هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title :	Cloud Computing Fundamentals
Course Code:	IT 495
Program:	Information Technology
Department:	Information Technology
College:	Colleague of Computer and Information Sciences
Institution:	Majmaah University
Version:	2
Last Revision Date:	11 September 2023

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: 3 (3, 0, 1)					
2. Course type					
A.	☐University	☐College	☐Department	☒ Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (Level 8)					
4. Course general Description:					
5. Pre-requirements for this course (if any)**:**					
IT 324: Data Transmission and Computer Networks					
6. Pre-requirements for this course (if any)**:**					
Nil					
7. Course Main Objective(s):					
This course offers students a collaborative and hands-on study on basics of cloud computing, various services offered by cloud providers such as Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), Software-as-a-Service (SaaS) explain in details, Different types of cloud models such as Private, Public, Hybrid clouds, virtualization, security and privacy issues, performance and systems issues, capacity planning, disaster recovery, challenges in implementing clouds, data centers, hypervisor CPU and memory management Students will be exposed to current practices in cloud computing.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	**60**	**100%**
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**	**45**
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	**15**
5.	**Others (specify)**	
Total		**60**

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				
1.2				
...				
2.0	**Skills**			
2.1	CLO1: Students should be able to explain the benefits of cloud computing.	**S1**	Classroom Teaching	Exercises,Test, Mid Exam, Final Exam,
2.2	CLO2: Students should Identify and differentiate various infrastructure components.	**S1**	Classroom Teaching	Exercises,Test, Mid Exam, Final Exam,
2.3	CLO3: Students should be able to explain virtualization requirements and the tools which can be used.	**S2**	Classroom Teaching	Lab Exercises, Test, Mid Exam, Final Exam,
2.4	CLO4: Students should be able to differentiate between public, private and hybrid clouds.	**S1**	Classroom Teaching	Test, Mid, Final Exam
	.			
3.0	**Values, autonomy, and responsibility**			
3.1	CLO5: Students should be able identify cloud relate security issues	**V2**	Classroom Teaching & Lab	Lab Exercises Final Exam
3.2				
...				

C. Course Content

No	List of Topics	Contact Hours
1.	**Introduction to cloud computing , Types of Cloud**	4
2.	**Fundamental Concepts and Models**	4
3	**Cloud Enabling Technologies Security**	4
4	**Understanding Cloud Computing Mechanisms** **Cloud Management Mechanism**	4
5	**Cloud Security Mechanism**	4
6	**Exploring cloud computing architectures**	4
7	**Fundamental cloud computing Architectures**	4
8	**Mid Exam**	4
9	**Understanding Abstraction and Virtualization**	4
10	**Understanding Hypervisor**	4
11	**Cloud Delivery Model Considerations**	4
12	**Cost Metrics and Pricing Models**	4
13	**Service Quality Metrics and SLAs**	4
14	**Mini project presentation**	4
15	Review	4
Total		**60**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Tests	Week 5	10%
2.	Mid Term Exam	Week 9	20%
3.	Exercise	Every Week	10%
4.	Lab Based Assignments/ Mini Project Presentation	week 9	20%
5.	Final Exam	Week 11	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	Cloud Computing Concepts, Technology and Architecture, by Thomas Erl, Prentice Hall, Service Tech Press, ISBN-13: 978-0133387520, 1st Edition, May 20,2013.

Supportive References	1. Cloud Computing Bible, by Barrie Sosinsky, Wiley Publication, ISBN-13: 978-0470903568, 1st Edition , Jan 11, 2011 . 2. Cloud Computing from Beginning to End, by Ray Rafael's, ISBN-13: 978-1511404587, CreateSpace Independent Publishing Platform , 1st Edition April 2015 3. Architecting the Cloud: Design Decisions for Cloud Computing Service Models (SaaS, PaaS, and IaaS), by Michael J. Kavis, Wiley Publishers, 1st Edition , Jan 28,
Electronic Materials	Web References and downloads: http://lms.mu.edu.sa
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom
Technology equipment (projector, smart board, software)	PC or Laptop with Windows/Linux, Smart Board, Projector
Other equipment (depending on the nature of the specialty)	Internet Connection

F. Assessment of Course Quality

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

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	IT Council
REFERENCE NO.	IT Meeting #3 (1440-1441)

DATE	5/2/1441