

King Saud University
College of Computer and Information Sciences
Department of Computer Science
CSC 541 – Advanced Software Engineering (3-0-0) - Core Course

Instructor: Dr. Safwan Qasem (sqasem@ksu.edu.sa)

Web site: <https://fac.ksu.edu.sa/sqasem>

Office hours: Check the Blackboard

Semester: Fall 2018-19

Course 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.

Textbook:

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

Course Learning Outcomes:

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 requirement 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.

Topics:

1. Chapter 1- Introduction
 2. Chapter 2 – Software Processes
 3. Chapter 3 – Agile Software Development
 4. Chapter 6 – Architectural Design
 5. Chapter 7 – Design and Implementation
 6. Chapter 8 – Software Testing
 7. Chapter 9 – Software Evolution
 8. Chapter 22 – Project planning & Management
 9. Chapter 24 - Quality Management
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Schedule:

14 weeks of three 50-minute lectures/week and one 50-minute tutorial per week.

Evaluation:

15% Mid-1

20% Mid-2

15% Research Review paper.

10% Presentation

40% Final

Exam Date

Mid-1: TBD

Mid-2: TBD

Final: 17 Dec. 2018, 10:30 AM to 12:30 PM

Notes for email communication

Email address: sqasem@ksu.edu.sa

Your email header must start with *CSC541*

Please write your name and your ID at the end of the email
