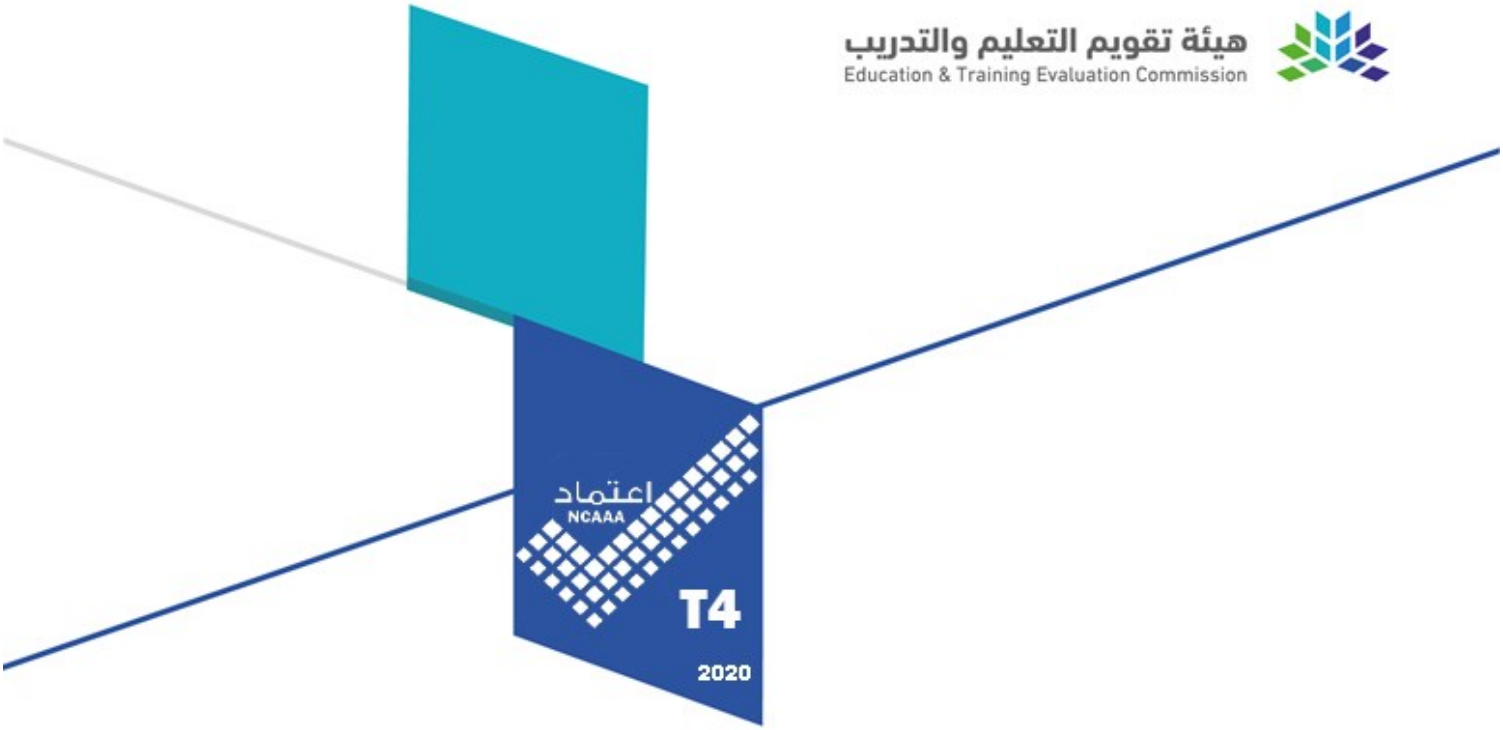

Course Specifications

Course Title:	Cloud Computing
Course Code:	IT424
Program:	Information Technology
Department:	Information Technology
College:	College of Computer and Information Sciences
Institution:	Majmaah University

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A. Course Identification

1. Credit hours: **3(3,0,1)**
2. Course type **a.** University ☐ College ☐ Department ☒ Others ☐ **b.** Required ☐ Elective ☐
3. Level/year at which this course is offered: Level 11
4. Pre-requisites for this course (if any)**:** **IT 341: Data Transmission and Computer Networks**
5. Co-requisites for this course (if any)**:** NIL

