CIS 3760 – Software Engineering (Winter 2021), 0.75 credits

Prerequisites: CIS 3750

Lectures: Tuesdays & Thursdays: 4:00-5:20pm
Laboratories: Section 1 – Mondays: 2:30-4:20pm
Section 2 – Wednesdays: 12:30-2:20pm

Instructor: Prof. S. Scott, Associate Professor, School of Computer Science
Office: Email: stacey.scott@uoguelph.ca
Office hours: TBD – check CourseLink after Background Survey

Teaching Assistants: Alejandro Lobo Mujica, Jérémie Fraeys de Veubeke
Email: cis3760@socs.uoguelph.ca

Contact: Use the cis3760@socs.uoguelph.ca email for all course-related concerns. Use course discussion boards for project or lecture content questions. For urgent issues, email Prof. Scott directly.

Course Delivery: AD-S, Alternative Delivery - Synchronous
Due to ongoing risks from COVID-19, this course will be taught in an alternative delivery format for Winter 2021 for the health and safety of all course participants. **Lectures**, **Labs**, and **Office Hours** will all be conducted using the **Zoom** tool.

- **To attend a scheduled lecture, lab, or office hour**, login into your CourseLink account, open the CIS 3760 course site, and access the appropriate Zoom link under the Content menu (Content->Zoom folder). You will need to install the Zoom app on your desktop or tablet (using a phone is NOT recommended for lecture or labs). You must create a Zoom account using your uoguelph.ca email.
  Information on how to join a Zoom session can be found at OpenEd's website:
  - https://opened.uoguelph.ca/instructor-resources/resources/How-to-Join-a-Zoom-Session.pdf
- **Lectures:** Lectures will use a combination of content delivery, whole-class discussions, and small group activities using virtual breakout rooms.
- **Labs: Participation is mandatory.** Labs will provide a shared time and (virtual) space for groups to meet with the instructional team and work on the course project. Groups will meet in Zoom breakout rooms to facilitate project discussions and work.
- **A reliable internet connection that is sufficient for online learning is necessary for this course** to enable participation in lectures, labs, advising times, and to access course materials and tests / exams. **A digital video camera (webcam, mobile phone camera, etc.) is required for some course deliverables.**
- This course is offered in the **Eastern Time zone (local Guelph time).** You may be required to attend online activities such as lectures, labs, or advising times between 8:30am and 5:30pm EDT/EST.

Course Website: http://courselink.uoguelph.ca (Login with Central login ID and password)
The course website will be used to provide:

- ***informational materials*** (e.g., videos, lecture notes, assignment handouts, course updates)
- ***electronic drop boxes*** for non-programming course deliverable submissions
- ***course discussion boards*** for asking questions and discussing issues related to course material

Course Communications:

1. For ***lecture, assignment, or general course questions***, post to the *"CIS 3760 Course Questions" Discussion board* on the course website. Or talk to Prof. Scott or your TAs during lectures or labs.
2. For ***personal issues***, email Prof. Scott or drop into her (virtual) Office Hours (via Zoom).

Required Text:

- Shvets, A. (2020). Dive into Design Patterns (e-book). (https://sourcemaking.com/design-patterns-ebook)

Note from Prof. Scott: For years, this course used the *Head-First Design Patterns (HFDP)* book (a recommended text below). You could use this instead of the *Dive into Design Patterns* book. Personally, I find the *Dive into Design Patterns* book more straightforward for explaining the design patterns we cover in this course. It also has nice code examples and a great section on the SOLID design principles. A demo version of the book is available online so you can see which you like better. Posted readings will refer to *Dive into Design Patterns*; you would be responsible for mapping those chapters to the HFDP book.

Required Lab Manual:

- Kniberg, H. (2014). Scrum and XP from the Trenches, 2nd edition. Stockholm: C4Media. Free Downloadable e-Book available at https://www.infoq.com/minibooks/scrum-xp-from-the-trenches-2.
- Scott, S.D. (2021). CIS*3760 Team Project Manual: Extending an Open Source Android App using the "Scrum" Agile Methodology. (available on course website on CourseLink)

Recommended Texts*:*

- Freeman, E., Freeman, E., Sierra, K. & Bates, B. (2004). Head First Design Patterns. Cambridge: O'Reilly
- Pressman, R.S. and Maxim, B.S. (2015). *Software Engineering: A Practitioner's Approach, 8th ed*. McGraw.

