We will use prutor to hold these labs.
Therefore, you may want to brush up your knowledge from ESC 111/112 courses.
2. Attendance: Attending the lectures is compulsory in this course. We will take bio-metric attendance with the following policy. There is a 2% weightage on attendance in the total marks. You will be given full marks if your attendance is more than 50%. Notice that this is a strict limit, there will be NO compensation for ANY reason (including medical, attending conference reasons). Please refrain from emailing instructor about this.
3. Plagiarism: Any unethical behavior in any components of the course if caught, may result in a straight failing grade in the course and reporting to the senate. You are allowed to consult the coding problems with anyone or the web. However, you may not copy from them. You will not be allowed to drop the course if found involved in any immoral conduct.
4. Communication: We will use the helloIITK platform: <https://hello.iitk.ac.in/> to manage the course. Announcements, scores, attendance records, etc will all be posted there. Some announcements may also be conveyed via the course mailing list. Please make sure you check helloIITK and your webmail regularly.