Capital University of Science and Technology

Department of Computer Science

CS2223 - Software Engineering-I

Course Title:	Software Engineering-I(CS2223)
Pre-requisite(s):	Object Oriented Programming (CS1143)
Credit Hours:	3
Instructor(s):	
Text Book(s):	Title: Software Engineering A Practitioner Approach Author: Roger S. Pressman
Reference Book(s):	○ Title: Software Engineering ○ Author: Ian Somerville.
Web Reference:	▪ https://www.tutorialspoint.com/software_engineering/index.htm

Course Introduction:

This is the first course in the stream of Software Engineering with the focus on development of software using good practices. The students will be guided to develop skills that will enable them to construct software of high quality, reliability and is reasonably easy to understand, modify and maintain. It enables the students to understand the concepts and the characteristics of software development life cycle approaches.

Course Objectives:

The aim of the course is to:

- Provide knowledge of basic software engineering methods and practices, and their appropriate application.
- Discuss the fundamentals of various phases of software development including project management, requirements, system analysis & design and testing.
- To help students develop skills that will enable them to construct software of high quality

Course Learning Outcomes (CLOs):

At the end of this course, the students should be able to

CLO 1: **Describe** the computing problems to automate the business problem. **[C1 Remembering].**

CLO 2: **Recognize** the need and computing requirements appropriate to their solutions **[C2 Remembering]**

CLO 3: **Apply** knowledge of software engineering appropriate to the discipline, particularly in the modeling, design, testing and deployment of software systems. **[C3 Applying]**

CLOs – PLOs Mapping:

	CLO:1	**CLO:2**	**CLO:3**
PLO:1 (Academic Education)			
PLO:2 (Knowledge for Solving Computing Problems)	√		
PLO:3 (Problem Analysis)		√	
PLO:4 (Design/ Development of Solutions)			√
PLO:5 (Modern Tool Usage)			

Course Contents:

Week	**Contents**
1	Class and Course Introduction, Discussion on Class Policies, Introductory Topics and Basic Concepts Nature of Software, Software Engineering
2	The Software Process, Importance of SW Processes, Software Development Lifecycle (SDLC)
3	Traditional Process Models
4	Agile Process Models, Agile Manifesto & Principles

5	SW Requirements, RE Process & Phases
6	Requirements Elicitation Techniques
7	Requirements Modeling
8	UML Modeling
Mid-Term Exam	
9	UML Modeling
10	Architecture & Design
11	Quality Assurance & Testing
12	Software Process Improvement
13	Software Evolution
14	Software Maintenance & Re-engineering
15	Software Project Management
16	Software Configuration Management

Grading Policy:

S.No	Grading	% of Total Marks
1	Assignments	20
2	Quizzes	20
3	Mid-term Exam	20
4	Final Exam	40
	Total	**100**