



COURSE DESCRIPTION
Code: CSC 541
Title: Advanced Software Engineering
Credits: 3 Hour
King Saud University
College of Computer and Information Sciences
Department of Computer Science

1. Catalog description:

This course focuses on the Advanced Software Engineering concepts that are needed to develop software systems that can meet basic functional requirements within a well-defined problem domain. Specific topics include: Software process, Agile Software Development, Project planning & Management, Architectural Design, Design and Implementation, Software Testing, Software Evolution, Quality Management. Students read and evaluate research papers, and write report related to an advanced topic.

2. Text Book:

Ian Sommerville, “Software Engineering”. 9th Edition, Addison-Wesley.

3. Course Objectives:

The objectives of this course are to:

- Provide students with an overview of software engineering,
- Understand the software engineering process and life-cycle,
- Understand the principles of software process management,
- Provide students with necessary skills to perform requirements’ analysis,
- Provide students with necessary skills to build system design based on requirements’ analysis,
- Educate students principles of object-oriented analysis and design, and basics of UML
- Learn the various testing techniques, including unit testing, functional testing, integration and systems testing.
- Learn Quality Management such as software quality, software standards, reviews and inspections, software measurement and metrics.

4. Topics

- Chapter 1- Introduction
- Chapter 2 and 3– Software Processes and Agile Development
- Chapter 6 and 7 – Software Design and Implementation
- Chapter 8 and 9– Software Testing and Evolution

- Chapter 22 –Project Management
- Chapter 23 –Project planning
- Chapter 19: Service-Oriented Computing
- Chapter 24 and 25 - Quality and Configuration Management

5. Assessment Methods

20% Mid-1

20% Mid-2

20% Report

40% Final

6. Exam Date

To be announced