

**COMS4032A and COMS7041A**  
**Applications of Algorithms**

**Exam Info 2024**

- The exam is on Thursday **14 November** at 09h00.
- The duration is **2 hours**.
- The venue is **DJ Exams Hall**.
- The exam is **closed book**.
- You may bring a **calculator**.

**The exam will cover** Chapters 8, 9, 12, 13, 14, 17, 21 and 33 of the 3rd edition of the textbook.

The exam will be based on the theory and exercises covered during the course.

In general, you need to understand the theory of each chapter.

You should have an understanding of how the main algorithms work and the basic pseudocode.

You should know the asymptotic runtimes of the algorithms and how to derive them.

You don't need to learn the proofs of correctness of the algorithms.

The notes below refer to the 3rd edition of the textbook.

**Chapter 8:** All sections

You don't need to know the derivation of  $E[n_i^2]$  on page 203.

**Chapter 9:** All sections

**Chapter 12:** Sections 12.1, 12.2, 12.3

**Chapter 13:** Sections 13.1, 13.2

You should be familiar with rotations, RB-Insert and RB-Delete methods, but you don't need to know the RB-fixup steps.

**Chapter 14:** Sections 14.1, 14.2

**Chapter 17:** All sections

**Chapter 21:** Sections 21.1, 21.2, 21.3

**Chapter 33:** Sections 33.1, 33.2, 33.3