

# CS4348: SOFTWARE QUALITY MANAGEMENT

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## Effective Term

Semester A 2025/26

## Part I Course Overview

### Course Title

Software Quality Management

### Subject Code

CS - Computer Science

### Course Number

4348

### Academic Unit

Computer Science (CS)

### College/School

College of Computing (CC)

### Course Duration

One Semester

### Credit Units

3

### Level

B1, B2, B3, B4 - Bachelor's Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

CS3342 Software Design  
or CS3343 Software Engineering Practice

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This course aims to equip students with the knowledge and techniques of professional practices in software processes and activities. It prepares students to manage the development of quality software using professional practices and established standards in software quality assurance and management.

### Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Explain the relations among software product, process and project in quality assurance and management.	x		
2	Design process and quality models for developing and assessing software products and processes.		x	
3	Describe and apply professional practices in the development of quality software.		x	
4	Describe, compare and critique quality systems and established standards for software products and processes.	x		

#### A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

#### A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

#### A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

### Learning and Teaching Activities (LTAs)

LTAs	Brief Description	CILO No.	Hours/week (if applicable)	
1	Lecture	Students will engage in lectures that explain key concepts, models and fundamental issues. Describe and compare professional practices and standards.	1, 2, 3, 4	3 hours per week
2	Tutorial	Students will discuss key concepts, models and issues via short questions. Discuss and evaluate techniques and processes via practice with simple exercises.	1, 2, 3, 4	8 hours per semester

3	Practice of software quality assurance activities	Students will perform software quality assurance activities, such as review, inspection, or development of a quality plan that conforms to an established standard. Also require students to report, evaluate and critically reflect on the practices they perform in the activities.	3	After class
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**Assessment Tasks / Activities (ATs)**

	ATs	CILO No.	Weighting (%)	Remarks ("- " for nil entry)	Allow Use of GenAI?
1	Assignments	3	25	-	Yes
2	Project or quiz	1, 2, 3	15	-	No

**Continuous Assessment (%)**

40

**Examination (%)**

60

**Examination Duration (Hours)**

2

**Minimum Examination Passing Requirement (%)**

30

**Additional Information for ATs**

For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

**Assessment Rubrics (AR)****Assessment Task**

Assignments

**Criterion**

1.1 ABILITY to DESCRIBE and APPLY professional practices in the development of quality software

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

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**Assessment Task**

Project or quiz

**Criterion**

2.1 ABILITY to ACHIEVE the respective CILOs

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

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**Assessment Task**

Examination

**Criterion**

3.1 ABILITY to ACHIEVE the respective CILOs

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

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## Part III Other Information

### Keyword Syllabus

Software quality concepts and models. Quality factors and subfactors. Quality control, assurance and management. Quality assurance activities and practices. Software reviews and inspection. Software management. Software product, process and

project. Software life cycle processes, activities and tasks. Project and risk management. Process models. Software quality systems and standards. IEEE standards. ISO standards and certification. Capability Maturity Models Integration (CMMI).

## Reading List

### Compulsory Readings

Title	
1	D. Galin (2018). Software Quality: Concepts and Practice. 1st Ed. IEEE Computer Society Press.
2	Selected documents from international software standards: accessible online via CityU library.
3	Selected articles from IEEE and ACM periodicals: accessible online via CityU library.

### Additional Readings

Title	
1	I. Sommerville (2016). Software Engineering. Addison-Wesley, 10th edition.
2	R. Pressman and B.R. Maxim (2015). Software Engineering: A Practitioner' s Approach. McGraw-Hill, 8th edition.