

**ATTACHMENT 5.**

**Kingdom of Saudi Arabia**  
**The National Commission for Academic Accreditation &**  
**Assessment**

**T6. Course Specifications**  
**(CS)**

## Course Specifications

Institution	Umm Al Qura University	Date	Apr, 15 <sup>th</sup> , 2016
College/Department	College of Computers and Information Systems/ Computer Science		

### A. Course Identification and General Information

1. Course title and code: Cloud Computing 14014502-3			
2. Credit hours 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Computer Science			
4. Name of faculty member responsible for the course Ashwag Maghraby			
5. Level/year at which this course is offered 4th year / (level 9 or 10)			
6. Pre-requisites for this course (if any) 14033103-4 Computer Networks			
7. Co-requisites for this course (if any) N/A			
8. Location if not on main campus			
9. Mode of Instruction (mark all that apply)			
a. traditional classroom	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
Comments:			

## B Objectives

<p>1. What is the main purpose for this course?</p> <p>This course aims to introduce the fundamental techniques, algorithms and designs of cloud systems. It covers traditional distributed system algorithms that form the basis of modern cloud computing, as well as touching on the architecture of big data platforms such as Hadoop.</p>
<p>2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)</p>

## C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:
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1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
Introduction	1	2
Gossip and Membership Protocols	2	2
P2P Systems	2	2
Distributed key-value stores	1	2
Time and Ordering	1	2
Snapshots, Multicast, Paxos	1	2
Leader Election	1	2
Concurrency and Replication Control	1	2
Stream and Graph Processing	3	2
Distributed File Systems	2	2

2. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	30		30			
Credit						

3. Additional private study/learning hours expected for students per week.	3
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

**First**, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	<b>Knowledge</b>		
1.1		<i>Course lectures, tutorials, assignments</i>	<i>Quizzes Assignments Midterm Exam Final Exam</i>
1.2			
2.0	<b>Cognitive Skills</b>		
2.1		<i>Course lectures, tutorials, assignments</i>	<i>Quizzes Assignments Midterm Exam Final Exam</i>
2.2			
3.0	<b>Interpersonal Skills &amp; Responsibility</b>		

3.1		<i>Course lectures, tutorials, assignments</i>	Quizzes Assignments Midterm Exam Final Exam
3.2			
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
4.1		<i>Course lectures, tutorials, assignments</i>	Quizzes Assignments Midterm Exam Final Exam
4.2			
<b>5.0</b>	<b>Psychomotor</b>		
5.1			
5.2			

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)								
	1.1	1.2		2.1		3.2		4.1	
1.1									
2.1									

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1			
2			
3			
4			
5			
6			

7			
8			

#### D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Office hours between 2-4 hours per week.

#### E Learning Resources

1. List Required Textbooks

2. List Essential References Materials (Journals, Reports, etc.)

[Distributed Algorithms: An Intuitive Approach, 2013, Wan Fokkink](#)

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

#### F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture room (max 40 students)
2. Computing resources (AV, data show, Smart Board, software, etc.)
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

#### G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching
2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department
3 Processes for Improvement of Teaching

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Name of Instructor: \_\_\_\_\_

Signature: \_\_\_\_\_ Date Report Completed: \_\_\_\_\_

Name of Course Instructor \_\_\_\_\_

Program Coordinator: \_\_\_\_\_

Signature: \_\_\_\_\_ Date Received: \_\_\_\_\_