2023
TP-153

Course Specification
(Bachelor)

Course Title:	Software Design and Development 2
Course Code:	SE1503
Program:	Software Engineering
Department:	Software Engineering
College:	Computing and Information
Institution:	Al-Baha University
Version:	V1.0
Last Revision Date:	24-4-2024

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A. General information about the course:

1. Course Identification

1. Credit hours: (4)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (7th /3rd year)					
4. Course general Description:					

This course provides an in-depth knowledge of software architecture including Design, Views, Styles, and assessment. In additions, it links the knowledge and skills the students acquired in the pre-courses to allow students to design software user interfaces as well as to apply various structural and behavioral software design patterns. Furthermore, the course introduces the students the topic of design documentations and design managements. Finally, several software construction technologies and CASE tools will be highlighted.

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5. Pre-requirements for this course (if any): SE1251 Software Design and Development 1 *Enter Course Title.*

6. Pre-requirements for this course (if any)**: None**

7. Course Main Objective(s):

The main aim of this course is to teach the students the concept of software architecture. In addition, students' knowledge of software requirement engineering and design methods will be linked to enable them to apply and construct software from design with use of designpatterns, construction technologies, and CASE tools

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	4	100%

No	Mode of Instruction	Contact Hours	Percentage
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	44
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		44

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 the concepts software Architecture, Views, and Styles	**K1**	Lecture, exercise	Quiz, exams, ,assignments
1.2	Define knowledge of design patterns.	**K2**	Lecture, exercise	Quiz, exams, ,assignments
1.3	describe the software design management	**K3**	Lecture, exercise	Quiz, exams, ,assignments
2.0				
2.1	Design a software using design principles and paradigms	**S1**	Lecture, Group discussion, tutorials	Exams, assignments, project
2.2	Construct a software with applying	**S2**	Lecture, Group discussion,	Exams, assignments,

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	various design patterns, construction technologies, and CASE tools		tutorials	project
2-3	Apply documentation techniques on software design representations	**S3**	Lecture, Group discussion, tutorials	Exams, assignments, project
3.0				
3.1	Demonstrate responsibility ethics, And effective teamwork	**V1**	Project	Assignment, project

C. Course Content

No	List of Topics	Contact jHours
1.	Software architecture: Design, Views, Styles, and assessment	6
2.	User Interface Design	6
3	Software Design patterns	8
4	Design Documentation	8
5	Construction technologies and CASE tools	8
6	Software Design management	8
Total		**44**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework	3.5.7	10%
2.	Midterm Exam	5	20%
3.	Project	10	10%
4.	Quizze	9	10%
4	Final Exam	12	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	Gamma, Erich, et al. *Design patterns: elements of reusable object-orientedsoftware*. Pearson Deutschland GmbH, 1995. Van Vliet, Hans, Hans Van Vliet, and J. C. Van Vliet. *Software engineering:principles and practice*. Vol. 13. Hoboken, NJ: John Wiley & Sons, 2008
Supportive References	**N/A**
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 and Blackboard
Technology equipment (projector, smart board, software)	Data show and 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	• Students • Faculty • Peer Reviewers • Program Leader Course Coordinator	• 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 Students assessment	• Students • Faculty • Peer Reviewers • Program Leader • Exam Evaluation Committee Course Coordinator	• Surveys (indirect). • Direct feedback from students. • Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader (indirect) Exam evaluation by the Exam Evaluation Committee (indirect)

Assessment Areas/Issues	Assessor	Assessment Methods
Quality of learning resources	• Students • Faculty • Peer Reviewers • Course Coordinator	• 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, …)
The extent to which CLOs have been achieved	• Faculty • Program Leader Course Coordinator	• Student Results (direct) Comprehensive Course report (where we can find the CLO assessment results)
Other	None	None

Assessor♦ (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**