Course Outline

School:	Eng. Tech. & Applied Science
Department:	Information and Communication Engineering Technology (ICET)
Course Title:	Software - Project 2
Course Code:	COMP 313
Course Hours/Credits:	56
Prerequisites:	COMP 231, COMP 247, COMP 258, COMP 303, COMP 304, COMP 305, COMP 306, COMP 381, COMP 391
Co-requisites:	N/A
Eligible for Prior Learning, Assessment and Recognition:	N/A
Originated by:	Ilia Nika
Revised by:	Hao Lac
Revision Date:	Fall 2020
Current Semester:	Winter 2023
Approved by:	*ppesikan c/o*
	———————————————
	Chairperson/Dean

Acknowledgement of Traditional Lands

Centennial is proud to be a part of a rich history of education in this province and in this city. We acknowledge that we are on the treaty lands and territory of the Mississaugas of the Credit First Nation and pay tribute to their legacy and the legacy of all First Peoples of Canada, as we strengthen ties with the communities we serve and build the future through learning and through our graduates. Today the traditional meeting place of Toronto is still home to many Indigenous People from across Turtle Island and we are grateful to have the opportunity to work in the communities that have grown in the treaty lands of the Mississaugas. We acknowledge that we are all treaty people and accept our responsibility to honor all our relations.

Course Description

This is a capstone course for all software engineering technology programs and builds upon COMP231 Software Development Project 1. The students are required to work in teams to design and implement a complete application or game for a small company. The project must make use of enterprise tools to build enterprise-level data integration. The project must involve teamwork, oral and written communication skills, problem solving, documentation, and research skills. Teams are allowed to select projects that fit with their specialization. Interactive Gaming students will develop a game, and Health Informatics students will select a project that focuses on health care information systems. Students are encouraged to create their teams in the previous semester.

Program Outcomes

Successful completion of this and other courses in the program culminates in the achievement of the Vocational Learning Outcomes (program outcomes) set by the Ministry of Colleges and Universities in the Program Standard. The VLOs express the learning a student must reliably demonstrate before graduation. To ensure a meaningful learning experience and to better understand how this course and program prepare graduates for success, students are encouraged to review the Program Standard by visiting http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/. For apprenticeship-based programs, visit http://www.collegeoftrades.ca/training-standards.

Course Learning Outcomes

The student will reliably demonstrate the ability to:
1. Define the solution and determine the scope of the project.
2. Select the most appropriate software engineering methodology for developing the project and create a detailed project plan.
3. Create the detailed analysis and high-level design specifications document for the proposed solution and present it to the client for approval.
4. Submit weekly project progress reports such as time sheets, project status reports and updated project plans.
5. Implement the application or game based on the detailed design specifications or game document.
6. Analyze, organize and conduct the planning, implementation of testing a system at the unit, system, and user levels required by the project.
7. Create and organize a repository for all project related documentation.
8. Create the formal implementation plan and turnover documentation, and update the project plan as needed.

9. Implement the technical solution that satisfies the statement of work and successfully meets with the client's requirements.
10. Conduct user training and/or technical presentations.
11. Present the final project and demonstrate the functionality of the solution at a class room presentation to the course professor, classmates, and guests.

Essential Employability Skills (EES)

The student will reliably demonstrate the ability to*:

5. Use a variety of thinking skills to anticipate and solve problems.
7. Analyze, evaluate, and apply relevant information from a variety of sources.
8. Show respect for diverse opinions, values belief systems, and contributions of others.
9. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
10. Manage the use of time and other resources to complete projects.

There are 11 Essential Employability Skills outcomes as per the Ministry Program Standard. Of these 11 outcomes, the following will be assessed in this course.

Global Citizenship and Equity (GC&E) Outcomes

The student will reliably demonstrate the ability to*:

6. Support personal and social responsibility initiatives at the local, national or global level.

There are 6 institutional Global Citizenship & Equity outcomes. Of these 6 outcomes, the following will be assessed in this course.

Methods of Instruction

Instructor-led discussion.
Group work.

