

**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 14/4/2016
College/Department College of Computers and Information Systems	

### A. Course Identification and General Information

1. Course title and code: 14014308-3 Information Retrieval Systems			
2. Credit hours: 3			
3. Program(s) in which the course is offered. Computer Science			
4. Name of faculty member responsible for the course Shady Elsaid			
5. Level/year at which this course is offered 4th year / (level 9 or 10)			
6. Pre-requisites for this course (if any) 14013103-4 Advanced Programming			
7. Co-requisites for this course (if any)			
8. Location if not on main campus Al-Abidia, Al-Zaher			
9. Mode of Instruction (mark all that apply)			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

## B Objectives

### 1. What is the main purpose for this course?

- Explain the concepts of indexing, vocabulary, normalization and dictionary in Information Retrieval
- Define a Boolean model and a vector space model, and explain the differences between them
- Explain the differences between classification and clustering
- Discuss the differences between different classification and clustering methods
- Choose a suitable classification or clustering method depending on the problem constraints at hand
- Implement classification in a Boolean model and a vector space model
- Implement a basic clustering method
- Give account of a basic spectral method
- Evaluate information retrieval algorithms, and give an account of the difficulties of evaluation

### 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)

Discussion sessions should be held to find out newest updates regarding topics being instructed.

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

### Course Description:

The Internet is the world's largest collection of information. Search engines are the key enabling technology to help users to find useful material among the billions of available resources.

In this course a student will learn about the techniques used to retrieve useful information from repositories such as the Web.

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
Boolean retrieval	1	3
Term vocabulary and posting lists	2	6
Dictionaries and tolerant retrieval	2	6
Index construction and compression	2	6
Term scoring, weighting, and vector space model	1	3
Computing scores in a complete search systems	1	3
Information retrieval evaluation	1	3
XML Retrieval	2	6
Web search basics	2	6

2. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	42					
Credit	3					

3. Additional private study/learning hours expected for students per week.

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
<b>1.0</b>	<b>Knowledge</b>		
1.1	Explain the capabilities and limitations of information retrieval systems.	Lecture	Exams
1.2	Define the components of an information retrieval system.	Lecture	Exams
1.3	Identify current research problems in information retrieval	Lecture	Exams
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1	Design and implement retrieval systems for text and other media	Lecture	Exams
2.2	Evaluate the performance of an information retrieval system	Lecture	Exams
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.1	Report trends in the information retrieval and storage.	Lecture	Research Report
3.2	Report alternatives of retrieval techniques and output presentation.	Lecture	Research Report
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
<b>5.0</b>	<b>Psychomotor</b>		

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	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	5.1
<b>1.1</b>	I	P										
<b>1.2</b>	P				P						P	
<b>1.3</b>				I						P		
<b>2.1</b>			P									
<b>2.2</b>			P							P		
<b>3.1</b>								P		P		
<b>3.2</b>								P		P		

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	Research Report 1	7	15%
2	Midterm	8	30%
3	Research Report 2	14	15%
4	Final exam	16	40%

#### 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)

6 office hours

#### E Learning Resources

##### 1. List Required Textbooks

An Introduction to Information Retrieval  
Christopher D. Manning, Prabhakar Raghavan, Hinrich Schütze

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

##### 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.) Classrooms
2. Computing resources (AV, data show, Smart Board, software, etc.) Data show
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 Questionnaire
2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department Questionnaire evaluation with respect to CLOs
3 Processes for Improvement of Teaching Continuous learning to be updated with modern teaching techniques
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)  Remarking of samples of students' work with another staff member with respect to a model answer and marking scheme.
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.  A staff member feedback after midterm and final exams

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

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

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

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

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