

**COSC 1P03**  
**Data Structures and Abstraction**  
**Spring 2020**

## 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.

## Instructor

Earl Foxwell

## Text

Main: *Introduction to Data Structures*

D. Hughes; manuscript (2015); 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 must use Dr. Java along with a Java8-compatible JDK for submission of assignments.

## Marking Scheme

Assignments (4)	60%
Progress test (covers weeks 1–5)	10%
Final Exam	30%

## Assignments

Number	Topic
1	arrays, files
2	design, ADTs
3	linked structures, generics
4	recursion

## Notes

- Assignments will be available online. Assignments are due at the date and time indicated. Late assignments will not be accepted.
  - **Do not try emailing assignments to your instructor.**
- 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.
  - Note that unauthorized distribution of course material outside of Brock University is prohibited, and may constitute both academic *and* non-academic misconduct
    - Additionally, uploading of any Brock materials will result in having Sakai access immediately revoked, as an abuse of computing privileges
- Exams & Tests are closed book and no aids. Any collaboration or unauthorized use of materials will result in misconduct charges
- In addition to 'contact time', the Help Desk is also a valuable resource for assistance. You can find the Help Desk schedule at [http://www.cosc.brocku.ca/~mentor/HelpDesk\\_Schedule.pdf](http://www.cosc.brocku.ca/~mentor/HelpDesk_Schedule.pdf)
- 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.

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- June 12<sup>th</sup> is the last day for voluntary withdrawal without academic penalty. Unfortunately, 15% of the final grade will not be available to students by June 5<sup>th</sup>.
- Lecture material graciously provided by David Hughes and Dave Bockus.

**Lecture Topics**

<b>Chap.<sup>1</sup></b>	<b>Topic</b>
R11, 11	arrays, array representation
12	persistent classes, file processing
13	analysis of algorithms
R9	software design
14	abstract data types
15	linked structures
16	stacks & generics
17	recursion
18	queues
19	lists
20	searching & sorting

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<sup>1</sup> R – reference text