

Term: Fall 2019
Class time: 16:30 - 17:30 (MWF)
Classroom: TBA
Lab space: TBA

Instructor: Saqib Hakak
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CPSC-200 Algorithm Analysis and Development

Course Outline

The objective of the course is to make students familiarize with algorithmic analysis, basic data structures, and sorting algorithms.

Prerequisites:

CPSC 100, CPSC 101, and CPSC 141; or permission of instructor.

Textbook (required):

- [1]. Mark Allen Weiss, Data structures and algorithm analysis in Java, 3rd edition., Addison-Wesley,2012
- [2]. Robert Lafore, Data Structures and Algorithms in Java (2nd Edition) (for extra reading)
- [3]. Donald E. Knuth, Sorting and searching, The Art of Computer Programming, vol.3, Addison Wesley,1998.

Grading Scheme:

Homework/Quiz	25%	
Midterm 1	20%	Fri Oct 12
Midterm 2	20%	Fri Nov 9
Final Exam	35%	4–14 Dec

**I reserve the right to change the weight of any portion of this marking scheme. If changes are made, your grade will be calculated using the original weighting and the new weighting, and you will be given the higher of the two.*

Home work:

There will be approximately four medium-sized programming assignments during the semester. Familiarity with Java is assumed.

Syllabus: Much of the material is from [1], Chapters 2–4 and 7, with other material as time permits.

Topics include:

Topic 1	Algorithm analysis and Asymptotic Complexity	2 weeks
Topic 2	Lists, Stacks and Queues	2 weeks
Topic 3	Sorting Algorithms	2 weeks
Topic 4	Trees (with focus on BST) + concepts related to NP and P problems.	2 weeks

**Time mentioned is approximate and may vary.*

Cheating: Allowing someone to copy your work is cheating. The UNBC Calendar describes academic offenses and possible penalties in more detail.