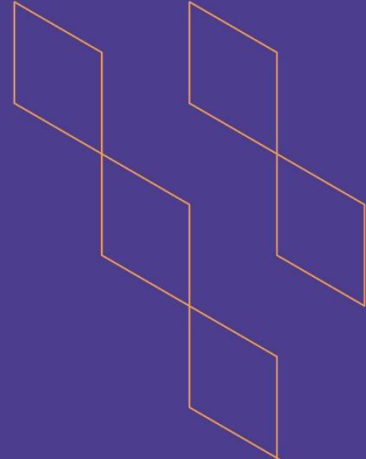




T-104
2022

Course Specification



Course Title: Software Engineering 2
Course Code: IT10902
Program: Information Technology
Department: Information Technology
College: Computer Science and information technology
Institution: Albaha University
Version: 01
Last Revision Date: 5-4-2023



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A. General information about the course:

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: 9th Level / 3rd Year

4. Course general Description

This course is a continuation of Software Engineering I and will cover advanced topics in software engineering. Students will learn about software development phases from software implementation and reuse toward software maintenance and evolution through the software testing, validation and deployment. The course will also cover Software Ethics and Professionalism as well as the emerging trends and technologies in Software Engineering. Overall, this course aims to equip students with the advanced knowledge and skills necessary to become successful software engineers in today's rapidly evolving industry.

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

Software Engineering1 (IT10603).

6. Co- requirements for this course (if any): none

7. Course Main Objective(s)

The main purpose for this course is to teach students how to:

Upon completion of the course, students will have a solid understanding of the software development process and be able to:

- Recognize software implementation and reuse principles
- Identify the software ethics and professionalism as well as the recent trends and technologies in software engineering such as Cloud Computing, Internet of Things (IoT), Artificial Intelligence and Machine Learning.
- Deploy a software after multilevel software testing, evaluation and validation.
- Discuss the software maintenance and evolution concepts.
- Effectively communicate concepts and techniques in oral presentations.
- Effectively communicate concepts and techniques in oral presentations.
- Commit to work independently and collaboratively in a small group with seriousness and enthusiasm.

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	33	100%
2.	E-learning		



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

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	33
2.	Laboratory/Studio	-
3.	Field	-
4.	Tutorial	-
5.	Others (specify)	-
	Total	33





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	Recognize software implementation and reuse principles	K1	- Lectures - Discussions	- Homework (rubric) - Midterm Exam - Final exam
1.2	Identify the software ethics and professionalism as well as the recent trends and technologies in software engineering	K2	- Lectures - Discussions	- Homework (rubric) - Quiz - Final exam
2.0	Skills			
2.1	Deploy a software after multilevel software testing, evaluation and validation.	S1	- Lectures - Discussions - Problem based learning	- Homework (rubric) - Midterm Exam - Final exam - Project evaluation form (rubric)
2.2	Discuss the software maintenance and evolution concepts.	S2	- Lectures - Discussions - Problem based learning	- Homework (rubric) - Final exam - Quiz - Group Project (Rubric)
2.3	Effectively communicate concepts and techniques in oral presentations.	S6	- Assignments - Oral Presentation	- Group Project (Rubric)
3.0	Values, autonomy, and responsibility			
3.1	Commit to work independently and collaboratively in a small group with seriousness and enthusiasm	V1	- Assignments - Oral Presentation	- Group Project (Rubric)

C. Course Content

No	List of Topics	Contact Hours
1.	Software Implementation	6
2.	Software Reuse	3
3.	Software Testing and Validation	6
4.	Software Deployment	3
5.	Software Maintenance and Evolution	6
6.	Software Ethics and Professionalism	3
7.	Emerging Trends in Software Engineering	6
Total		33



D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework	Every 2-3 Weeks	10%
2.	Midterm Exam	6	20%
3.	Quiz	9	10%
4.	Group Project (Evaluated through a rubric)	11	10%
6.	Final Exam	12 or 13	50%

*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	<ul style="list-style-type: none"> - Ian Sommerville, Software Engineering, Pearson, 10th edition (2016). - UML Distilled: A Brief Guide to the Standard Object Modeling Language (3rd Edition) 3rd Edition.
Supportive References	<ul style="list-style-type: none"> - Roger S. Pressman and Bruce Maxim, Software Engineering: A Practitioner's Approach, McGraw Hill; 9th edition (2021).
Electronic Materials	<ul style="list-style-type: none"> - Access to the university library through "Bahith" platform: http://bahith.bu.edu.sa/ - Access to the Saudi Digital Library (SDL). - Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	<ul style="list-style-type: none"> - ACM (Association for Computer Machinery) Curricula Recommendations 2017 – https://www.acm.org/binaries/content/assets/education/curricula-recommendations/it2017.pdf

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> • A classroom or lecture hall for every 20-25 students.
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> • A smartboard and projector for each classroom and lecture hall. • An instructor computer station.
Other equipment (depending on the nature of the specialty)	None





F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of Teaching	<ul style="list-style-type: none"> • Students • Faculty • Peer Reviewers • Program Leader • Course Coordinator 	<ul style="list-style-type: none"> • Surveys (indirect). • Direct feedback from students. • Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader (indirect) • Comprehensive Course report (where we can find information about teaching difficulties and action plan, ...)
Effectiveness of Assessment	<ul style="list-style-type: none"> • Students • Faculty • Peer Reviewers • Course Coordinator • Exam Evaluation Committee • Course Coordinator 	<ul style="list-style-type: none"> • Surveys (indirect). • Direct feedback from students. • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about assessment difficulties and action plan, ...) • Exam evaluation by the Exam Evaluation Committee (indirect)
Extent of achievement of course learning outcomes	<ul style="list-style-type: none"> • Faculty • Program Leader • Course Coordinator • 	<ul style="list-style-type: none"> • Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Quality of learning resources	<ul style="list-style-type: none"> • Students • Faculty • Peer Reviewers • Course Coordinator 	<ul style="list-style-type: none"> • Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, ...)

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

Assessment Methods (Direct, Indirect)





G. Specification Approval Data

COUNCIL /COMMITTEE	IT DEPARTMENT COUNCIL
REFERENCE NO.	
DATE	6-4-2023