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.

Course Objectives:

The main goal of CIS 3760 is to familiarize students with the complexities involved in software engineering projects and with the tools and techniques needed to plan and manage successful team-based software projects. Achieving this goal requires learning how to apply these analytic and design skills using specific *engineering modeling and design tools* (e.g. unified modeling language (UML) and object-oriented programming (Android and Java). This course also aims to provide students with the appropriate project management, communication, and professional skills to apply their software skills in a modern software engineering context. By the end of the course, you should be able to:

a. *Explain* and *Use* the modern processes involved in software design and development;
b. *Select* and *Use* suitable modeling techniques for planning and designing a software project;
c. *Select* and *Use* suitable software architectures and design patterns for common software problems;
d. *Select* and *Use* suitable testing methods for verifying and validating a software project;
e. *Identify* sources of risk in software projects, and *Select* and *Use* mitigation strategies in solution designs;
f. *Describe* effective project management and team behaviours and *Evaluate* your contributions.

A significant challenge in successful software engineering is learning the potential sources of complexities involved in software projects and how to manage those complexities. Whether you are interested in becoming a software developer, software engineer, or project manager in the software field, this course will supply you with a range of practical as well as theoretical knowledge related to software engineering.

Grading Scheme:
The following table describes the grading scheme, and the corresponding learning objective. See CourseLink for more details of the specific Design Project deliverables.

			Learning Objectives					
	Marking Scheme		a	b	c	d	e	f
Evaluated through:	Indiv.	Team	Software Processes	Software Modeling	Design Patterns	Software Testing	Software Risks	Project / Team Mgmt
Midterm Exam	**15%**		x	x	x			
Take-home Final Exam	**30%**		x	x	x	x	x	x
Design Project	**10%**	**45%***						
Team Contract & Project Proposal		*2%*						x
Initial Design & Backlog		*10%*	x	x	x			
Project Milestone 1 + Sprint Retrospective		*10%*	x		x	x	x	
Project Milestone 2 + Sprint Retrospective		-	x		x	x	x	
Project Milestone 3 + Sprint Retrospective		*10%*	x		x	x	x	
Final Project Demo/App		*10%*	x		x	x	x	x
Project Post-Mortem		*3%*	x					x
Accountability Reports	*5%*		x	x	x	x	x	x
Peer Assessments (2)	*5%*							x
Course Total	**55%**	**45%***						

***NOTE: Due to the significant group work required for the team deliverables, the instructor reserves the right to apply a fraction of the grade to an individual group member without sufficient evidence of contribution to the group effort. See Coursework Policies below.**

Midterm and Final Exams

Midterm Exam

The midterm exam will be conducted during regular class time. It will be conducted through the CourseLink tool (i.e. using the Quiz and Dropbox tools). Written answers may require submission to the Dropbox tool for plagiarism screening through the Turnitin® tool. Students with known conflict or requiring accommodation, should contact Prof. Scott as early as possible. **Prof. Scott reserves the right to conduct follow-up oral interviews with students, to discuss their exam content. Students who cannot provide satisfactory explanations for their responses may have their exam marks adjusted accordingly, potentially to 0, or have their midterms submitted for Academic Misconduct investigations through the Dean's Office.**

- Midterm exam will be held during class time on Thursday, March 4th.

Final Exam

The final exam will be given in take-home format. It will use a combination of the CourseLink Quiz and Dropbox tools. Written answers will be screened through Turnitin® tool, to detect possible plagiarism, unauthorized collaboration or copying (see Turnitin section below for more details). **Prof. Scott reserves the right to conduct follow-up oral interviews with students, to discuss their exam content. Students who cannot provide satisfactory explanations for their responses may have their Exam marks adjusted accordingly, potentially to 0, or have their Midterms submitted for Academic Misconduct investigations through the Dean's Office.**

- Final exam will be released on Thursday, April 15th.
- Final exam will be due on Monday, April 19th.

