COMP 3111/3111H
SOFTWARE ENGINEERING

COURSE INFORMATION

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Instructor

L1/L2	Kenneth LEUNG	Room 3548	kwtleung@ust.hk

Teaching Assistants

See course web page.

Course Schedule

3111/3111H	L1 (Real Time Online, Zoom)	We 03:30PM - 05:20PM
3111	L2 (Room 1409, Mixed Mode)	Mo 10:00AM - 11:50AM
3111/3111H	LA1 (Real Time Online, Zoom)	Th 06:00PM - 07:50PM
3111/3111H	LA2 (Zoom Recording)	

COURSE TEXTBOOK

Reference Textbook

Object-Oriented Software Engineering:
Using UML, Patterns, and Java, 3/E,
B. Bruegge and A.H. Dutoit,
Pearson Education, Inc., 2010.

Development Tools, Documentation

Java, Git / GitHub, draw.io

- Lab Notes, Web resources.

COURSE REQUIREMENTS

Item	Value
Exercises (in-class practice exercises)	5%
Labs	5%
Project	50%
Activity 1: Initial System Implementation & Testing	20%
Activity 2: System Requirements Specification	30%
Activity 3: Final System Implementation & Testing	50%
Midterm Test — Mar. 17, 19:00-20:30	15%
Final Exam — May exam period	25%

COURSE REQUIREMENTS

Item		Value
Pre-Lecture Quizzes		10%
Exercises (in-class practice exercises)		10%
After you answer exercise questions for 10 lectures, you will obtain full scores (i.e., 10%) for In-class Exercises		
Labs		10%
Project		30%
Activity 1: System Requirements Specification	5%	
Activity 2: System Implementation & Testing	25%	
Final Exam — Dec exam period		40%

COURSE OVERVIEW AND OBJECTIVES

Focus: A *disciplined* approach to software development.

☞ **This course provides both a theoretical foundation and practical skills in software engineering.**

Overall learning objectives:

1. An understanding of the concepts and practices of software engineering.
2. Practical experience analyzing, designing, implementing and testing a software system and working in a development team.

INTENDED LEARNING OUTCOMES

- Ability to apply appropriate modeling techniques to design software for an application of medium complexity.

- Ability to apply appropriate software engineering techniques to implement an application of medium complexity.

- Ability to function effectively as a member of a software development team: organize, manage and participate in a small software development team and plan and schedule the activities involved in developing an application of medium complexity.

WHY SOFTWARE ENGINEERING?

- Learn how to design and engineer a ***software system*** (not just a program).
- Learn to express design ideas ***formally*** using a modeling language.
- Learn interpersonal and team ***communication*** skills.
- Learn project ***management*** skills.
  - workload management
  - people management
- Learn ***leadership*** skills (CTO versus coder).

It's *fun* and *satisfying* to build *useful* software!

SYLLABUS

Lecture Topic	Lectures	
Introduction	1	
Modeling Software Systems using UML	2	a modeling language
Software Development	2	different approaches
System Requirements Capture	5	engineering activities
Implementation	2	
Testing	3	
System Analysis & Design	4	
Software Quality Assurance	1	management activities
Managing Software Development	1	

IMPORTANT NOTES AND POLICIES

Instructional approach → **Flipped Classroom.**

Expected work load → ***Appropriate* (*4 credit course).***

Project due dates → **Strictly enforced!**

Labs → **Learn to use software tools.**
Implement and test your system.

Academic conduct → **Be honest! *Copying/cheating will be severely penalized!***

Classroom etiquette → **Be polite and considerate!**
(Talking during lectures is impolite.)

COURSE PROJECT

Project Overview

Implement part of a medium-sized Java project

Semester-long	→	apply theories; have fun building a system	
Team-based	→	Activities 1 and 2 (3 person teams) *(May be in different lecture sections.)*	
Tool-based	→	draw.io	} software modeling
		Java	} code development
		Git / GitHub	} code management
Schedule-oriented	→	strict deadlines!	

COURSE PROJECT

Project Problem Statement

You are given the system requirements.

– You need to turn requirements into a working system (i.e., code).

Activity 1: System Requirements Specification

– Capture and represent the system requirements using models.

- ➢ Team-based.
- ➢ Used to document a design and explore design ideas.
- ➢ Used to communicate with the client and other developers.

Activity 2: Final System Implementation & Testing

– Implement and test the system requirements.

- ➢ Team-based using SCRUM.
- ➢ Learn team communication (scrum meetings; meeting minutes).
- ➢ Learn project management (sprints; burndown charts).

Project/Requirements Questions?

– Email namkiu@ust.hk

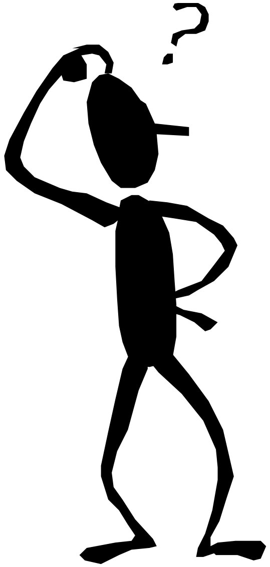
COURSE PROJECT

Project Grading

- Ability to implement requirements correctly according to a schedule.
- Ability to document system requirements using several models.
- For team-based activities individual contribution by team members.

No freeloading!

WELCOME TO COMP 3111!



Any Questions?