COSC 1P03
Data Structures and Abstraction
2011-12

Course Description

COSC 1P03 is an introduction to data abstraction and information hiding methodologies and the fundamental dynamic data structures of Computer Science: stacks, queues and lists. COSC 1P03 continues the discussions of the Java programming language features that support abstraction.

Staff

Instructors	Staff
D. Bockus J324, x3281, bockusd@brocku.ca	Mentor: B. Bork D329, x4025, mentor@brocku.ca
E. Foxwell J311, x6125, efoxwell@brocku.ca	Tutorial Leader: F. Atampore fa10qv@brocku.ca

Text

Main: *Fundamentals of Computer Science using Java Part II*
D. Hughes; manuscript (2005); available in the Bookstore as the course package for COSC 1P03
Reference: *Fundamentals of Computer Science using Java*
D. Hughes; Jones & Bartlett (2002); ISBN 0-7637-1761-4

Software

Students may use any supported Java IDE in the labs or at home for submission of assignments. JCreator is recommended.

Marking Scheme

Tutorial Participation	10%
Assignments (5)	25%
Term Test (Feb 16)	20%
Final Exam (Scheduled by Registrar)	45%

Assignments

Number	Topic	Due
1	arrays, files	Jan 31
2	design, ADTs	Feb 14
3	linked structures	Mar. 14
4	stacks, generics	Mar. 28
5	recursion, queues	Apr. 11

Notes

- The Comprehension Assessment Tests (CATs) are held in the tutorials as indicated in the course outline. Please bring a pencil. CATs contribute to the tutorial mark.
- Some Exercises will be completed ahead of time and submitted at the tutorial others will be group exercises done in the tutorial. The Exercises will be available online and will indicate whether they are individual or group. Exercises will be taken up in the tutorial and contribute to the tutorial mark.
- Assignments will be available online. Assignments are due at 12:00 pm (noon) on the date indicated. Late assignments will be accepted, subject to a penalty of 25%, up to three days late.
- Assignments will be carefully examined regarding plagiarism. Cases of suspected plagiarism will be dealt with according to the University regulations and Departmental procedures. MOSS (Measure Of Software Similarity) will be used to electronically compare assignments for the purpose of detection and prevention.

- Exams & Tests are closed book and no aids—especially no electronic devices including cell phones and electronic dictionaries—will be allowed in the exam/test room.
- The term test will be held on Feb. 16 during the tutorial period from 6:00 until 7:00 pm in AS204.
- A mark of 40% is required on the final exam to pass the course.
- Submission of the Departmental Medical Excuse form within 3 working days of return to school is required for consideration regarding illness for assignment submission or missed tests.
- Mar. 9 is the last day for voluntary withdrawal without academic penalty, 15% of the final grade will be available to students by Mar. 2.

Lecture Schedule

Chap.[1]	Topic	Day	Evening
R11, 11	arrays, array representation	Jan 9	Jan 12
12	persistent classes, file processing	Jan 13	Jan 12
13	analysis of algorithms	Jan 16	Jan 19
R9	software design	Jan 20, 23, 27	Jan 19,26
14	abstract data types	Jan 30, Feb 3, 6	Feb 2,9
15	linked structures	Feb 10,13,17	Feb 9,16
	reading week	Feb 20-24	
16	stacks & generics	Feb 27, Mar 2, 5	Mar 1, 8
17	recursion	Mar 9, 13	Mar 8,15
18	queues	Mar 16	Mar 15
19	lists	Mar 19, 23, 26	Mar 22, 29
20	searching & sorting	Mar 30, Apr 2, 6	Mar 29,Apr 5

Tutorial Schedule

Date	Ex.	CAT	Tutorial
Jan 12			no tutorial
Jan 19		C1	multiple class review, file processing
Jan 26	E1		analysis of algorithms
Feb 2		C2	software design
Feb 9	E2		abstraction
Feb 16			**test**
Feb 23			**reading week**
Mar 1	E3		linked structures
Mar 8		C3	stacks, RPN
Mar 15	E4		generics
Mar 22		C4	recursion
Mar 29	E5		queues
Apr 5		C5	lists, exam review

[1] R – reference text