Design Project

A key learning vehicle for this course is a hands-on, team-based software engineering project involving the **extension** of an existing Android software application (selected by each team). Project deliverables and related deadlines are detailed in the ***CIS*3760 Team Project Manual: Extending an Open Source Android App using the "Scrum" Agile Methodology***, posted on CourseLink under Content->Course Materials. The main goal of the project is for students to learn the Scrum agile development process.

Overview of project deliverables:

- Team-based software development, project management, and reflection components (45%)
    - See Course Timetable table (p. 10) for component due dates
- Individual Accountability Reports (5% in total) – due with each team-based deliverable
- 2 x Peer assessments (5% in total) – see Course Timetable table (p. 10) for due dates

Note, for all team-based deliverables, each team member must submit an **individual accountability report to describe their individual learning and contribution to the deliverable. The instructor reserves the right to apply a fraction of the team grade to an individual team member without sufficient evidence of contribution to the team effort. The instructional team will be looking for consistency between the submitted team deliverables, individual accountability reports, and peer assessment comments. See Policies on Required Coursework below.*

Estimated Weekly Course Commitment (15-18 hours per week for this 0.75 credit course):

- 3 hours lectures
- 3-4 hours course preparation (e.g. readings, academic tasks)
- 2 + 2-3 hours labs + lab preparation (lab activities will typically support your design project)
- 5-6 hours design project (this includes in-lab activities, which will all relate to your design project)

The University of Guelph expects students to spend 10-12 hours per week on a 0.5 credit course, and more (~15-18 hrs/wk) for 0.75 credit course. This time commitment represents student workload rather than contact hours. In CIS 3760, the main learning vehicle is a team-based software design project. **Students must make a minimum commitment of 5-6 hours per week to the design project, in addition to relevant laboratory activities.** It is recommended that project teams meet at least 1 hour a week outside of lecture / lab sessions to discuss their project status.

Policies on Required Coursework:

Chat Etiquette in Virtual Lectures and Labs

To create an effective and professional learning environment using the online Zoom platform, all students must following the below-listed class rules. Students who don't follow these rule may be removed from the meeting to minimize class disruptions:

- Login with your uoguelph.ca email account (or a Zoom account linked to your uoguelph.ca account)
- Use your real name (i.e. the name that would appear in CourseLink). If you have a preferred nickname, use both (e.g. Yu-ling (Betty) Chang), where "Betty" would be your preferred name. You can use the "Rename" option beside your account name in the Participants panel/tab (e.g. select "More" beside your name in the desktop Zoom, or tap your name in the mobile app).
- Use professional, non-abbreviated language in the chat. **Chat should be treated as if you were speaking, out loud, in class.** For example, to ask a question to the instructor, or to respond to a question posed to the class. Please treat this as professional communication with your class community, not casual chatting with your friends.
- Only post chat messages relevant to the class.
- No profanity.

Accommodation: When You Cannot Meet a Course Requirement

- When you find yourself unable to meet a course requirement because of illness or compassionate reasons, please advise Prof. Scott (or the TAs) in writing, with your name, id#, and e-mail contact. **See the undergraduate calendar for information on regulations and procedures for Academic Consideration.**

Late or Missed Assignments/Deliverables:

- **0%** will be given for any late or missed assignments or deliverables. **No extensions** will be given after a submission date.

Missed Exam:

- **0%** will be given for a missed **midterm exam**. If accommodation is warranted (see "Accommodation" policy above), the midterm mark allocation (15%) will be redistributed to the final exam (i.e. the final exam will then be worth 45% instead of its original 30%).
- If you miss the **final exam**, you must talk with your academic counsellor and follow University of Guelph policies on this matter. Prof. Scot cannot do anything in this situation.