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	55	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	44
2	Laboratory/Studio	
3	Tutorial	11
4	Others (specify)	
	Total	55

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

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. Course Main Objective

1) Students should be able to explain the benefits of cloud computing.
2) Students should Identify and differentiate various infrastructure components.
3) Students should be able to explain virtualization requirements and the tools which can be used.
4) Students should be able to differentiate between public, private and hybrid clouds.
5) Students should be able identify cloud relate security issues.
6) Understand cloud management and deployment fundamentals.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	CLO1- Students should be able to explain the benefits of cloud computing.	K2
1.2	CLO2- Students should Identify and differentiate various infrastructure components.	K1
1.3	CLO5- Students should be able identify cloud relate security issues.	K2
1...		
2	**Skills :**	
2.1	CLO3- Students should be able to explain virtualization requirements and the tools which can be used.	S1
2.2	CLO4-Students should be able to differentiate between public, private and hybrid clouds.	S1
2.3	CLO6- Understand cloud management and deployment fundamentals.	S1
2...		
3	**Competence:**	
3.1		
3.2		
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	**Introduction to cloud computing** • **Introduction to cloud computing** • **Defining cloud computing** • **Types of Cloud**	7
2	**Fundamental Concepts and Models**	4
3	• **Cloud Enabling Technologies** • **Security**	7

4	**Understanding Cloud Computing Mechanisms** • **Exploring Cloud Computing Stack** • **Cloud Infrastructure Mechanism** • **Specialized Cloud Mechanism** • **Cloud Management Mechanism**	8
5	• **Cloud Security Mechanism**	4
6	**Exploring cloud computing architectures** **Fundamental cloud computing Architectures**	8
7	• **Understanding Abstraction and Virtualization** • **Understanding Hypervisor**	6
8	**Cloud Delivery Model Considerations**	4
9	**Cost Metrics and Pricing Models**	4
10	**Service Quality Metrics and SLAs**	2
Total		55

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	CLO1- Students should be able to explain the benefits of cloud computing.	Classroom Teaching	Test, Mid Exam, Final Exam, Homework
1.2	CLO2- Students should Identify and differentiate various infrastructure components.	Classroom Teaching	Test, Mid Exam, Final Exam, Homework
1.3	CLO5- Students should be able identify cloud relate security issues.	Classroom Teaching	Final Exam, Homework
2.0	**Skills**		
2.1	CLO3- Students should be able to explain virtualization requirements and the tools which can be used.	Classroom Teaching	Mid Exam, Final Exam, Homework
2.2	CLO4-Students should be able to differentiate between public, private and hybrid clouds.	Classroom Teaching	Final Exam
2.3			
3.0	**Competence**		
3.1	CLO6- Understand cloud management and deployment fundamentals.	Classroom Teaching	Exercises/Homework, Lab and Mini Project
3.2			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	In-class Tests (written test)	Week 3,	10%
2	Mid Term Exam (written test)	Week6	20%
3	Attendance Participation	Every Week ,	5%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
3	Project and Presentation (oral presentation)	Week 10	10%
4	Labs , Exercises/Homework	Every Week	15%
5	Final Exam (written test)	Week 16	40%
6			
7			
8			

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for the availability of faculty and teaching staff for individual student consultations and academic advice:
Each student is assigned to an academic advisor for guidance and counselling

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Cloud Computing Concepts, Technology and Architecture, by Thomas Erl, Prentice Hall, Service Tech Press, ISBN-13: 978-0133387520, 1st Edition, May 20,2013.
Essential References Materials	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	• **Online Course Notes available on D2L** • **Online reference materials available on SDL**
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Class Room. Lab.
Technology Resources (AV, data show, Smart Board, software, etc.)	Computer. or Laptop with Windows/Linux.

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Projector and Smart Board.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Final Exam Answer Scripts Verification	Peer faculty members	Review
Course Feedback	Students	Survey

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	IT Council
Reference No.	IT Meeting #3 (1440-1441
Date	5/2/1441