Carleton University

Department of Systems and Computer Engineering

SYSC 2002 **Data Structures and Algorithms** **Winter 2011**

Course Outline

Instructors:
Section D: Dr. Lynn Marshall, Room 4230 ME, lynnmar@sce.carleton.ca; Office Hours: see web site

Course Coordinator: Mr. John Bryant

References:
Main reference: Lecture notes will be available from the IEEE Office.
Secondary Source: Data Structures and Other Objects using C++, Third Edition, M. Main and W. Savitch, Addison Wesley.
For those who really want to get into C++: The C++ Programming Language, B. Stroustrup, Addison Wesley.

Labs and Assignments:
Roughly half of the lab sessions will be used for mandatory lab tests. Additional lab times for students to consult with TAs about the weekly assignments will also be provided.

There will be approximately five lab tests and eleven assignments. Your worst lab test mark and your worst assignment mark will be discarded. Please do not ask for exemptions and/or extensions because of illness and so on. You have, in effect, two "sick days" to play with, and it is up to you to use them wisely. Serious long-term illness will be dealt with on an individual basis and might require re-doing the course.

Exercises are to be done **ON YOUR OWN**. Any attempt to communicate with other students during a lab test is an academic offence and will be dealt with accordingly. While discussing an assignment with friends, etc., is normal and acceptable, working in teams or pairs is an academic offence, see "Plagiarism" below. Note also that it is not possible to get through this course on the combination of copied assignments and a few marks on the exams. You must learn the material, and the best way of doing this is to do the exercises by yourself.

Exams:
For both the midterm and the final exam, you will be provided with a crib sheet.

A **midterm exam** will be held during class time about half way through the term. Students who have a valid reason for missing the midterm must present documentation (dated within one day of the exam) within a week of the exam. If the documentation is acceptable and received within the time limit, the weight of the midterm will be transferred to the final exam. Otherwise a student will receive 0 on the midterm exam.

A **final exam** will be scheduled during the university's examination period. The final examination is for evaluation purposes only and will not be returned to students. You will be able to make arrangements with your instructor to see your marked final examination before June 30th, 2011 (the last day for receipt of applications for review of final grades in Fall term courses). Your exam will not be remarked during this meeting and solutions to the exam questions will not be provided. Students who receive less that 40% on the midterm exam (or miss the midterm exam for any reason) **and** miss the final exam will receive a mark of FND and thus will not be permitted to write a deferred exam.

Grading Scheme:
Lab tests – 20 marks
Assignments – 10 marks
Midterm Exam – 10 marks
Final Exam – 60 marks
Note that, in order to pass the course, students must pass the final exam.

Web Site:
The URL for the site is: http://www.sce.carleton.ca/courses/sysc-2002/w11.
For the secondary source (Data Structures and Other Objects using C++), the web site is: http://www.cs.colorado.edu/~main/dsoc.html.

Students are not permitted to use the laser printers in Systems and Computer Engineering and Electronics labs to print files obtained from the web site. Students who do not follow this regulation may be withdrawn from the course.

Prerequisite: ECOR 1606
Students who have not satisfied the prerequisite for this course must either a) withdraw from the course, or b) obtain a prerequisite waiver from www.sce.carleton.ca/ughelp. Students not meeting these conditions will be deregistered from the course after the last day for course registration.

Outline:
The course will use C++ as the language of instruction. A thorough knowledge of the material covered in ECOR 1606 is assumed. This is not an advanced "C++ course", although some C++ will be taught. Instead it is intended to give students an understanding of the following concepts:
- Functions and Arrays
- Structures
- Abstract Data Types in General
- C++ Classes
- Pointers
- Dynamically Allocated Arrays
- Linked Lists
- Recursion
- Stacks
- Trees
- Queues

Students with Disabilities:
Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities for a formal evaluation of disability-related needs. Registered PMC students are required to contact the Centre, 613-520-6608, every term to ensure that their instructor receives their Letter of Accommodation, no later than two weeks before the first in-class test/midterm requiring accommodations. If you require accommodation for your formally scheduled exam(s) in this course, please submit your request for accommodation to PMC by March 11th, 2011.

Plagiarism:
Plagiarism (copying and handing in for credit someone else's work) is a serious instructional offense that will not be tolerated. Please refer to the section on instructional offenses in the Undergraduate Calendar for additional information.

Health and Safety:
Every student should have a copy of our Health and Safety Manual. An electronic version of the manual can be found at http://www.sce.carleton.ca/courses/health-and-safety.pdf.