Marking of Team-Based Deliverables:

- By default, marks for all team-based deliverables will be applied to all group members. However, the **instructor reserves the right to assign individual students a fraction of the total group mark** on any specific team-based deliverable without sufficient evidence of that student's contribution to the group effort. The **onus is on each individual student to provide evidence of their individual contribution** to the team effort. The instructor reserves the right to apply fractional grading **retroactively at the end of the term** to one or more team deliverables if **individual accountability reports**, **peer assessments**, or **team deliverables** lack sufficient evidence of contribution to team-based deliverables.
- If a team feels that lack of effort by one or more group members is negatively impacting the group's ability to meet the progress or outcome expectations for the course, the situation **MUST be identified to the course instructor or TAs PRIOR to any impacted deliverable** to be considered for accommodation in deliverable grading. Otherwise, default grading criteria will be applied (e.g., project progress and outcomes will be assessed on the basis of a full team effort). Group members must submit a written request for accommodation, PRIOR to the deliverable deadline, detailing the situation. Note that submission of an accommodation request is not in and of itself approval.
- **It is the responsibility of ALL team members to ensure the accuracy and quality of all aspects of submitted team-based deliverables**. Therefore, any academic integrity offences arising from a team-based deliverable will impact ALL group members.

Re-grading of Marked Components:

- Any request for re-grading of a marked course component must be **submitted in writing no later than 1 week** following return of the marked component. A detailed rational for the request must be included in the written request. The instructor reserves the right to re-grade the entire deliverable component, not just the requested aspect.

Calculation of Final Grade / Failed Final Exam or Individual Portion of the Course:
You must obtain a final grade of **50% or more** to pass this course. Your final grade is the weighted sum of all marked coursework as shown in the Grading Scheme table on page 2, unless: a) you obtain **less than 50% on the combined average of the four individual coursework components** (Midterm, Final Exam, Accountability Reports, Peer Assessments), in which case your final grade will be your combined mark for these five individual course components, to a maximum of 45%.

In summary, your final grade will be calculated as follows:

if (you fail the individual portion of the course)
then final grade = (weighted sum of individual components in Grading Scheme) / 55 * 100, to maximum of 45%
// note individual components = Midterm, Final Exam, Accountability Reports, Peer Assessments

else // (you passed the individual portion of the course)
then final grade = weighted sum of all components in Grading Scheme

Email Policy:
All course email should follow the following guidelines:

- As per university regulations, **all students are required to check their <uoguelph.ca>** e-mail account regularly: e-mail is the official route of communication between the University and its students.
- **Always use your uoguelph.ca email account** when emailing Prof. Scott or the TAs (i.e. when emailing cis3760@socs.uoguelph.ca). This provides an authentic email address. Also, always **include the course number (CIS 3760)** along with a topic in the subject line.
- Address your email appropriately (i.e. "Dear Prof. Scott / Professor / TAs / Ayoola / Omar...")
- Sign your email with your **first and last name**. If you have a nickname, include that also, e.g., Yu-Ling (Betty) Chang.
- Use **professional and respectful language**. Email containing crude language will not be answered.
- Allow 24-48 hours for a response to your email. Emailing the cis3760@socs.uoguelph.ca will give you the fastest response, as the whole instructional team monitors this account.
- Email should be used for brief questions that can be answered quickly. Please make an appointment to see Prof. Scott or a TA, or talk to them before/after lecture or during the lab, for detailed discussions.

Roles, Responsibilities, and Expected Behaviour

Recording and sharing of course materials
Presentations which are made in relation to course work—including lectures—**cannot be recorded or copied without the permission of the presenter (instructor, classmate, or guest lecturer); see below for implicit permission given for recording of voluntary discussion participation**. Material recorded with permission is restricted to use for that course unless further permission is granted.

Do not redistribute recorded interactive discussions that involve any member of our course (instructor, your TAs, your classmates). This includes advising times and question and answer sessions with the instructor.

