CIS*4150 F20 – Software Reliability and Testing
Course Outline

Lecturer	Prof. Mark Wineberg
Office Hours	After class/lab, at the end of the scheduled Zoom meeting *(for asynchronous lectures, the in class Q&A session becomes the office hour time)*
Email	mwineber@ uoguelph.ca
Lectures	Zoom sessions – Mon, Wed 11:30pm to 12:20pm
Labs	Zoom session: Tutorials – Monday 12:30pm to 2:20pm

Course Description and Objectives

This course serves as an introduction to systematic methods of testing and verification, covering a range of static and dynamic techniques and their use within the software development process. Concepts such as defining necessary reliability, developing operational profiles, techniques to improve and predict software reliability, preparing and executing tests, black box testing, white box testing, unit testing, system testing, and integration testing will be explained.

Textbook
Software Testing: A Craftsman's Approach (*4th Edition*)
Paul C. Jorgensen, CRC Press, 2014
Available as an e-book from Amazon (Kindle) or Indigo (Kobo)

Grading

[PP]	Problem Sets [1, 3, 5]	7% each	= 21%	(written answers)
[PP]	Problem Sets [2, 4, 6]	16% each	= 48%	(written answers)
[MT]	Midterm		10%	(take home)
[F]	Final Exam		21%	(take home)

To pass the course you need *an overall grade of 50% or above*

Late Policy
- *Problem Sets:* There is a 1% per every 2 hours late penalty up to 2 days after the due date after which the assignment will be given a grade of 0
- *Midterm:* If you miss the midterm it will be counted as 0.
    - However, the missed midterm can be challenged by writing it at a later date. The midterm then is graded as pass/fail.
    - If passed, the mark allocation for the midterm will be allocated to the final.

Accommodation of Religious Obligations
- If you are unable to meet an in-course requirement due to religious obligations, please email the course email address **within two weeks of the start of the semester** to make alternate arrangements.
- See the undergraduate calendar for information on Academic Accommodation of Religious Obligations: http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-accomrelig.shtml

If You Cannot Meet a Course Requirement
- If you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course in writing, with your name, id#, and e-mail contact.
- See the undergraduate calendar for information on regulations and procedures for Academic Consideration: http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml

Timetable

	Classes			Due Wed	Due Fri
	Mon	**Wed**	**Fri**		
W1	Sep 14	Sep 16			
W2	Sep 21	Sep 23			
W3	Sep 28	Sep 30			PS1
W4	Oct 05	Oct 07			
W5	*break*	Oct 14		PS2	
W6	Oct 19	Oct 21			PS3
W7	MT	Oct 28			
W8	Nov 02	Nov 04		PS4	
W9	Nov 09	Nov 11			PS5
W10	Nov 16	Nov 18			
W11	Nov 23	Nov 25			PS6
W12	Nov 30	Dec 02	Dec 04		

Problem Sets

All problem sets due Wed. are to be submitted through Courselink at 11am (1/2 hour before class)

All problem sets due Fri. are to be submitted through Courselink before midnight

Midterm

The midterm will be held through Courselink during the class/seminar time, Monday October 26th

Final Exam

The final exam will be take home, Date and time to be announced

Communication & Email Policy

- Major announcements will be posted to the course website and the discussion forums.
  It is your responsibility to check the course website regularly.
- As per university regulations, all students are required to check their <mail.uoguelph.ca> e- mail account regularly; e-mail is the official route of communication between the University and its students.

Roles and Responsibility

Instructor's Role and Responsibility to Students

- The instructor's role is to develop and deliver course material to facilitate learning for a variety of students.
- Selected notes will be made available to students on the course website but are not intended to be stand-alone. During lectures, the instructor will expand and explain the content of notes and provide example problems that supplement posted notes.
- Scheduled classes and labs will be the principal venue to provide information and general feedback for tests and assignments.

Students' Learning Responsibilities

- Students are expected to take advantage of the learning opportunities provided during lectures, labs and help sessions.
- Students, especially those having difficulty with the course content, should also make use of other resources recommended by the instructor.
- Students who fall behind due to illness, work, or extra-curricular activities are advised to keep the instructor informed as early as possible. This will allow the instructor to recommend extra resources in a timely manner and/or provide consideration if appropriate.

Class Delivery

Synchronous Lectures
- In this mode, Zoom sessions occur during class times, where lecture material are presented by the lecturer, often using screen share, and where the class will have the opportunity to ask questions live
- There is an asynchronous component to this style, as the sessions will be recorded and distributed through Courselink to be able to re-watch for clarification etc. or for those who live in areas with unstable Internet capabilities and thus who are not be able to attend live
- The course will start using this style, and may use this delivery mode to a greater or lesser degree as the semester progresses

Asynchronous Lectures
- An alternative mode of presentation, where a prerecorded lecture and/or summary material will be distributed in lieu of a live Zoom session presentation
- There is a synchronous component to this delivery mode, where Zoom sessions will be held for Q&A (which will also be recorded and distributed on Courselink)
  - Q&A can occur during a class or lab session, as announced when the asynchronous lecture is posted, and may or may not take up the entire time allotted to the session, depending on the questions asked
  - You are responsible for watching the original lecture prior to Q&A session so you can participate knowledgably
- No sessions using this style of delivery are currently planned, but some topics may be better suited to this approach, so they may be scheduled in the future
- The course may use this delivery mode to a greater or lesser degree as the semester progresses

Labs
- Lab time will be a split, with the first hour being a continuation of the lecture and the second hour used for taking up assignments and extended questions and answers.
- The lecture part of the lab may be presented either synchronously or asynchronously, depending on the topic.

Recording of Materials

- All Zoom lectures and labs will be recorded and distributed through Courselink. These may include any audio/visual recordings by, and/or text messages from students who ask questions during the Zoom sessions.
- Presentations made in relation to course work—including lectures and lab tutorials—cannot be recorded in any electronic media without the permission of the presenter, whether the instructor, a classmate or guest lecturer.
- Material recorded with permission, including Zoom lecture material, is restricted for the use of the course and may not be posted on any public space unless further permission is granted.

Academic Misconduct

Important Rules and Guidelines

- The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

- University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. All students who take a SOCS course must pass the *Academic Integrity Self-Test*.

- For educational purposes, instructors impose conditions on assignments that may limit students' permission to collaborate with others or to utilize external sources (including, but not limited to, software, data, images, text, etc.).
  - Any permitted utilization must be done *with proper references*.

- Aiding and abetting is a punishable offence; students must be careful not to help others commit offences by giving out solutions or providing to access computer accounts.

- Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note:

  - Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it.

  - Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member.

Relevant Websites

- The Academic Misconduct Policy is detailed in the Undergraduate Calendar:
  http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml

- The SOCS Academic Integrity Unit: http://moodle.socs.uoguelph.ca/course/view.php?id=2
  Login with your central login credentials. The key to use is "imhonest".