Text and other Instructional/Learning Materials

Text Book(s):
Required Texts:

Cohn, Mike. 2004. User Stories Applied: For Agile Software Development, Addison-Wesley Professional.
ISBN-10: 0321205685
ISBN-13: 978-0321205681

Reference Books (Purchase not required):

Hight, J., and Novak, J. 2008. Game Development Essentials: Game Project Management, 1st Edition.
Boston: Course Technology.
ISBN-10:1418015415
ISBN-13:9781418015411

Adams, E. 2010. Fundamentals of Game Design, 2nd Edition. Berkeley: New Riders.
ISBN-10: 0321643372
ISBN-13: 9780321643377

Online Resource(s):

Team collaboration focused tools.

Custom Courseware:

Project dependent.

Evaluation Scheme

⇨ Project planning and management: Demonstrated by initial vision statement and weekly presentation of project plan, design documentation and status reports

⇨ Methodology: Use of version control, agile techniques, test plan

⇨ Participation: Individual contribution to the team effort

⇨ Complexity and Practicalness: Difficulty, originality or practical application of software developed

⇨ MidTerm Presentation: Midterm presentation of partially working application with list of outstanding tasks and test plan for target completion*

⇨ Final Presentation: Final presentation of working application with installation guide, user and system documentation and test results*

⇨ Socially Responsible Coder: Give credit original author and create code for a better world.

Evaluation Name	CLO(s)	EES Outcome(s)	GCE Outcome(s)	Weight/100
Project planning and management	1, 3, 4, 8	5, 7, 9, 10		20
Methodology	2, 7	5, 7		10
Participation	2, 3, 4, 5, 6, 7, 8, 9, 10, 11	8, 9		10
Complexity and Practicalness	2, 3, 5, 9	5, 7		10
MidTerm Presentation	2, 3, 5, 6, 9	9, 10		25
Final Presentation	2, 3, 4, 5, 6, 7, 8, 9, 10, 11	8, 9, 10		25
Socially Responsible Coder			6	Pass/Fail
Total				100%

If students are unable to write a test they should immediately contact their professor or program Chair for advice. In exceptional and well documented circumstances (e.g. unforeseen family problems, serious illness, or death of a close family member), students may be able to write a make-up test.

All submitted work may be reviewed for authenticity and originality utilizing Turnitin®. Students who do not wish to have their work submitted to Turnitin® must, by the end of the second week of class, communicate this in writing to the instructor and make mutually agreeable alternate arrangements.

When writing tests, students must be able to produce official Centennial College photo identification or they may be refused the right to take the test or test results will be void.

Tests or assignments conducted remotely may require the use of online proctoring technology where the student's identification is verified and their activity is monitored and/or recorded, both audibly and visually through remote access to the student's computer and web camera. Students must communicate in writing to the instructor as soon as possible and prior to the test or assignment due date if they require an alternate assessment format to explore mutually agreeable alternatives.

Student Accommodation

The Centre for Accessible Learning and Counselling Services (CALCS) (http://centennialcollege.ca/calcs) provides programs and services which empower students in meeting their wellness goals, accommodation and disability-related needs. Our team of professional psychotherapists, social workers, educators, and staff offer brief, solution-focused psychotherapy, accommodation planning, health and wellness education, group counselling, psycho-educational workshops, adaptive technology, and peer support. Walk in for your first intake session at one of our service locations (Ashtonbee Room L1-04, Morningside Room 190, Progress Room C1-03, The Story Arts Centre Room 285, Downsview Room 105) or contact us at calcs@centennialcollege.ca, 416-289-5000 ext. 3850 to learn more about accessing CALCS services.

Use of Dictionaries
- Any dictionary (hard copy or electronic) may be used in regular class work.

Program or School Policies
N/A

Course Policies
Meetings with the instructor to discuss project related issues will be done openly and transparently with all team members present. Exceptionality to the foregoing policy would be due to medical or personal family related issues with supporting documentation.

Late Policy: A 2% marks reduction will apply for each day late on any assessment. The reduction will not exceed the weight of the assessment in the final grade.

