هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title:	Software Quality Attributes
Course Code:	SE1754
Program:	Bachelor of Software Engineering
Department:	Software Engineering
College:	Faculty of Computers and Informatics
Institution:	Al-Baha University
Version:	1.0
Last Revision Date:	23/4/2024

Table of Contents

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: (9)					
4. Course general Description:					
This course provides a broad and in-depth knowledge on Software Quality Attributes. The course discusses the software quality attributes terminologies and taxonomy. In addition, it highlights the trade-offs of software quality attributes. Furthermore, the course will discuss many software quality attributes and the relations among them. Finally, students will be taught and will practice a number of software quality assessment methods.					
5. Pre-requirements for this course (if any)**:**					
Software Design and Development 2 (SE1754)					
6. Pre-requirements for this course (if any)**:**					
7. Course Main Objective(s):					
The main aim of this course is to teach the students the concepts of Software Quality Attributes. This includes teaching them the terminologies, taxonomy, and the quality trade-offs. In addition, students will practice on assessing various software quality attributes on real-life software systems and reporting on results.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	100%
2	E-learning	0	0
3	Hybrid	0	0

No	Mode of Instruction	Contact Hours	Percentage
	• Traditional classroom • E-learning		
4	Distance learning	0	0

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	33
2.	**Laboratory/Studio**	0
3.	**Field**	0
4.	**Tutorial**	0
5.	**Others (specify)**	0
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	**Define the terminologies used in software quality attributes**	**K1**	**Lecture, exercise**	**Quiz, exams, ,assignments**
1.2	**Recognize the differences between software quality attributes**	**K2**	**Lecture, exercise**	**Quiz, exams, ,assignments**
1.3	**Demonstrate Software Quality Attribute Trade-offs**	**K3**	**Lecture, exercise**	**Quiz, exams, ,assignments**
1.4	**Recognize the Taxonomy for Quality Attributes**	**K4**	**Lecture, exercise**	**Quiz, exams, ,assignments**
2.0	**Skills**			

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.1	Apply various quality measurement models for different software examples	S1	Lecture, Group discussion, tutorials	Exams, assignments, Written report
2.2	Generate a quality report assessment document using well-known models	S2	Lecture, Group discussion, tutorials	Exams, assignments, Written report
3.0	**Values, autonomy, and responsibility**			
3.1				

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Software Quality Attributes: Terminologies, Taxonomy, Trade-offs	3
2.	Software Functionality, Documentation	3
3.	Software Interoperability, Testability, Portability	3
4.	Software Performance, scalability, maintainability, traceability	4
5.	Software Security, Availability	4
6.	Software Clarity, Usability	4
7.	Software modifiability, Generality, Understandability, reusability	4
8.	Software Validity, traceability	4
9.	Software Quality Attributes measurements	4
Total		**33**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignments and Quizzes	2,4,6,8	10%
2.	Written report		10%
3.	Midterm Exam		20%
4.	Final Exam		60%

*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	**Koziolek, Anne. Automated improvement of software architecture models for performance and other quality attributes. Vol. 7. KIT Scientific Publishing, 2014.**
Supportive References	**Gomaa, Hassan. Software modeling and design: UML, use cases, patterns, and software architectures. Cambridge University Press, 2011.**
Electronic Materials	**N/A**
Other Learning Materials	**N/A**

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Classroom**
Technology equipment (projector, smart board, software)	**Data show, Software**
Other equipment (depending on the nature of the specialty)	**N/A**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching		
Effectiveness of Students assessment		
Quality of learning resources		
The extent to which CLOs have been achieved		
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**Curriculum Committee**
REFERENCE NO.	

DATE	**28 April 2024**