Online activities such as advising times, question and answer sessions, and interactive lectures may be recorded by the instructor or TAs and posted to CourseLink. **By taking this course you are agreeing that your participation in these activities can be used in this manner. If you do not wish to have your image or voice recorded as part of these activities, then either do not take this course OR do not ask verbal questions during these activities.**

Instructional Team's Role and Responsibility to Students

The instructional team's (instructor and TAs) 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 and labs, the instructional team 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 feedback for exams and assignments. The instructional team is also responsible for providing a safe and inclusive learning environment. See Code of Conduct below.

Students' Learning Responsibilities

Students are expected to take advantage of the learning opportunities provided during lectures, labs, and advising times. 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.

Students are expected to keep copies of all course deliverables they have submitted. Students may be asked to resubmit deliverables at a later time.

Ethical Behaviour[1]

Ethical conduct in the classroom and in academic work are critical to a healthy learning environment. Ethical conduct in all areas of University work is taken very seriously at the University of Guelph.

Code of Conduct

Our learning environment must be a friendly, safe, and welcoming environment for all, regardless of ethnicity, gender, sexual orientation, ability, socioeconomic status, and religion (or lack thereof). As we wish to facilitate and encourage the fullest participation from everyone, this code of conduct outlines the expectations for all participants (including the instructor and other staff). This code of conduct is aligned with the University of Guelph's policy on Non-Academic Misconduct (https://www.uoguelph.ca/secretariat/office-services/student-judicial-services/non-academic-misconduct/policy-non-academic-misconduct).

Expected Behaviour

- Participate in an authentic and active way. In doing so, you contribute to the health and value of this community.
- Exercise consideration and respect in your speech and actions.
- Attempt collaboration before conflict.
- Refrain from demeaning, discriminatory, or harassing behaviour and speech.
- Be mindful of your surroundings and of your fellow participants. Alert community leaders (for example, your instructor) if you notice a dangerous situation, someone in distress, or violations of this Code of Conduct, even if they seem inconsequential.

Citizenship and Participation

Communities mirror the societies in which they exist and positive action is essential to counteract the many forms of inequality and abuses of power that exist in society. If you see someone who is making an extra effort to ensure our community is welcoming, friendly, and encourages all participants to contribute to the fullest extent, we want to know.

[1] This "Ethical Behaviour" section is based on content developed by SoCS's professor Dr. A. Hamilton-Wright, which was in turn developed based on the citizen code of conduct available via http://citizencodeofconduct.org, and is distributed under a Creative Commons Attribution-ShareAlike license (http://creativecommons.org/licenses/by-sa/3.0/).

Unacceptable Behaviour
Unacceptable behaviours include: intimidating, harassing, abusive, discriminatory, derogatory or demeaning speech or actions by any participant in our community, either in person, online, at any related events, or in one-on-one communications carried out in the context of community business. **Harassment includes**: harmful or prejudicial verbal or written comments related to race, religion, disability, gender, sexual orientation; inappropriate use of nudity and/or sexual images in public spaces (including computer labs and presentation slides); deliberate intimidation, stalking or following; harassing photography or recording; sustained disruption of talks or other events; inappropriate physical contact, and unwelcome sexual attention.

Consequences of Unacceptable Behaviour
Unacceptable behaviour from any community member, including the course instructor and those members with decision-making authority, will not be tolerated. **Anyone asked to stop unacceptable behaviour is expected to comply immediately.** If a community member engages in unacceptable behaviour, action will be taken to ensure that such behaviour ends, beginning with action on the part of the course instructor, and escalating if necessary. Additional information on University policy regarding harassment, conduct and human rights is available at the following web page: https://www.uoguelph.ca/diversity-human-rights/

If You Witness or Are Subject to Unacceptable Behaviour
If you are subject to or witness unacceptable behaviour, or have any other concerns, **please notify the course instructor as soon as possible**. If you feel that the course instructor cannot or will not provide remedy for the situation, please contact any of these alternate resources:

- Associate Director (Undergraduate) <ugraddir@socs.uoguelph.ca>
- Director of the School <director@socs.uoguelph.ca>
- Associate Dean (Academic) <kgordon@uoguelph.ca>
- Office of Diversity and Human Rights <dhrinfo@uoguelph.ca> or extension 53000
- Campus Community Police at extension 52245

Academic Integrity
The university community requires ethical behaviour in the performance of all academic activity. All forms of academic misconduct are dealt with quite seriously at University of Guelph. Plagiarism and other forms of academic fraud are offensive activities pursued vigorously by the University.

