



Course Specification

— (Bachelor)

Course Title: **Software Engineering**

Course Code: **501343-3**

Program: **Bachelor of Computer Science**

Department: **Department of Computer Science**

College: **College of Computers and Information Technology**

Institution: **Taif University**

Version: **1**

Last Revision Date: **01-02-2024**



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A. General information about the course:

1. Course Identification

1. Credit hours: (3)

2. Course type

A. University College Department Track Others

B. Required Elective

3. Level/year at which this course is offered: (6/3rd Year)

4. Course general Description:

Introduce different aspects of software development for reliable systems. Study the software development process models, project management techniques, modeling notations, requirement analysis, architecture design methods, and testing techniques.

5. Pre-requirements for this course (if any):

Data Structure 501324-3

6. Pre-requirements for this course (if any):

None

7. Course Main Objective(s):

- Understand various software engineering paradigms and metrics to assess quality of the various processes in software engineering from inception till retirement of the software.
- Understand various effort estimation methods, preparation of project plan and identification of risks of project & product and contingency plans to mitigate the same.
- Learn design document for a software development project.
- Understand various strategies for testing the software system including unit testing, integration testing, system testing and acceptance testing.
- Practice software development principles





2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> Traditional classroom E-learning 		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	45
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		45

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Understand and describe the Software Development Life Cycles.	K1	Lecture Discussion	Direct Assessment Tool Written Exams Assignments Quizzes Project Indirect Assessment Tool Course Exit Survey
1.2	Understand engineering process requirements.	K1	Lecture Discussion	Direct Assessment Tool Written Exams Assignments Quizzes Project Indirect Assessment Tool Course Exit Survey
2.0	Skills			
2.1	Choose a suitable software model to use in software development.	S1	Lecture Tutorial Discussion	Direct Assessment Tool Written Exams Assignments Quizzes Project Indirect Assessment Tool Course Exit Survey





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.2	Apply the process of analysis and design using the object-oriented approach.	S2	Lecture Tutorial Discussion	Direct Assessment Tool Written Exams Assignments Quizzes Project Indirect Assessment Tool Course Exit Survey
3.0	Values, autonomy, and responsibility			
3.1	Prepare technical documentation for a software project.	V1	Lecture Tutorial Discussion	Direct Assessment Tool Written Exams Assignments Quizzes Project Indirect Assessment Tool Course Exit Survey
3.2	Work in teams on a software development project	V2	Lecture Tutorial Discussion	Direct Assessment Tool Written Exams Assignments Quizzes Project Indirect Assessment Tool Course Exit Survey

C. Course Content

No	List of Topics	Contact Hours
1.	Software Engineering introduction	6
2.	Software Processes	6
3.	Agile Software Development	6
4.	Software project management	3
5.	Software Requirements and Specifications	6
6.	Software Modeling	6
7.	Software prototyping	3
8.	Software design	9
Total		45



D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignments	13	10%
2.	Quizzes	6-12	10%
3.	Midterm Exam	8	20%
4.	Project	13	15%
5.	Final presentation	14	5%
6.	Final Exam	16	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Sommerville, I., Software Engineering, latest Edition.
Supportive References	Pressman, & Roger S. & Ice, Darrel, Software Engineering a Practitioner's Approach: European Adaptation latest Edition
Electronic Materials	Presentations
Other Learning Materials	-

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	A Lecture room appropriate for maximum 25 students with a personal computer, a data show, and a smart board.
Technology equipment (projector, smart board, software)	data show, UML editor software, Prototyping software tool and Project management software.
Other equipment (depending on the nature of the specialty)	





F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	<ul style="list-style-type: none"> •Students •Faculty members •Coordinator •Council •Curriculum •Committee 	<ul style="list-style-type: none"> •Course exit survey •Feedback from Faculty members •Feedback from Course Coordinator •Feedback from council •Feedback from Curriculum Committee
Effectiveness of Students assessment	<ul style="list-style-type: none"> •Students •Faculty members •Coordinator •Council •Curriculum •Committee 	<ul style="list-style-type: none"> •Course exit survey •Feedback from Faculty members •Feedback from Course Coordinator •Feedback from council •Feedback from Curriculum Committee
Quality of learning resources	<ul style="list-style-type: none"> •Students •Faculty members •Coordinator •Council •Curriculum •Committee 	<ul style="list-style-type: none"> •Course exit survey •Feedback from Faculty members •Feedback from Course Coordinator •Feedback from council •Feedback from Curriculum Committee
The extent to which CLOs have been achieved	<ul style="list-style-type: none"> •Students •Faculty members •Coordinator •Council •Curriculum •Committee 	<ul style="list-style-type: none"> •Course exit survey •Feedback from Faculty members •Feedback from Course Coordinator •Feedback from council •Feedback from Curriculum Committee
Other	<ul style="list-style-type: none"> •Students •Faculty members •Coordinator •Council •Curriculum •Committee 	<ul style="list-style-type: none"> •Course exit survey •Feedback from Faculty members •Feedback from Course Coordinator •Feedback from council •Feedback from Curriculum Committee

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)





G. Specification Approval

COUNCIL /COMMITTEE	CS council
REFERENCE NO.	Meeting #11
DATE	07/03/2024

