UNIVERSITY of GUELPH

School of Computer Science
CIS*3760 Software Engineering
Fall 2019

CIS*3760 is a .75 credit course	Prerequisite: CIS*3750
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Teaching Assistants: Samira and Ayoola Email: cis3760@socs.uoguelph.ca Appointments: book via course website	

RESOURCES

Course Website

Course materials, announcements, and grades will be posted to the CIS*3760 website at moodle.socs.uoguelph.ca. Lecture slides may not always be available. You are responsible for taking notes.

Textbook: No required text

- There are a number of traditional software engineering textbooks that might be useful if you appreciate textbooks. Pressman's Software Engineering: A Practitioner's Approach is good.
- I am assuming you are comfortable with object-oriented programming (procedural java and python doesn't count). If not, then I highly recommend you become comfortable. I've put together a readings package for CIS*2430 that is available in the bookstore that contains the core information (in my opinion..of course).
- We will be using and discussing design patterns throughout the course. Any books or writings on design patterns are useful.
- Readings from free and online sources will be required regularly.

Calendar Description

This course is an examination of the software engineering process, the production of reliable systems and techniques for the design and development of complex software. Topics include object-oriented analysis, design and modeling, software architectures, software reviews, software quality, software engineering, ethics, maintenance and formal specifications.

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:

ASSESSMENT

Individual (50%)		
	Assignment (15%)	October 4, 2019
	Midterm (15%)	In lab: October 30/31
	Final Exam (20%)	December 6, 2019
Project (50%)		
	Checkpoint 1 (5%)	October 11, 2019
	Sprint 1 (15%)*	October 23, 2019
	Sprint 2 (15%)*	November 6, 2019
	Sprint 3(15%)*	November 20, 2019

*Individual sprint scores may differ from group scores. The calculation is based on Mean Hours Per Week of agreed-upon project work with 7 hours per week being the target.

Missed Assessments: There are no makeup assessments. If you miss an assessment and have documentation to show that you are eligible for Academic Consideration the weight of the assessment will be moved to the final exam.

If you are unable to meet an in-course requirement due to medical, psychological, or compassionate reasons, please make an appointment to discuss with your course instructor. Please see the calendar for specific details about regulations and procedures for Academic Consideration:

Due Dates: Assignments, Check Points, and Sprints are due at 8:30 A.M. on the due date. Assessment will be done on the materials available at that time.

Regrades: You may request a regrade if you can demonstrate that the marker has made an error. The original submission will be entirely regraded, and a new mark will be assigned. It is possible for a mark to go down, go up, or remain unchanged as a result of a regrade. Regrade requests must be made within 5 calendar days of receiving the mark.

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:

TEACHING AND LEARNING ACTIVITIES

Learning Outcomes

- *Explain* and *Use* the procedures involved in software design and development;
- *Select* and *Use* suitable modeling techniques for planning and designing a software project;
- *Analyze* problem specifications and *Integrate* into suitable software requirements and design models;
- *Select* and *Use* suitable software architectures and design patterns for common software problems;
- *Select* and *Use* suitable testing methods for verifying and validating a software project;
- *Identify* sources of risk in software projects, and *Select* and Use mitigation strategies in solution designs;
- *Describe* effective project management and team behaviours and *Evaluate* your contributions.

While several development paradigms will be discussed, the object-oriented design and development paradigm is the focus of this course and will be the one that these learning outcomes are evaluated against.

Topics List

Development Tools and Techniques
Communication and Teamwork
Project Management
Soft Engineering Processes and Procedures
OO Design and Development
Agile Process
User Stories
Task Breakdown, estimation and problem solving
Project Architectures (Patterns 1)
How to choose an Architecture
Software Quality: detection and prevention
Test harnesses, Config management, repeatability
Patterns in Design
Design Reviews
Deployment
Maintenance, Bug Fixes, Versions
Version control, branches, packaging, etc
Software Security: data security
Project Management Tools
Metrics and Measures

POLICIES AND RESPONSIBILITIES

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.

Redistribution 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.

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. Notes will be made available to students on the course website but are not intended to be stand-alone. The online discussions, assignments, labs, and the e-textbook are all important components of this course.

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.

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 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.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

The SOCS Academic Integrity Unit:

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