Carleton University
School of Computer Science
COMP 5104: Object-Oriented Software Development
Fall 2019
Updated August 28th, 2019

Class Schedule

Friday 11:35-14:25 ME3165
Fall Break: October 21-25 (no office hours that week)
Office hours will be held starting the week of September 10th
and run until Dec 3rd inclusively
There is no lecture on December 6th: that day uses the Monday schedule

Instructor Info

Jean-Pierre Corriveau room: 5328 HP
email: jeanpier AT scs.carleton.ca
office hours: Tuesday 9:30-11:15 or by email appointment

Course Website

http://people.scs.carleton.ca/~jeanpier//5104F19/

Brief Course Description

It is widely acknowledged that software quality is of the utmost importance. Yet, despite recent advancements in program verification, automatic debugging, assertion deduction and model-based testing (MBT), Ralph Johnson (of Gang of Four design patterns fame) and many others still view software verification as a "catastrophic computer science failure".

In this course, the main theme is **software testing** (that is, the *execution* of software in order to find errors). Consequently, **expect to significantly program**. We will focus not as much on unit testing as on **acceptance testing**, that is, on the *validation* of a specification of the requirements of stakeholders against one (or more!) implementations under test. From a research perspective, we will be particularly interested by faults between concurrent scenarios and concurrent scenario instances.

Topics include: OO modeling and OO design patterns, OO testing patterns, verifying quality in object-oriented systems, as well as model-driven and test-driven approaches to testing.

Prerequisites

The student is assumed to have a strong background in object-oriented programming. **Knowledge of Git, network programming and of Java/Eclipse/Maven/JUnit is required**. Basic familiarity with UML 2.0, concurrency issues and DBs are assets.

Software
Students will have to learn and use ***by themselves*** some modeling and testing tools (in particular **JUnit** and **Cucumber amongst possibly others, e.g., TestNG and Selenium**). There are several tutorials available online for the tools we use, in particular for JUnit (http://www.vogella.com/tutorials/JUnit/article.html) and Cucumber.

Programming assignments must be submitted through cuLearn and run on the School's machines. **Networked solutions must run on several distinct (possibly virtual) machines.**

There is NO textbook for this course.
The instructor will be posting some of the material discussed in class to the course's website. Students are expected to find and study additional material as they require.

Evaluation
Students will be evaluated in this course using several assignments of distinct value (wrt the final grade), which will be introduced and discussed in some of the lectures of this course:

Individual Assignments 100%

NO LATE DELIVERABLES WILL BE ACCEPTED and NO extensions are to be granted.

NOTES:
1) There will be NO supplemental or grade raising exam in this course.
2) No mark (or extra work) can be substituted for another!
3) Assignments are to be done **individually** *without any sharing*. Collaboration between students is *not* permitted: all alleged plagiarism will be reported to the Faculty with possible dire consequences for your academic record. Posting *any* work in a public location (eg GitHub) constitutes a form of sharing that enables plagiarism. As such, if your work is plagiarized, you will be considered to have participated in this offence!
4) **You must pass each assignment in order to pass this course.**

It will be of the utmost importance for students to refer to ALL material they reuse wherever appropriate.

Assignments: Information and Late Policies
Late projects will *not* be accepted and will automatically receive a mark of 0.

All material created for this course (including presentations and posted material, case studies and assignments) remain the exclusive intellectual property of their author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Science Student Success Centre (SSSC)

The Science Student Success Centre is a central advising unit for students in Science courses. We help students achieve their goals by providing access to resources, workshops and activities that enhance their academic and study skills, and help them make key connections with their peers. Mentors can help you customize an individual study plan which includes weekly and semester work or study schedules, and also help when you need information on developing a new study strategy, obtaining summer job opportunities, or clarifying ideas and concepts to better understand and cope with new course content. Science mentors can help you **learn how to learn what you need to learn** for your classes. Drop by the Science Student Success Centre at 3431 Herzberg Laboratories or visit http://sssc.carleton.ca/

University Policies

Student Academic Integrity Policy

Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of F in the course or even being expelled from the program or University. Some examples of offences are: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar.
The policy is at: https://carleton.ca/senate/wp-content/uploads/Academic-Integrity-Policy1.pdf

Plagiarism

As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean.

Unauthorized co-operation or collaboration

As mentioned above, collaboration between students submitting distinct assignments is NOT permitted in this course.

Equity Statements

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: **carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf**

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: **carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf**

Academic Accommodations for Students with Disabilities
If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. **carleton.ca/pmc**

Survivors of Sexual Violence
As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: **carleton.ca/sexual-violence-support**

Accommodation for Student Activities
Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.
https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf

For more information on academic accommodation, please contact the departmental administrator or visit: **students.carleton.ca/course-outline**
Medical Certificate
The following is a link to the official medical certificate accepted by Carleton University for the deferral of final examinations or assignments in undergraduate courses. To access the form, please go to http://www1.carleton.ca/registrar/forms/