COQUITLAM COLLEGE
Established 1982

COURSE OUTLINE

Effective: Summer 2016

COURSE INFORMATION

Course Title: Introduction to Software Engineering **Course Number:** CSCI 275 **Credits:** 3

Total Weeks: 14 (Fall, Spring)
12 (Summer)

Total Hours: 39

Course Level: ☐ First Year ☒ Second Year
☐ New ☐ Revised Course
☐ Replacement Course

Department: Computer Science **Department Head:** M. O'Connor **Former Course Code(s) and Number(s) (if applicable):** N/A

Pre-requisites (If there are no prerequisites, type NONE): CSCI 225, MATH 100 and MACM 101

Co-requisite Statement (List if applicable or type NONE): NONE

Precluded Courses: N/A

COURSE DESCRIPTION

In this course students will examine a comprehensive range of software engineering tools and techniques. Emphasis is placed on the structured and formal specifications of software requirements, the use of well-defined design techniques, and the systematic verification and validation of software products. Practical experience in the application of the concepts discussed in class is acquired through a group project.

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

- Describe the history of Software Engineering.
- Describe the qualities of a good software system.
- Compare and contrast current software life cycle models.
- Use object-oriented design methods.
- Work effectively in teams.
- Design and implement small computer applications considering characteristics of mobile computing in the context of the mobile architecture.
- Apply good project management practices to a software project, such as human resource management, task/resource scheduling, risk analysis, and continuous progress monitoring.
- Utilize tools to manage and support a software development team.
- Review and evaluate team member performance.
- Document a project.

INSTRUCTION AND GRADING

Instructional (Contact) Hours:

Type	Duration
Lecture	39
Seminars/Tutorials	
Laboratory	
Field Experience	
Other (*specify):*	
Total	39

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Grading System: Letter Grades ☒ Percentage ☐ Pass/Fail ☐ Satisfactory/Unsatisfactory ☐ Other ☐

Specify passing grade: 50%

Evaluation Activities and Weighting (total must equal 100%)

Assignments: %	Lab Work: 5%	Participation: 5%	Project: %
Quizzes/Test: Quiz #1: 6% Quiz #2: 24%	Midterm Exam: 20%	Final Exam: 40%	Other: %

TEXT(S) AND RESOURCE MATERIALS

Provide a full reference for each text and/or resource material and include whether required/not required.

A. Software Engineering, Sommerville, Pearson Education, 10th Ed, 2015, 978-0133943030
B. Sams Teach Yourself Android Application Development in 24 Hours, Delessio, Darcey and Conder, Pearson Education, 4th Ed, 2016, 978-0-672-33739-0

COURSE TOPICS

List topics and sequence covered.

Week	Topic	Chapter
Week 1	Introduction to Software Engineering and Android Application Development	A1, B1-4
Week 2	Software Processes, Version Control	A2, B5-6
Week 3	Change and Risk, Agile Software Development	A2-3
Week 4	Extreme Programming, Assertions, and Refactoring	A3
Week 5	Requirements Engineering and Documents	A4
Week 6	System Modelling	A5
Week 7	Structural and Behavioural Modelling **MIDTERM EXAM**	A5
Week 8	Architecture Design, UML, and Patterns	A6
Week 9	Object Oriented Design	A7
Week 10	Design Patterns and Implementation Issues	A7
Week 11	Quality Assurance, Unit, and Integrated Testing	A8
Week 12	Testing	A8
Week 13	Project Demonstrations, Final Exam Review	

Week 14 **FINAL EXAM**

NOTES

1. Students are required to follow all College policies. Policies are available on the website at: Coquitlam College Policies
2. To find out how this course transfers, visit the BC Transfer Guide at: bctransferguide.ca

Last Revised: May 2016
Last Reviewed: September 2020