# Object Oriented

# Analysis and Design

# (OOA and OOD)

# COMP 3711

# Course Oveview

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|---|---|
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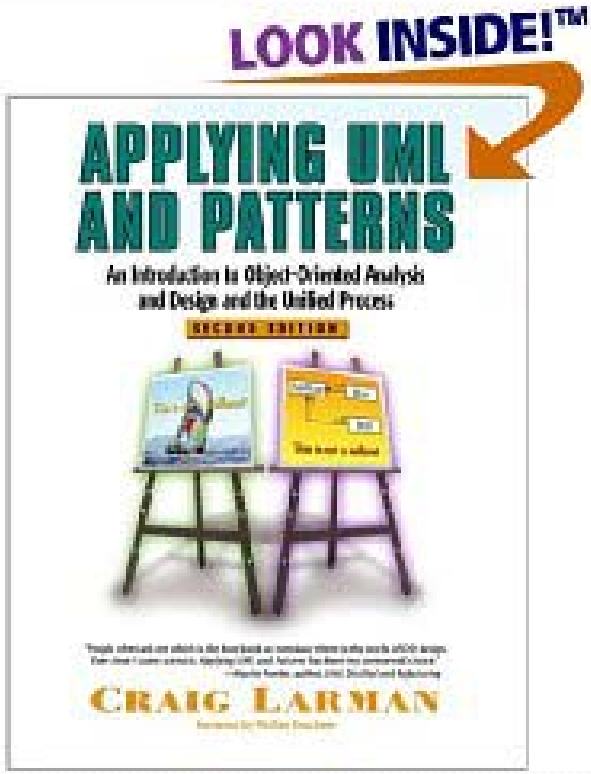
| Office Hours: | By appointment |
| | Mon to Wed (4:30-5:30 pm) |
| | Thu (3:30-5:30pm) |

# About This Course

- **Built on**
  - COMP 2730
- **Emphasis**
  - OOA
  - OOD
  - UP (RUP)
  - QA / Testing
  - UML Tool - IDE (Rational Rose)

# Text Book

- Mandatory




Applying UML and Patterns,
Craig Larman,
ISBN 0-13-148906-2

# Course Evaluation

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|---|---|---|
| Bi-Weekly quizzes | | 20% |
| Lab exercises | | 15% |
| 3 Assignments | | 15% |
| Mid-term exam | | 20% |
| Final exam | | 30% |
| Total | | 100% |

# Labs

- Small exercises to reinforce the material taught the week before
- Done individually and in the lab
- Rational Rose is the tool used to build the models
- Labs are worth 15% of final course mark

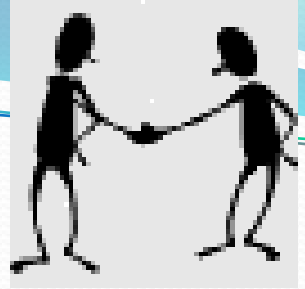
# Quizzes

- Bi-weekly closed book quiz on previous weeks material
- Quizzes are worth 20% of final course mark

# Assignments

- *Three* assignments to be done in *pairs* from the same set
  - Assignment 1 (OOA/OOD with UML)
  - Assignment 2 (Code design classes)
  - Assignment 3 (Testing)

