

## **CIS\*2520 Data Structures (Fall 2016)**

### **Instructor**

Fangju Wang, Reynolds 306, X52939, [fjwang@uoguelph.ca](mailto:fjwang@uoguelph.ca)

### **Advisory Hours**

Monday 1:00pm-2:00pm

Thursday 1:00pm-2:20pm

### **Lab Schedule**

0101: Mon 2:30pm-4:20pm MCKN236

0102: Thur 11:30am-13:20pm MCKN238

0103: Tue 11:30am-1:20pm MCKN238

0104: Fri 2:30pm-4:20pm MCKN233

0105: Fri 9:30am-11:20am MCKN238

0106: Mon 9:30pm-11:20pm MCKN238

### **Teaching Assistants**

TAs: David Wickland, Jason Kemp, John Marmer, and Samira Yousefi

Email: [ta2520@socs.uoguelph.ca](mailto:ta2520@socs.uoguelph.ca) Advisory hours: TBA.

### **Calendar Description**

This course is a study of basic data structures, such as lists, stacks, queues, trees, and tables. Topics which will be examined include abstract data types, sequential and linked representations, and an introduction to algorithm analysis; various traversal, search, insertion, removal, and sorting algorithms.

### **Course Objectives and Topics**

Students will learn concepts of the commonly used data structures, as well as their representations and uses, and algorithms for manipulating the structures. The emphasis is on the use of data structures in software development and evaluation of alternative implementations. Students will acquire skills of designing and implementing abstract data structures and applications in C. The topics may include

- Review of C, pointers, recursion, etc.
- Introduction of algorithm analysis
- Stacks, queues, strings, lists, Trees, and graphs
- Dictionaries and hashing
- Searching and Sorting

## Prerequisites

CIS\*2500, (CIS\*1910 or ENGG\*1500)

## Textbook

- T. A. Standish, *Data Structures, Algorithms & Software Principles in C*, Addison Wesley.

## Course Web Page URL

moodle.socs.uoguelph.ca

## Assignments and Examinations

- Four assignments:  $7\% + 7\% + 8\% + 8\% = 30\%$
- Midterm examination: 20%
- Final examination: 50%

The **late policy** for assignments: **NO** late assignment will be accepted.

## Assignment and Examination Dates

- Assignment due dates:
  1. Assignment 1: September 26, 2016
  2. Assignment 2: October 17, 2016
  3. Assignment 3: November 7, 2016
  4. Assignment 4: November 28, 2016
- Midterm examination: Thursday, October 27, 2016 (2:30pm – 3:50pm).
- Final examination: Wedn, December 7, 2016 (11:30am – 1:30pm).

## Note

- All assignments must be completed individually.
- All cases of **academic misconduct** are handled by the College Dean, in conjunction with the School Director. For details please see related pages in the *University of Guelph Undergraduate Calendar 2016-2017*.
- Requests for academic consideration because of illness or of a compassionate nature must be made in writing and accompanied by certification whenever possible.
- To appeal a mark of an assignment or the midterm examination you must do so within two weeks after it is returned.