Kingdom of Saudi Arabia
National Commission for
Academic Accreditation & Assessment

المملكــة العربيــة السعوديــة
الهيئــة الوطنيــة للتقويــم
والاعـتـمــاد الأكـاديـمــي

ATTACHMENT 5.

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

T6. Course Specifications
(CS)

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Course Specifications

Institution	Umm Al Qura University	Date Apr 15th, 2016

College/Department College of Computers and Information Systems/ Computer Science

A. Course Identification and General Information

1. Course title and code: Big Data Analytics 14014305-3
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 Mohamed Abdurrahman
5. Level/year at which this course is offered 4th year / (level 9 or 10)
6. Pre-requisites for this course (if any) 14014302-3 Database II
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   What percentage?   b. blended (traditional and online)   What percentage?   c. e-learning   What percentage?   d. correspondence   What percentage?   f. other   What percentage?   Comments:

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B Objectives

1. What is the main purpose for this course?
Storage, retrieval, analysis, and knowledge discovery using Big Data has made significant inroads in several domains in industry, research, and academia. In this course, we will look at the dominant software systems and algorithms for coping with Big Data. Topics covered include scalable computing models, large-scale non-traditional data storage frameworks including graph, key-value, and column-family storage systems; data stream analysis; scalable prediction models and in-memory storage systems
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)

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

Course Description:

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
Batch computing models for Big Data computing	1	2
Key-value storage systems	2	2
Scalable prediction models	2	2
Distributed file systems	3	2
Scalable data analytics	3	2
Data models	3	2
Realtime data stream analytics		
Frameworks for the graph data analytics In-memory distributed data storage systems		

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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

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	**Knowledge**		
1.1		*Course lectures, tutorials, assignments*	*Quizzes Assignments Midterm Exam Final Exam*
1.2			
2.0	**Cognitive Skills**		
2.1		*Course lectures, tutorials, assignments*	Quizzes Assignments Midterm Exam Final Exam
2.2			
3.0	**Interpersonal Skills & Responsibility**		

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3.1		*Course lectures, tutorials, assignments*	Quizzes Assignments Midterm Exam Final Exam
3.2			
4.0	**Communication, Information Technology, Numerical**		
4.1		*Course lectures, tutorials, assignments*	Quizzes Assignments Midterm Exam Final Exam
4.2			
5.0	**Psychomotor**		
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			

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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.)
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)   Big Data, Data Mining, and Machine Learning: Value Creation for Business Leaders and Practitioners, 2014, Jared Dean Big Data, Mining, and Analytics: Components of Strategic Decision Making, 2014 Stephan Kudyba
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.

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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) Computer lab (max 20 students)
2. Computing resources (AV, data show, Smart Board, software, etc.) Apache Hadoop cluster
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

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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: _____