Imam Mohammad ibn Saud Islamic
College of Computer and Information

University
Sciences

Information Systems Department

Course Syllabus

IS742 – Requirements and Information Engineering

Catalog Description:	This course exposes students to the problem of determining and specifying what a proposed information system should do, why and for whom the system is needed; not how the system should do it, which is the topic of downstream software engineering activities such as design and coding. There are some nontechnical aspects of the course, with respect to communication and negotiation with multiple stakeholders. Most of the course covers technical approaches to the requirements problem, such as techniques for eliciting stakeholder goals and requirements, notations and models for documenting and specifying requirements, and techniques for analyzing requirements.

Credit Hours: **3 Credit hours:**   3 Lectures per week   0 Labs. per week   0 Recitation per week

Prerequisites:

Course Learning Outcomes:
1. Define the context of system development.
2. Describe the significance of requirement analysis.
3. Describe methods for requirement elicitation.
4. Requirements gathering techniques
5. Write requirements documentation and modeling.
6. Validating the requirements

Major Topics:
1. WHY do we need Requirements Engineering?
2. Principles: Definitions, process, roles, problem/solution view, artifact orientation
3. System Models: Decomposition and abstraction, system views
4. Frameworks: What reference structures can I use for requirements?
5. Business Case Analysis: Why are we building this system?
6. Stakeholders: Who are the people to talk to about requirements?
7. Goals and Constraints: What are the major objectives for the system?
8. System Vision: What exactly do we want to achieve?
9. Domain Models: What are the surrounding systems ours interacts with?
10. Usage Models: How will the system interact with the user?
11. Software quality models: How to determine the quality characteristics?
12. Quality requirements: How to specify which qualities need to be met?
13. Process requirements: How to specify constraints for development?
14. System specification: How to hand over to design?
15. Quality assurance: How to ensure that RE is done in a good way?
16. Change management: How to evolve requirements?

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Text Books:

Requirements Engineering: From System Goals to UML Models to Software
Specifications 1st Edition
by Axel van Lamsweerde (Author)
Publisher: Wiley; 1 edition (February 9, 2009)
ISBN-10: 0470012706
ISBN-13: 978-0470012703

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Grading:	◉ The grading scale for this course is:

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95 - 100 A+ Passing
90 - 94   A   Passing
85 - 89   B+ Passing
80 - 84   B   Passing
75 - 79   C+ Passing
70 - 74   C   Passing
0 - 69   F   Failing

⦿ Final grades will be determined based on the following components:
   . 60% Semester Work
   . 40% Final Exam

⦿ Students may not do any additional work for extra credit nor resubmit any graded activity to raise a final grade.

⦿ Late submissions will not be accepted for any graded activity for any reason.

⦿ Students have one week to request the re-grading of any semester work.

Attendance Policy:

Students should attend 80% of the overall course hours taught in the semester as per the University regulations.

If a student fails to achieve this portion, he/she shall not be allowed to appear in the final exam and shall be awarded "DN" grade and repeat the course.

Cheating and Plagiarism Policy:

The instructor will use several manual and automated means to detect cheating and/or plagiarism in any work submitted by students for this course.

When a student is suspected of cheating or plagiarism, the instructor raises the issue to the disciplinary committee.

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Communications: Registered students will be given access to a section of the Learning Management System (LMS) for this course. LMS will used as the primary mechanism to disseminate course information, including announcements, lecture slides, assignments, and grades.

Communication with the instructor on issues relating to the individual student should be conducted using CIS email, via telephone, or in person.