Computer Science (CS102-2)

Joshua Maglione

Semester 2 (2025)

Module information:

Coordinates:

Wednesdays	2:00pm – 2:50pm	AC202
Thursdays	9:00am – 9:50am	Tyndall

Contact:

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Website: Canvas and https://joshmaglione.com/2025CS102-2.html

Topics: This is the "main lecture" of the second semester of CS102. This module is supplemented by CS102-4 Further Computing. We will cover the basics algorithms and data structures. We cover topics of

1. computational complexity (big O notation),
2. fundamental data structures,
3. sorting algorithms,
4. recursion.

We will be using Python throughout for examples.

Labs: This module also has two 3-hour labs each week. You are required to attend at least one of these labs per week. Each week you can independently choose either lab. Labs begin during the third week—the week of 27 January. There will be no labs during the fourth week—the week of 3 February (St. Brigid's Day).

Labs will have a few demonstrators to help with the lab assignment.

Coordinates:

Mondays	3:00pm – 6:00pm	Block E G-013 (BLE-G013)
Wednesdays	3:00pm – 6:00pm	Block E G-013 (BLE-G013)

Assessment: There will be 7 lab assignments due on Fridays at 5:00pm. The final mark consists of 40% assessment and 60% final exam.

Reading:

1. Cormen, Thomas H., et al. *Introduction to algorithms*, third edition. MIT press, 2022.
   Available through the University Library and online.

2. Bhargava, Aditya Y. *Grokking Algorithms*. Simon and Schuster, 2024.
   First ed. available online; second ed. available on publisher's website.

3. Morin, Pat. *Open Data Structures (in Pseudocode)*, edition 0.1Gβ.
   Available online.