This course teaches how to create and use advanced data structures, and associated algorithms, with the focus on Java. Key topics include complexity, recursion, trees, hashes, stacks and queues.

Course Materials:
Textbook: Data Structures & Algorithm Analysis in Java 3rd Edition – Mark Allen Weiss
Additional optional online resources will be added as the course progresses.

Evaluation:
Assignments (4): 40%
Midterm: 20%
Final Exam: 40%

Note: A final grade of at least 40% is required for the final exam in order to receive credit for the course.
The midterm will be Tuesday June 12th, at 18:00 (6pm), instead of tutorial.

Subject Overview:
Introduction to the course. Complexity (ch. 2). Recursion (ch. 1).
Review of Stacks and Queues (ch. 3). Priority Queues introduced (ch. 6).
Trees (ch. 4).
Heaps (ch. 6) and return to Priority Queues.
Advanced Sorting (ch. 7).
Hashing (ch. 5).
Graphs (ch. 9).
Algorithm Design Techniques (ch. 10), Advanced Data Structures (ch. 12).

Additional Notes:
• Assignments will only be graded if they include a signed cover page with your correct student number stapled to the front. See the COSC home page to generate a cover page with barcode.
• Please read the department's policy on medical notes on the COSC home page. Other reasons may be used for granting extensions or other accommodations, at the instructor's discretion, but only if the instructor is contacted in advance of assignment due dates.
• All assignments will include both a due date; this due date applies to both electronic and physical submission. Late assignments will not be accepted.
• All coding for assignments must be done in Java 1.7. Electronic submission will be required, and solutions may be run through MOSS to test for plagiarism. Plagiarism is a serious offense and will be treated accordingly. See http://www.cosc.brocku.ca/about/policies/plagiarism for details.
• As part of Brock University's commitment to a respectful work and learning environment, the university will make every reasonable effort to accommodate all members of the university community with disabilities. If you require academic accommodations related to a permanent disability to participate in this course, you are encouraged to contact the Student Development Centre Services for Students with Disabilities (4th Floor Schmon Tower ext. 3240) and also to
discuss these accommodations with the instructor.

- June 24th is the last day for voluntary withdrawal without academic penalty. At least 15% of final grades will be available by June 20th.

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