هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title:	Cloud Application Engineering
Course Code:	SE1761
Program:	Software Engineering
Department:	Software Engineering
College:	Faculty of Computer Science and Information Technology
Institution:	Al-Baha University
Version:	V1.0
Last Revision Date:	Axx-April-2024

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (3)					
3 Credit Hours (3, 0, 0) (Lecture, Lab, Tutorial) **(3 Contact Hours)**					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (11th Level/4th Year)					
4. Course General Description:					

This course introduces cloud computing concepts, technologies, and architectures. It covers the key components of cloud infrastructure, cloud architecture, cloud storage, cloud networking, cloud computing for business, cloud applications, cloud security, cloud analytics, and cloud future trends. The course also examines the advantages and disadvantages of cloud computing, cloud adoption strategies, and cloud career opportunities.

5. Pre-requirements for this course (if any)**: Software Design and Development 2 (SE1503)**

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

7. Course Main Objective(s):

Upon completion of this course, students will be able to:

- **Understand the concepts and history of cloud computing.**
- **Design and develop cloud applications and deploy them using cloud platforms.**
- **Analyze and evaluate cloud security risks and threats, and identify mitigation measures.**
- **Discuss emerging cloud technologies and future trends.**

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	33	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		
5	Other (Lab)		

3. 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	Students will be able to understand the different essential concepts in cloud computing.	K1	- Lectures	***Direct Assessment Tool*** Midterm Exam Final exam ***Indirect Assessment Tool*** Course Exit Survey
1.2	Students will be able to Classify the types of cloud	K2	- Lectures	***Direct Assessment Tool*** Midterm exam

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	services and their advantages and disadvantages			Final exam ***Indirect Assessment Tool*** Course Exit Survey
1.3	Students will be able to identify the components of cloud infrastructure and their providers	K3	- Lectures	***Direct Assessment Tool*** Quiz Midterm exam Final exam ***Indirect Assessment Tool*** Course Exit Survey
2.0	**Skills**			
2.1	Demonstrate a basic knowledge of cloud application development using various cloud platforms	S1	- Lectures - Project	***Direct Assessment Tool*** Project (rubric) Final exam ***Indirect Assessment Tool*** Course Exit Survey
2.2	Analyze cloud analytics concepts and tools. Evaluate potential cloud security risks and threats	S2	- Lectures - Project	***Direct Assessment Tool*** Project (rubric) Final exam ***Indirect Assessment Tool*** Course Exit Survey
2.3	Describe emerging cloud technologies and future trends in the industry	S3	- Lectures - Project	***Direct Assessment Tool*** Project (rubric) Final exam ***Indirect Assessment Tool*** Course Exit Survey
3.0	**Values, autonomy, and responsibility**			
3.1	Recognize the importance of teamwork, collaboration, and communication in the design and development of secure software systems. Furthermore the importance of giving and receiving constructive feedback.	V1	-Small Groups	***Direct Assessment Tool*** Project Presentation (rubric) ***Indirect Assessment Tool*** Course Exit Survey

C. Course Content

No	List of Topics (Lectures)	Contact Hours
1.	**Introduction to Cloud Computing**	3
	Cloud Infrastructure	**3**
3.	**Cloud Architecture**	6
4.	**Cloud Storage**	3
5.	**Cloud Networking**	3
6.	**Cloud Computing for Business**	3
7.	**Cloud Applications**	3
8.	**Cloud Security**	3
9	**Cloud Analytics**	3
10	**Cloud Future Trends**	3
Total		**33**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	**Midterm Exam**	**6**	20%
2.	**Quiz**	8	10%
3.	**Final Project and Presentation**	10	10%
4.	**Final Exam**	12	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	• Cloud Computing: Concepts, Technology & Architecture (The Prentice Hall Service Technology Series) • Business in the Cloud: What Every Business Needs to Know About Cloud Computing Michael H. Hugos, Derek Hulitzky, ISBN: 978-0-470-61623-9.
Supportive References	• ACM (Association for Computer Machinery) Curricula Recommendations • http://www.acm.org/education/curricula-recommendations
Electronic Materials	• 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	• Nielsen Norman Group: https://www.nngroup.com/

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• A classroom or lecture hall with a whiteboard for 25 students.
Technology equipment (projector, smart board, software)	• A digital image projection system with a connection to a desktop computer and laptop computer. • High-speed Internet connection
Other equipment (depending on the nature of the specialty)	**None**

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)
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

Assessment Areas/Issues	Assessor	Assessment Methods
		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		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**Curriculum Committee**
REFERENCE NO.	
DATE	**28 April 2024**