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

INSTRUCTORS: DR. RACHID SAMMOUDA; DR. KHALIL ELHENDI; AND DR. SAFWAN QASSEM;

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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 Exam; 7 Nov 2016

20% Mid-2 Exam; 26 Dec 2016

20% Project/Report;

40% Final Exam

6. Exam Date

Mid-1: 7 Nov 2016
Mid-2: 26 Dec 2016