

Software Development COMP 303

McGill University, Fall 2011

Course Details

Time: Monday, Wednesday 11:35–12:55

Place: MAASS 217

Instructor: Professor Clark Verbrugge

Office: McConnell, room 230

Office hours: Wednesday 14:00–15:30, Friday 10:00–11:30, or by appointment.

Phone: 514 398-2411

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Teaching Assistants: TBA

Email, Website

Students are expected to monitor their McGill email account for course-related news and information.

The course website is: <http://www.sable.mcgill.ca/~clump/comp303>

Pre-requisites

- COMP 206 (Introduction to Software Systems).
- COMP 250 (Introduction to Computer Science).

Note: students registering without the pre-requisite may find the course removed from their transcript by their Faculty. Please consult the instructor if you do not have all the pre-requisites.

Textbook

Reference material is available in the following texts:

- Horstmann. *Object-Oriented Design and Patterns*, 2nd Edition. Wiley, 2005. This is the core textbook for the course. **Required**
- Pezzé and Young. *Software Testing and Analysis: Process, Principles, and Techniques*. Wiley, 2008. **Optional**

Evaluation

Project:	35%
Midterm:	25%
Exam:	40%

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

Assignment and Exam Policy: All coursework must be submitted on time. Late submissions will only be accepted in highly-exceptional circumstances and only with **written** permission of the instructor.

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offenses under the Code of Student Conduct and Disciplinary Procedures (see <http://www.mcgill.ca/integrity/> for more information).

More specifically, **work submitted for this course must represent your own efforts**. Copying code, assignments, or tests, or allowing others to copy your work, will not be tolerated. Note that introducing syntactic changes into a copied program or assignment is still considered plagiarism.

Course Content

Note: lecture dates are approximate and may shift. Chapter.section readings from Horstmann are shown next to topics.

Date	Topic	Readings	Tool(s)
Wednesday Sept. 7	Introduction	1	<i>Eclipse</i>
Monday Sept. 12	OO Design basic UML	2	<i>(Violet)</i>
Wednesday Sept. 14	Development process		<i>javadoc, svn</i>
Monday Sept. 19	Class design unit testing design by contract	3	<i>jUnit</i>
Wednesday Sept. 21	Interface types polymorphism anonymous classes	4.1–4.5	
Monday Sept. 26	GUI primer	4.6–4.10, 8.1	
Wednesday Sept. 28	Design patterns observer, strategy composite, decorator	5, (10)	
Monday Oct. 3	Inheritance	6.1–6.7, 6.9	
Wednesday Oct. 5	Object model types, cloning	7.1–7.4	
Monday Oct. 10	Holiday		
Wednesday Oct. 12	Object model serialization, reflection	7.5–7.6	
Monday Oct. 17	Generics	7.7–7.8	
Wednesday Oct. 19	Exceptions and bugs	6.8	
Monday Oct. 24	Remote execution distributed applications		<i>RMI</i>
Wednesday Oct. 26	Midterm		
Monday Oct. 31	Performance profiling		<i>hprof</i>
Wednesday Nov. 2	Decompilation and obfuscation		
Monday Nov. 7	Concurrency basics threads, race-conditions	9	
Wednesday Nov. 9	TBD		
Monday Nov. 14	Using concurrency concurrency API		
Wednesday Nov. 16	Logging and metrics		
Monday Nov. 21	Visualization		
Wednesday Nov. 23	Functional testing	Pezzé & Young Ch.10	
Monday Nov. 28	Structural testing	Pezzé & Young Ch.12	
Wednesday Nov. 30	Review		
Monday Dec. 5	(Projects)		
Tuesday Dec. 6	(Projects)		