College Policies
Students should familiarize themselves with all College Policies that cover academic matters and student conduct.

All students and employees have the right to study and work in an environment that is free from discrimination and harassment and promotes respect and equity. Centennial policies ensure all incidents of harassment, discrimination, bullying and violence will be addressed and responded to accordingly.

Academic Honesty

Academic honesty is integral to the learning process and a necessary ingredient of academic integrity. Forms of academic dishonesty include cheating, plagiarism, and impersonation, among others. Breaches of academic honesty may result in a failing grade on the assignment or course, suspension, or expulsion from the college. Students are bound to the College's AC100-11 Academic Honesty and Plagiarism policy.

To learn more, please visit the Libraries information page about Academic Integrity https://libraryguides.centennialcollege.ca/academicintegrity and review Centennial College's Academic Honesty Module:

https://myappform.centennialcollege.ca/ecentennial/articulate/Centennial_College_Academic_Integrity_Module_%202/story.html

Use of Lecture/Course Materials

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For more information on these and other policies, please visit www.centennialcollege.ca/about-centennial/college-overview/college-policies.

Students enrolled in a joint or collaborative program are subject to the partner institution's academic policies.

PLAR Process
N/A

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Semester:	Winter 2023		Professor Name:	See eCentennial course shell
Section Code:	ALL		Contact Information:	See eCentennial course shell
Meeting Time & Location:	See myCentennial timetable		Delivery Method:	Online

Topical Outline (subject to change):

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name and Weight	Evaluation Date
1	Project Overview	Course outline User Role Modelling (Cohn, pg 31-41) Sample architecture diagram.	• Describe the Team & Project Information • Describe the System architecture at a high level. • Explain User Role Modelling if applicable to your project). • Explain Simple versus highly complex implementation	Instructor-led discussion of objectives Group formation	Project proposal and sign off Updated system architecture with emphasis on enterprise features. Updated TAC TR: System architecture	Week 1
2	User Stories: Guidelines, Attributes and Gathering	User stories (Cohn, pg 17-29, 75-83) Story writing workshop and low-fidelity prototyping (Cohn, pg 43-53)	• Describe Dimensions as metrics of a story • Describe Guidelines for running a successful workshop: engaging team members • Describe the challenges and solutions of Online versus face-to-face	Individual and group work outside class Group meets and reports to instructor in class	Updated TAC TR: User Roles, User Stories	Week 2
3	Story Estimation	Story estimation (Cohn, pg 87-95) Paper prototyping (Cohn, pg 179) MoSCoW rule (Cohn, 98) Story mapping (Handout)	• Describe how to Avoid group-think approach to story estimation. • Prioritize stories for simple and complex systems. • Apply Consistent estimation through triangulating stories.	Individual and group work outside class	Updated TAC TR: Estimation, UI, Prioritization	Week 3
4	Release Planning	Release planning	• Apply Release planning	Individual and group	Updated TAC	Week 4

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name and Weight	Evaluation Date
		(Cohn, pg 98-107). Acceptance tests (Cohn, pg 67-74) Iteration planning (Cohn, pg 109-116) Story disaggregation (Cohn, pg 111)	• Apply and describe Acceptance tests • Describe Iteration planning, disaggregation of stories into their constituent tasks, and self assigned task ownership	work outside class	TR: Release planning,Iteration planning Methodologies (10%)	
5	1st Iteration	The Basics of Git and GitHub (https://www.youtube.com/watch?v=U8GBXvdmHT4) Applicable software environment and database.	• Interpret Guidelines for setting up the environment for team development: centralized vs. initialization script. • Discuss GitHub issues including timestamp, single ownership, participants, milestones, labels, markdown support. • Describe Kanban boards: workflow. • Apply UML diagrams. • Describe Spikes, if applicable.	Individual and group work outside class	Updated TAC TR: Release planning, Iteration planning	Week 5
6	1st Iteration continued and Conflict Resolution	Measuring and Monitoring Velocity (Cohn, pg 117-126)	• Discuss Strategies for conflict resolution: focus on team. • Explain Favour composition over inheritance. • Recall Programming by interface. • Describe Dependency injection.	Individual and group work outside class	Updated TAC TR: Release planning, Iteration planning	Week 6
7	2nd Iteration	User stories guidelines (Cohn, pg 75-83) Acceptance tests (Cohn, pg 67-74) Iteration planning (Cohn, pg 109-116) Story disaggregation (Cohn, pg 111)	• Employ Reallocation of stories to 2nd iteration, if applicable. • Explain Splitting, merging and/or removal of stories. • Discuss and Examine possible team problems and dynamics, if applicable	Individual and group work outside class	Updated TAC TR: Release planning, Iteration planning	Week 7
8	2nd Iteration	User stories guidelines (Cohn, pg 75-83) Acceptance tests (Cohn, pg 67-74)	• Employ Reallocation of stories to 2nd iteration, if applicable. • Discuss and Examine possible team problems and dynamics, if applicable	Individual and group work outside class	Updated TAC TR: Iteration planning	Week 8