| Lecture # Week of | Class Lecture – Outcome / Material Covered | Reference/ Reading | Ass' mt | Labs / Quizzes |
|---|---|---|---|---|
| W1<br>Sep 1-5 | No classes | | | No labs |
| W2<br>Sep 8-12 | Review course outline. Refresher on OOAD, UML<br>Iterative Development – UP, Agile and Case Studies | Chapter 1, 22<br>Chapter 2-3 | A1 | Lab 1 (UML Diagramming tool) |
| W3<br>Sep 15-19 | Inception - Stories and Use Cases<br>Relating Use Cases<br>Elaboration – Iterative and Evolutionary | Chapter 4-6<br>Chapter 30<br>Chapter 8 | | Lab 2 (Use Case diagram)<br>Quiz 1 |
| W4<br>Sep 22-26 | Domain Model - Conceptual Classes, adding associations and attributes<br>Class Hierarchies, Generalization, Composition, Association | Chapter 9, 31.1<br>Chapter 31.2-31.17 | | Lab 3 (Domain Class diagram) |
| W5<br>Sep 29-Oct 3 | Detail Refinement - Operation Contracts<br>SSD – Systems Sequence Diagrams | Chapter 11<br>Chapter 10, 32 | | Lab 4 (System Sequence diagram)<br>Quiz 2 |
| W6<br>Oct 6-10 | Interaction Diagrams<br>Design Class – add methods, dependency | Chapter 14, 15<br>Chapter 16 | A1 due<br>A2 | Lab 5 (Design Class) |
| W7<br>Oct 13-17 | *No class lecture on Oct 13 (Thanksgiving)*<br>GRASP and Patterns, Separation of assigning responsibilities | Chapter 17 | | *No lab on Oct 13*<br>Quiz 3 |
| W8<br>Oct 20-24 | Use Case Realization, assigning GRASP patterns to object design<br>**Midterm Exam (Oct 21)** | Chapter 18 | | |
| W9<br>Oct 27-31 | Determining Visibility<br>Mapping designs to code | Chapter 19<br>Chapter 20 | | Lab 6 (Implement code)<br>Quiz 4 |
| W10<br>Nov 3-7 | Test driven development and refactoring<br>Moving on iterations | Chapter 21<br>Chapter 23-24, 27 | A2 due<br>A3 | |
| W11<br>Nov 10-14 | Machine Modeling<br>UML Deployment, Component Diagrams<br>*No class lecture on Nov 11 (Remembrance)* | Chapter 29 | | Lab 7 (Tester Tutorial)<br>Quiz 5 |
| W12<br>Nov 17-21 | QA overview<br>Test Model and Test Plan | | | Lab 8 (Functional Tester Tutorial) |
| W13<br>Nov 24-28 | Test Cases and Test Scripts<br>Test Types and Execution | | | Lab 9 (Apply Test Script)<br>Quiz 6 |
| W14<br>Dec 1-5 | Test Automation<br>Comparison, Pre and Post Processing<br>Review | | A3 due | |
| W15<br>Dec 8-12 | **Final Exam (date to be scheduled)** | | | |



## My Expectation

## Your Expectation

- Use share-in, share-out
- Do reading
- Do labs and assignments
- Attend lectures, labs, exams
- Enjoy your learning, participate
- A successful term

The School of Computing and Academic Studies expects the highest level of professional conduct and ethical behaviour from all students enrolled in Computer Systems Technology (CST) courses and programs.

All students are reminded of the following BCIT policies related to student conduct:

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|---|---|
| Policy 5250 Cheating and Plagiarism | www.bcit.ca/~presoff/5250.htm |
| Policy 5251 Student Conduct | www.bcit.ca/~presoff/5251.htm |
| Policy 3501 Responsible Use of Information Technology at BCIT | www.bcit.ca/~presoff/3501.htm |

CST students are especially reminded that the Computing and IT knowledge and skills acquired in the course of their studies confer upon them, as with all IT professionals, a special responsibility to use this knowledge in a responsible, professional and ethical manner.

Given that misuse of computer facilities at BCIT can have significant legal and/or economic impacts, upon evidence of any violation of Policy 3501, the School may recommend immediate suspension, even for first offences.

*By attending this course, every student has been made aware of these policies and the actions that will be taken. Please follow the links provided, each student is responsible to read and comply with these policies.*

**Assignments:** Late assignments, lab reports or projects will **not** be accepted for marking. Assignments must be done on an individual basis unless otherwise specified by the instructor.

**Makeup Tests, Exams or Quizzes:** There will be **no** makeup tests, exams or quizzes. If you miss a test, exam or quiz, you will receive zero marks. Exceptions may be made for **documented** medical reasons or extenuating circumstances. In such a case, it is the responsibility of the student to inform the instructor **immediately**.

**Ethics:** BCIT assumes that all students attending the Institute will follow a high standard of ethics. Incidents of cheating or plagiarism may, therefore, result in a grade of zero for the assignment, quiz, test, exam, or project for all parties involved and/or expulsion from the course.

**Attendance:** The attendance policy as outlined in the current BCIT Calendar will be enforced. Attendance will be taken at the beginning of each session. Students not present at that time will be recorded as absent.

**Illness:** A doctor's note is required for any illness causing you to miss assignments, quizzes, tests, projects, or exam**. At the discretion of the instructor, you may complete the work missed or have the work prorated.**

**Attempts:** Students must successfully complete a course within a maximum of three attempts at the course. Students with two attempts in a single course will be allowed to repeat the course only upon special written permission from the Associate Dean. Students who have not successfully completed a course within three attempts will not be eligible to graduate from the appropriate program.

**Course Outline Changes:** The material or schedule specified in this course outline may be changed by the instructor. If changes are required, they will be announced in class.

**Labs**: Lab attendance is mandatory. Lab exercises are due at the end of the lab period.