

UNIVERSITY OF CALGARY  
**DEPARTMENT OF COMPUTER SCIENCE**  
FACULTY OF SCIENCE  
SUPPLEMENTARY INFORMATION SHEET  
January 12, 2009

## Course Description & Objectives

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### Calendar Description

Continuation of Introduction to Computer Science for Multidisciplinary Studies I. Emphasis on object-oriented analysis and design for small-scale computational systems and implementation using an object-oriented language. Issues of design, modularization and programming style will be emphasized.

### Course Goals

This course aims to help the student develop an awareness of:

- how objects can be used as a basis for solving problems;
- how to implement solutions using an object-oriented language;
- how to apply object-oriented problem solving techniques to scientific areas of study;
- the nature of objects and their relationship to information and information processing; and
- how to develop solutions which exhibit elements of good style.

### Course Objectives

By the end of this course students should be able to:

- analyse problems using an object-oriented framework;
- design and implement solutions using object-oriented concepts:
  - encapsulation
  - inheritance
  - polymorphism;
- create and execute unit tests on implemented solutions; and
- evaluate the quality of program designs.

## Assignments

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The assignment due dates for this course are

Assignment #	Weight	Due Date
<b>1</b>	5%	Friday, Feb 6
<b>2</b>	7.5%	Friday, Feb 20
<b>3</b>	15%	Friday, Mar 13
<b>4</b>	15%	Friday, Apr 3
<b>5</b>	7.5%	Friday, Apr 17

## Assignment Extensions

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Application for an assignment extension **MUST** be made **IN PERSON** with the instructor. Any email requesting an extension to an assignment will be ignored. Assignment extensions will **ONLY** be granted for illness or for domestic affliction. Documentation by a health professional is required.

**TAs do not have the authority to extend assignment deadlines.** If there are extenuating circumstances which prevent you from submitting your assignment by the due date, see your instructor **before** the due date in order to make special arrangements.

## Tentative Lecture Schedule

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Week	Date (2009)	Topics
1	Jan 13	Course Introduction Interpreted vs. Compiled
	Jan 15	C/Java Syntax
2	Jan 20	C/Java Syntax
	Jan 22	Pointers and Indirection
3	Jan 27	Abstract Data Types (ADT)
	Jan 29	Pointers + ADT Dynamic Memory Allocation Linked Lists
4	Feb 3	Object Oriented Analysis
	Feb 5	Object Oriented Design/Implementation
5	Feb 10	Java Details
	Feb 12	Navigability, Multiplicity, and Class Variables and Methods
<b>Feb 17 &amp; 19: Reading Week (no lectures)</b>		
6	<b>Feb 24</b>	<b>Midterm Exam</b>
	Feb 26	Assignment #3 Walkthrough
7	Mar 3	Inheritance, Abstract Classes and Interfaces
	Mar 5	Polymorphism
8	Mar 10	Exceptions
	Mar 12	Collections
9	Mar 17	Assignment #3 post discussion Assignment #4 workshop
	Mar 19	Unit testing
10	Mar 24	Design Patterns
	Mar 26	Design Patterns
11	Mar 31	Java I/O
	Apr 2	Design Patterns
12	Apr 7	Multi-Threading
	Apr 9	HCI
13	Apr 14	Final Review
	Apr 16	Day of Rest