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name and Weight	Evaluation Date
		Iteration planning (Cohn, pg 109-116) Story disaggregation (Cohn, pg 111)				
9	1st Software Release Demo 3rd Iteration	Release planning (Cohn, pg 98-107) User stories guidelines (Cohn, pg 75-83) Acceptance tests (Cohn, pg 67-74) Iteration planning (Cohn, pg 109-116) Story disaggregation (Cohn, pg 111)	• 1st Software Release Demo • Acceptance Testing user stories. • Employ Reallocation of stories to 3rd iteration, if applicable. • Discuss and Examine possible team problems and dynamics, if applicable	Individual and group work outside class	1st software release: demo (Midterm Presentation), production and test code (25%) Complexity & Practicalness (5%) Updated TAC TR: Release planning, Iteration planning Project Planning and Management (10%) - Part of TAC Technical Report	Week 9
10	3rd Iteration Continued	User stories guidelines (Cohn, pg 75-83) Acceptance tests (Cohn, pg 67-74) Iteration planning (Cohn, pg 109-116) Story disaggregation (Cohn, pg 111)	• Employ Reallocation of stories to 4th iteration, if applicable. • Discuss and Examine possible team problems and dynamics, if applicable	Individual and group work outside class	Updated TAC TR: Release planning, Iteration planning	Week 10
11	4th Iteration	Release planning (Cohn, pg 98-107) User stories guidelines (Cohn, pg 75-83) Acceptance tests (Cohn, pg 67-74)	• Employ Reallocation of stories to 4th iteration, if applicable. • Discuss and examine possible team problems and dynamics, if applicable.	Individual and group work outside class	Updated TAC TR: Release planning, Iteration planning	Week 11

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name and Weight	Evaluation Date
		Iteration planning (Cohn, pg 109-116) Story disaggregation (Cohn, pg 111)				
12	4th Iteration Continued	User stories guidelines (Cohn, pg 75-83) Acceptance tests (Cohn, pg 67-74) Iteration planning (Cohn, pg 109-116) Story disaggregation (Cohn, pg 111)	• Employ Reallocation of stories to 4th iteration, if applicable. • Discuss and Examine possible team problems and dynamics, if applicable.	Individual and group work outside class	Updated TAC TR: Iteration planning	Week 12
13	2nd Software Release Demo Peer Evaluation	Release planning (Cohn, pg 98-107) User stories guidelines (Cohn, pg 75-83) Acceptance tests (Cohn, pg 67-74) Iteration planning (Cohn, pg 109-116) Story disaggregation (Cohn, pg 111)	• Peer evaluation (dimensions) • TAC Technical Report (finalize) • 2nd Software Release Demo • Acceptance Testing user stories.	Individual and group work outside class	2nd software release: demo (Final Presentation), production and test code (25%) Complexity (5%) Peer Evaluation (10%)	Week 13
14	TAC Technical Report	N/A	• TAC Technical Report (finalize)	Individual and group work outside class	Project Planning and Management (10%) - Part of TAC Technical Report	Week 14