CIS*2750 Software Systems Development and Integration
Winter 2023

School of Computer Science

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1 INSTRUCTIONAL SUPPORT

Instructor: Prof. Stefan C. Kremer
Office: Reynolds 3309
Email: https://cis2750.socs.uoguelph.ca/webforms/sp1
Office hours: Face-to-face: Tuesdays, 13:00-15:00 (please wear a mask until university no-longer recommends it).
Zoom: TBD
By appointment: https://cis2750.socs.uoguelph.ca/webforms/sp1 (Select other)

Pre-requisites: CIS*2430, CIS*2520
Credit Weight: 0.75

Teaching Assistants: Zayn Abbas, Adhyayan Bhandari, Rithik Choudhary, Niloy Ghosh, Will Pringle, Lucien Tranc, Tony Trinh.

Email: https://cis2750.socs.uoguelph.ca/webforms/sp1

Office Hours: See lab times below.

Timetable

Lectures:
Section 01: Tuesday, Thursday, 04:00PM - 05:20PM, ROZH 103
Section 02: Tuesday, Thursday, 10:00AM - 11:20AM, MCLN 102

Lab times:

Monday:	9:30AM – 11:20AM
Tuesday:	11:30AM – 1:30PM
Wednesday:	9:30AM – 11:20AM
Wednesday:	1:30PM – 3:20PM
Wednesday:	3:30PM – 5:20PM
Thursdays:	11:30AM – 1:30PM
Friday:	9:30AM – 11:20AM
Friday:	12:30AM – 2:20AM

There are no labs during the weeks of Jan 10th (week 1), or Feb 20th (reading week).

All labs will be held in THRN2418. There will be 4 labs with specific content/exercises to help you to complete the assignments (they are not graded but contain information that you will need to know and apply). Unless otherwise stated, lab times will be used for advising and consulting with the Teaching Assistants. Students do not have to come to their assigned lab and may attend any lab if they have questions.

2 LEARNING RESOURCES

2.2 Course Website

Course material, news, announcements, and grades will be regularly posted to the CIS*2750 website which can be found at https://courselink.uoguelph.ca/d2l/home/796939. You are responsible for checking the site regularly.

- Lecture Information: Selected notes will be posted on the course website as instructors have time to make them available. You are expected to take your own notes during lecture.
- Labs and Tutorials: Selected tutorial and lab materials will be available on the course website.
- Assignments: Assignment descriptions are found on the course website. Assignments are submitted via GitLab as taught in the first Lab.

2.3 Recommended Textbooks

Beginning Linux Programming, 4th edition by Neil Matthew and Richard Stones, Wrox Press Ltd. October 19, 2007).

Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5 by Robin Nixon (5th Ed.), Dec. 2014.

2.4 Calendar Description

This course introduces techniques and tools used in the development of large software systems. Students learn methods for organizing and constructing modular systems, manipulating files, introductory interface design, and use of databases. Software tools for managing projects, database connectivity, configuration management, and system application programmer interfaces are also covered.

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs: https://calendar.uoguelph.ca/undergraduate-calendar/.

3 ASSESSMENT

3.1 Dates and Distribution

Assessments
Assignments (4, 60%) – all assignments are due at 9am on the given dates. - Assignment 1 - 15%, Jan. 31 - Assignment 2 - 15%, Feb. 28 - Assignment 3 - 15%, Mar. 21 - Assignment 4 - 15%, April. 5 Tests (2, 40%) - Midterm (15%) - Mar. 2, in class. - Final exam (25%) - Wednesday, April 19, 8:30AM - 10:30AM - Room TBA

There will be no extra credit work in this course and no chances to re-do assignments after their due dates. The only way to obtain credit for the assignment portion of the course is to complete and submit the assignments by their posted due dates. Assignments must be submitted according to the assignment submission instructions or students will be given a grade of zero.

Assignments are designed to describe all requirements carefully, unambiguously, and completely. Never-the-less, it is the students' responsibility to ensure they fully understand all explicit and implicit requirements for each assignment; and a failure to do so will result in lost grades.

Because assignments will be graded by an automated system which does not allow for any variation from the requirements, students will be given one (1) opportunity to correct errors in their code within seven (7) calendar days after the initial submission. This is designed to give students with small errors in their code to receive a grade that reflects the number and magnitude of the errors in the initial submission (it is not designed to give students extra time to add-to or rewrite their work). Students will be given a grading penalty proportional the changes required to make their program conform to all requirements and the assignment will be re-evaluated by the automated grading system. **No assignments will be manually graded.**

The only exceptions to this policy will be those governed by the "Academic Consideration, Appeals and Petitions" section of the applicable Undergraduate Academic Calendar. Students must carefully read the information in the calendar before requesting Consideration. The relevant calendar section can be found here: https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/

Students **must** complete the SOCS Academic Integrity Unit (see Section 6 below) before submitting their first assignment. Assignment submissions will not be graded until a student has completed the SOCS Academic Integrity Unit.

