Software Engineering

Code	Credit Hours
SE- 200	3-0

Course Description

Software Engineering is the application of a systematic, disciplined, quantifiable approach to the design, development, operation, and maintenance of software, and the study of these approaches. Students will be able to understand the role and scope of software products and know how to apply appropriate methods, techniques, and tools to elicit, document and manage projects. They will be able to define a system that satisfies the requirements of the stakeholders. It will also educate the students with essential concepts of ethical software engineering and best practices.

Text Book:

1. Ian Sommerville Software Engineering, 10th ed. Addison-Wesley, 2015

Reference Book:

1. R.S. Pressman, Software Engineering: A Practitioner's Approach, 8th ed., McGraw-Hill Book Co., NY, 2010

Prerequisites

CS-212 (Object Oriented Programming)

ASSESSMENT SYSTEM FOR THEORY

Quizzes	10%
Assignments	10%
Projects	10%
Mid Terms	30%
ESE	40%

ASSESSMENT SYSTEM FOR LAB

Quizzes	**--**

Assignments	--
Lab Work and Report	--
Lab ESE/Viva	--

Teaching Plan

Week No	Topics	Learning Outcomes
1	Introduction	Course Outline, objectives, teaching plan, assessment method, concepts review
2-6	Software Process	Introduction to system process with special emphasis on Agile methods. Requirement Engineering is covered in detail.
7-8	System Modelling	System Modelling is discussed in detail with special focus on behavioral, interactive, and structural models.
9	**MID TERM EXAM**	
10-14	Software Architectural designs	Architectural designs define the scalability, maintainability, and performance of software. The section includes discussion on structured framework and guidelines for designing, developing, and managing complex software systems.
15-16	Software Testing and Evolution	Formal methods to test the software are discussed. This topic includes elaboration on oracle formation in addition to alpha and beta testing. Discussion on practices for software maintenance and evolution concludes the course.

17	Project Presentations	Project presentations of SRS documents prepared by the students on the selected ideas.
18	**End Semester Exams**	

Practical:

Experiment No	Description
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