It is **your responsibility to read and be familiar with the academic regulations** of the University as presented in the Calendar. Ensure you have a complete understanding of the concepts as described in the "Academic Misconduct" subsection within Section VIII "Undergraduate Degree Regulations and Procedures" in the Calendar: http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml. It is your responsibility to accurately and clearly indicate the work of **any and all contributing people**, including yourself, in all presented and submitted materials. By handing in any work for this course, unless you have specifically identified any other authorship, **you are claiming that the sole authorship is your own**.

Please note: Whether or not you intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse you from responsibility for verifying the academic integrity of your work before submitting it – this includes submitted team-based deliverables. If you are in any doubt as to whether an action on your / your team's part could be construed as an academic offence you should consult with your course instructor.

Turnitin
In this course, your instructor will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph.

Any submitted assignments or assessments may be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

A major benefit of using Turnitin is that students will be able to educate and empower themselves in preventing academic misconduct. In this course, you may screen your own assignments through Turnitin before the due date. You will be able to see and print reports that show you exactly where you have properly and improperly referenced the outside sources and materials in your assignment.

Mental Health
University of Guelph course instructors and student services cooperate to assist in helping students manage course and life stressors. Help is also available through counselling services. Please see the Mental Health Resources page for details: https://wellness.uoguelph.ca/counselling/mental-health-resources.

Accessibility
The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability, or for a short-term disability should contact Student Accessibility Services (SAS) as soon as possible. SAS may be contacted at: phone: 519-824-4120 ext. 56208, email: csd@uoguelph.ca, or see their website: http://www.uoguelph.ca/csd.

Drop Date
Courses that are one semester long must be dropped by the last day of the semester. The regulations and procedures for Dropping Courses are available in the Undergraduate Calendar.

Copies of out-of-class assignments
Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Resources
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.

Course Timetable/Content Schedule (tentative; check CourseLink for updates)

Wk – Dates	**Topic(s)** *[more details available on CourseLink]*	**Deliverables / Exams** *[Deliverable instructions are available on CourseLink]* ***[NOTE: IARs are due Fridays of wks 5, 7, 11, and 13]***
1–Jan 12, 14	Introduction, Software Engineering Processes	Jan 15: Background Survey (indiv.)
2–Jan 19, 21	Agile Software Engineering	**Labs begin**
3–Jan 26, 28	Project Management, Configuration Management, Communication, and Teamwork	In-lab: Team Contract & Application Proposal (team)
4–Feb 2, 4	Object-Oriented Design Principles, SOLID, and Modeling with UML (Common Diagrams)	
5–Feb 9, 11	Software Patterns, Architectural Patterns	In-lab: Initial System Design & Product Backlog Creation (Sprint 0) (team)
6–Feb 15-19	***Reading Week, No Classes***	
7–Feb 23, 25	Design Patterns	In-lab: Project Milestone 1 (Sprint 1) (team) Feb 26: Peer Assessment #1 (indiv.)
8–Mar 2, 4	Design Patterns, Midterm Review	**NO LABS / Midterm Exam: Mar 4th**
9–Mar 9, 11	Software Quality	In-lab: Project Milestone 2 (Sprint 2) (team - no marks)
10–Mar 16, 18	Software Testing, Design Reviews	
11–Mar 23, 25	Software Metrics	In-lab: Project Milestone 3 (Sprint 3) (team)
12–Mar 30, Apr 1	Maintenance and Re-Engineering	
13–Apr 6, 8	Software Security, Final Exam Review	In-lab: Final Project Demo/App (Sprint 4) (team) Apr 9: Peer Assessment #2 & Scrum Master Assessment (indiv.) Apr 9: Project-Post Mortem
Final Exam Period	**Take-Home Final Exam:** - **released on Thursday, April 15th** - **due on Monday, April 19th**	