3.1.1 Final grade calculation

To pass the course, you must submit your assignments on time and pass **both** the assignment and the test components of the course.

If you fail either the assignment component or the test component, your course grade will be the grade for the failed component. For example, if you get 25/60 (43%) on the assignments and 35/40 (75%) on the tests, you fail the course, and your course grade is 43.

If you fail both the assignment and the test components, your course grade will be the lowest grade of the two failed components. For example, if you get 25/60 (43%) on the assignments and 10/40 (25%) on the tests, you fail the course, and your course grade is 25.

3.2 Course Grading Policies

Development environment: Systems and software are provided in the labs for use in assignments. Students who choose to develop their assignments on other systems and/or with other versions of software are fully responsible for ensuring compatibility with the lab systems for marking purposes.

Individual work: Assignments must be carried out by individuals; there are **no group projects** in this course.

Extensions: Due date extensions are only declared for catastrophic reasons such as server failures and snow closures. Assignments and midterms in other courses are not grounds for extensions.

Late Assignments: All assignments are due at 9am on the due date. Late assignments will be accepted for 50 hours after the deadline and penalized at 2% (of the maximum grade) per hour. See below for compassionate exceptions.

Compiler errors/warnings: Program code which does not compile will not be accepted for marking and a grade of **zero** (0) will be assigned. Code that does not compile "clean" will lose marks for compiler warnings. Code **must** compile and run on the SoCS servers.

Submission errors: Failure to submit assignments correctly (e.g., incorrect file names, faulty/missing makefile, not submitted to GitLab in the correct location etc.) will result in a mark penalty and must be submitted again during the second (and final) grading round.

Missed Assessments: If you are unable to meet an in-course requirement due to medical, psychological, or compassionate reasons, please make an appointment to meet your course instructor, but filling out the web-form linked above. Please see below for specific details and consult the undergraduate calendar for information on regulations and procedures for Academic Consideration: https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/ .

Note: ***There are no makeup assignments.***

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 regulations and procedures for Academic Accommodation of Religious Obligations: https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-accommodation-religious-obligations/.

3.3 Course Learning Outcomes

1. Practice effective strategies for learning to use new software frameworks, methodologies, and programming languages.
2. Construct software components that adhere to provided specifications.
3. Integrate software components written in different programming languages to create a software system.
4. Design and implement software libraries.
5. Demonstrate systematic quality assurance and software testing techniques.
6. Employ a database or a file-based back end to implement data storage for an interactive program.
7. Identify and apply appropriate human-computer interaction techniques to the design of a graphical user interface.

(You will be granted grades for demonstrating these outcomes and lose grades for failing to demonstrate these outcomes.)

3.4 Schedule

Week 1: Introduction to the course. Expectations. Success suggestions.
Week 2: C programming review.
Week 3: Debugging, software engineering, and best practises.
Week 4: Python.
Week 5: http, html, css.
Week 6: More python.
Week 7: Databases and SQL.
Week 8: More SQL.
Week 9: DOM, SVG.
Week 10: Javascript & JQuery.
Week 11: Project management and software engineering.
Week 12: Summary and Review.

3.5 Important Dates

Monday, January 10: First day of classes
Tuesday, January 11: First day of CIS*2750
Tuesday, January 31: A1 due.
Monday, February 20 – Friday, February 24: No Classes (reading week)
Tuesday, February 28: A2 due.
Thursday, March 2: Mid-term.
Tuesday, March 21: A3 due.
Wednesday, April 5: A4 due.
Thursday, April 6: Last day of CIS*2750
Friday, April 7: Holiday (no classes)
Monday, April 10: Last day of classes (Friday Schedule).
Wednesday, April 19: Final exam

5 ROLES AND RESPONSIBILITIES

5.1 Communication & Email Policy

Please use lectures, lab sessions, and the website discussion forum as your main opportunities to ask questions about the course. Questions that are specific to your situation may be submitted via the web-form at: https://cis2750.socs.uoguelph.ca/webforms/sp1 and will be answered by one of the instructional team. Extremely private communication should be conducted in person by making an appointment with the course instructor using the web-form.

Major announcements will be posted to the course website. 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.

5.2 Recording of materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, classmate, or guest lecturer. Material recorded with permission is restricted to use for that course and may not be posted on any public space unless further permission is granted.

5.3 Instructor's Role and Responsibility to Students

The instructor's role is to develop and deliver course material in ways that 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 will be the principal venue to provide information and feedback for exams and assignments.

5.4 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.

6 ACADEMIC INTEGRITY

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. Instructors may use automated tools to detect possible cases of academic misconduct.

Please note: Whether 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.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:
https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-misconduct/

The SOCS Academic Integrity Unit:
https://moodle.socs.uoguelph.ca/enrol/index.php?id=164 Login with your central login credentials. The key to use is "imhonest".

7 ACCESSIBILITY

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required, however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance, and not later than the 40th Class Day.

More information: www.uoguelph.ca/sas