

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

**Computing Department, Community College Dammam
University of Dammam**

**Course Specifications
(CS)**

Software Engineering I

CS210

Software Engineering I

Course Specifications

Institution: University of Dammam	Date of Report
College/Department: Dammam-Community College / Computer Science Department	

A. Course Identification and General Information

1. Course title and code: Software Engineering I (CS210)			
2. Credit hours: 3 (3 Theoretical)			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Information technology track			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: 2 nd Level - Year 1			
6. Pre-requisites for this course (if any): CS110			
7. Co-requisites for this course (if any):			
8. Location if not on main campus			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="%80"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="%20"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course? <ol style="list-style-type: none"> 1. Understand the different stages of the software life cycle, 2. Acquire the knowledge of the common methodologies and techniques in software engineering. 3. Understand the concepts and tools in the development of software engineering models. 4. Have the awareness of the importance of software engineering in software system development. 5. Ability to produce software requirements specifications, system models and architectural design in a proper manner
2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

Software engineering is the branch of computer science that creates practical, cost-effective solutions to computing and information processing problems, by applying scientific knowledge, developing software systems in the service of mankind. This course covers the fundamentals of software engineering, including understanding system requirements, analysis of these requirements, finding appropriate engineering compromises and effective methods of design. (The following phases of SDLC will be covered in this course: requirements & analysis, system modeling and architectural design)

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
1. Introduction to Software Engineering	2	6T
2. Software Processes	3	9T
3. Requirements Engineering	3	9T
4. System Modeling	4	12T
5. Architectural Design	3	9T

2. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	45					45
Credit	45					45

3. Additional private study/learning hours expected for students per week.	3
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

- Reflect on the appropriateness of different software engineering methodologies in different circumstances.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Determine the various software engineering principles, tools and methodologies used for system design and development.	Lectures, Presentations Class discussions	Seat Work,, Major Exam, Assignment
1.2	Explain software development process and models.		
2.0	Cognitive Skills		
2.1	Apply software project management skills in the design and development of a system.	Lectures, Presentations, Class discussions, Independent work.	Seat Work, Programming Project/Machine Problem, , Major Exam, Assignment
2.2	Use software engineering methods and tools in developing a system.		
3.0	Interpersonal Skills & Responsibility		
3.1	Select the most appropriate software process model for a given system.	Lectures, Presentations, Class discussions	Seat Work, Programming Project/Machine Problem, , Major Exam, Case Analysis
3.2	Design and develop a system using appropriate software engineering techniques.		
4.0	Communication, Information Technology, Numerical		
4.	Communicate and present	Lectures and Class	Programming

1	results or information effectively.	Discussions	Project/Machine Problem, Student presentations
4.2	Work effectively in a team.		
5.0	Psychomotor		
5.1	N/A	N/A	N/A
5.2			

5. Course Learning Outcomes Mapping Matrix

Identify on the table below the Course Outcomes and Relationship to PLOs

Course Learning Outcomes	Program Learning Outcomes
1. Knowledge	
1.1	1.1
1.2	1.2
2. Cognitive skills	
2.1	2.3
2.2	2.1 , 2.2
3. Interpersonal Skills and responsibility	
3.1	3.1, 3.2
3.2	3.3
4. Communication IT and Numeral Skills	
4.1	4.2, 4.3
4.2	4.1
5. Psychomotor Skills	
5.1	N/A

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	First quiz	3	%5
2	First midterm	6	%15
3	Second quiz	10	%5
4	Second midterm	12	%15
3	Project	13	%15
4	Attendance/Participation	All weeks	%5
5	Final	17	%40

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Each group of students is assigned to a member of staff who will be available for help and academic guidance office hours at specific 2 hours on daily basis.

E. Learning Resources

1. List Required Textbooks

- Software Engineering, 9th Edition, Sommerville, Ian, Addison Wesley, 2010.

2. List Essential References Materials (Journals, Reports, etc.)

- Software Engineering: A Practitioner's Approach, 7th edition, R. S. Pressman, McGraw Hill, 2009.

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

- Blackboard and Social Media

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

- CDs accompanied with the text book, power point lectures and essential references

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Classrooms:

- Furnished with a large central table or multiple small tables that can be grouped into one central table
- Designed for up to 25 students
- Size the room allowing 1sq meter per seat

2. Computing resources (AV, data show, Smart Board, software, etc.)

- Smart Board, projector, internet, and whiteboard.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

- No

G. Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Student questionnaires to be assessed by independent body.
- Assessment of course teaching strategies by independent body.

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor:

- Student questionnaires to be assessed by department.

3 Processes for Improvement of Teaching:

- Attending workshop, reading books, and the searching for e-resources.
- Revision of course contents, course specifications, and strategies every 5 years.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Check marking by an independent member of staff of a sample of student work.
- Periodic exchange and remarking of a sample of assignments with a member

of staff in another institution

5 .Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Reviewing student's feedback.
- Update text books.
- Consulting other top universities course specifications and contents.