

CIS*3260 F19 Software Design IV: Course Outline

Software Architecture and System Design

Lecturer:	Prof. Mark Wineberg	
Office Hours:	Tues, Thurs – 1pm to 2pm in Reynolds, Room 2202	
Email:	mwineber@uoguelph.ca	
Lectures:	MAC, Room 149 – Tues, Thurs 2:30pm to 3:50pm	
Labs:	THRN, Room 2420 – Tues, Thurs 4:00pm to 5:20pm or Mon 2:30pm to 5:20pm Lab time will be a mixture of practical lectures (e.g. how to code in Ruby), project guidance and TA hours.	
Textbooks: <i>Recommended</i>	<i>Software Engineering (10th Ed)</i>	<i>Object-Oriented Analysis and Design</i>
	Ian Sommerville	John Deacon
	Addison-Wesley, 2015	Addison-Wesley, 2005
	<i>Head First Design Patterns</i>	<i>Ruby on Rails Tutorial (4th Ed)</i>
	Eric Freeman, et.al.	Michael Hartl
	O'Reilly Media, 2004/2014	Addison-Wesley, 2016

Course Calendar Description:

This course is a study of software architectures and system design methodologies. This will include advanced techniques for project management and experience evaluating software tools. The course has an applied focus and will involve software design and development experiences in teams, a literacy component, and the use of software development tools.

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:

<http://www.uoguelph.ca/registrar/calendars/index.cfm?index>

Course Topics:

- OO Design
- Structural UML
- Structural Patterns
- Architectural Design
- Distributed Soft. Eng.
- Component-based Soft. Eng.
- Service-Oriented Arch.

Grading: *Your final grade is the weighted sum of all assessments shown below*

[27%] Group Project		
[5%]	RH Requirements & High Level Design	(documents & walkthrough)
[10%]	DD Detailed Design	(document & walkthrough)
[10%]	IM Implementation	(code & walkthrough)
[2%]	FB Feedback on Design & Implementation	(eval of Design Team & reflection)
[23%] Assignments		
[5%]	A1 Ruby and Rails	(code and written answers)
[5%]	A2 Distributed E-Mail Architecture	(written answers)
[10%]	A3 Web Server Implementation	(code and written answers)
[3%]	PR Project Reflection	(written)
[10%] Readings		
[5%]	R1 Codeless Code P1	(written)
[5%]	R2 Codeless Code P2	(written)
[40%] Tests		
[12%]	MT Midterm	(written test)
[28%]	F Final	(written test)

(to pass the course you need an overall grade of 50% or above)

where x (out of 100%) is the the group grade, and m_j , (where $0 \leq m_j \leq 2$) is the group determined modifier

if $m_j = 1$ $x_j = x$ (the group average amount of work)

Modifier m_j is settled on by the group at the time of each walkthrough and should reflect the relative amount of work each student in the group did on that particular deliverable. The total sum of all m_j must equal the number of members in the group. If it doesn't, the m_j values will be renormalized before the calculation is performed.

- There is a 1% late penalty (out of 100%) per every 2 hours up to two days after the due date, after which the assignment/component will be given a grade of zero.

- If you miss the midterm you may write a challenge midterm, which will be given a pass/fail grade. If you pass the challenge midterm, the Final will be worth 40% instead of 28%.

- 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 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>

	Classes		Read	Assign	Project	Tests	Readings 2 PM	Assignmmts 2 PM	Project 11:59 PM	Tests
	Tues	Thur								
Intro		Sep 05								
W1	Sep 10	Sep 12								
W2	Sep 17	Sep 19			Req & HD				Sun Sep 22	
W3	Sep 24	Sep 26								
W4	Oct 01	Oct 03		A1				Thu Oct 03		
W5	Oct 08	Oct 10	R1				Thu Oct 10			
W6	No Class	Oct 17			D Design				Sun Oct 20	
W7	Oct 22	Oct 24				MT				Thur Oct 24
W8	Oct 29	Oct 31	R2				Thu Nov 21			
W9	Nov 05	Nov 07			IM, FB				Sun Nov 12	
W10	Nov 12	Nov 14		A2				Thu Nov 14		
W11	Nov 19	Nov 21			PR				Sun Nov 24	
W12	Nov 26	Nov 28		A3				Thu Nov 28		
E2						F				Mon Dec 13 (11:30AM)

Course Website

Course material, news, announcements, and grades will be regularly posted to the CIS*3260 Courselink Website, accessible from the uoguelph.ca front page. You are responsible for checking the site regularly.

- *Lecture Information:* The formal class notes will be posted on the course website, as the instructor has time to make them available. Extra explanatory material will be presented at lecture time, verbally or on the board. 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.
- *Assessments:* Assignments, project and descriptions readings material will be distributed through the course website. All assignments will be submitted via the course website. All project designs, and code will also be submitted through the course website

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".

Errata:

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.

Recording of Materials

- Presentations made in relation to course work—including lectures—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 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.
- 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. ← *repeated for emphasis*
- Scheduled classes and group walk-throughs (*scheduled by mutual agreement outside of class/lab times*) will be the principal venue to provide information and feedback for exams 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.