

Data structures & algorithms (COSC202A)

Description of Course

Introduction to and analysis of algorithms and characteristics of discrete structures. Course topics include algorithm analysis techniques, recurrence relations, structural induction, hierarchical structures, graphs, hashing, and sorting.

Instructor and Contact Information

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Office Hours: Monday, Friday, 11AM-12PM, and appointment by email

Mark Distribution

Exams:

- 45% mark
- First midterm: Week 5
- Second midterm: Week 10
- Final exam

Online quizzes:

- 10% mark
- A set of simple questions after 3-5 lectures

Homeworks:

- 45% mark
- Implementation of lab assignments
- 10-11 homeworks, 5% mark each, will count best 9

Topics

Week	Topic
1	Intro
2	Basic data structures
3	Sorting
4	Divide and conquer
5	Binary search tree
6	Tries (data structure for string operation)
7	Priority queue/heaps
8	Graphs, searching in graphs
9	Application of graph search

10	SP, MST, UF
11	Max flow
12	Greedy algorithms
13	Dynamic programming
14	NP-completeness/reductions