

4/1/4. Course Specification:

COURSE SPECIFICATIONS

Form

Course Title: Capstone Project

Course Code: 14016463-6

Date: 2018 –10 – 21.

Institution: Umm Al-Qura University

College: College of Computer and Information Systems Department: Department of Computer Science

A. Course Identification and General Information

1. Course title and code: Capstone Project 14016463-6

2. Credit hours: 6

3. Program(s) in which the course is offered. Master of Computer Science (Artificial Intelligence)
(If general elective available in many programs indicate this rather than list programs)

4. Name of faculty member responsible for the course Dr. Murtaza Ali Khan

5. Level/year at which this course is offered: 4

6. Pre-requisites for this course (if any):

7. Co-requisites for this course (if any):

8. Location if not on main campus:

9. Mode of Instruction (mark all that apply):

- | | | | |
|-------------------------------------|----------------------|-------------|----------------------------------|
| a. Traditional classroom | <input type="text"/> | percentage? | <input type="text"/> |
| b. Blended (traditional and online) | <input type="text"/> | percentage? | <input type="text"/> |
| c. E-learning | <input type="text"/> | percentage? | <input type="text"/> |
| d. Correspondence | <input type="text"/> | percentage? | <input type="text"/> |
| f. Other | <input type="text"/> | percentage? | <input type="text" value="100"/> |

Comments:

B Objectives

1. The main objective of this course

The main objective of Capstone Projects to provide students an opportunity to investigate a real-life problem, related to their field of study, and find its solution that demonstrate the skills they learnt during the master program. The project requires students to work independently on an area of interest with the support of an advisor.

2. Describe briefly any plans for developing and improving the course that are being implemented. (e.g. increased use of the IT or online reference material, changes in content as a result of new research in the field)

A committee will be formed to evaluate the proposals of research projects. To improve the quality of research, the committee may ask to enhance to scope of a research project. Students will be encouraging to choose research project from the latest trends in the field of Artificial Intelligence.

C. Course Description (Note: General description in the form used in the program's bulletin or handbook)

Course Description:

For research project, each student must choose a topic related to Artificial Intelligence, which he/she would like to do a scientific research project. A student can select his/her one's own topic or guided by a faculty member to choose a research topic. The student must take initiative in finding advisor who will guide him/her during are research project. The main parts of a research project are: doing actual research, implementation (e.g., programming), writing about the results, and presenting the results.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
TBA (To Be Announced)		

2. Course components (total contact and credit hours per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other	Total
Contact Hours	Planned	As needed					As needed
	Actual	As needed					As needed
Credit	Planned	3					3
	Actual	3					3

3. Individual study/learning hours expected for students per week.

9-12

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategies

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 targeted learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy should fit in together with the rest to form an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Curriculum Map

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	An ability to recognize the use of Artificial Intelligence in solving real life problems	Discussion with advisor	Seminar Presentation
1.2	An ability to identify current techniques, skills, and tools necessary for the development of computer-based systems	Discussion with advisor	Seminar Presentation
2.0	Cognitive Skills		
2.1	Design, implement and evaluate Artificial Intelligence related system, process, component, or program to meet desired needs.	Discussion with advisor	Seminar Presentation
2.2	Investigate real world problems in the context of Artificial Intelligence and design innovative solutions	Discussion with advisor	Seminar Presentation
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate own learning and professional development	Discussion with advisor	Seminar Presentation
3.2	Work effectively in groups to accomplish a common goal and show leadership qualities	Discussion with advisor	Seminar Presentation
3.3	Act ethically and responsibly with high moral standards	Discussion with advisor	Seminar Presentation
4.0	Communication, Information Technology, Numerical		
4.1	Ability to communicate clearly in oral and written form with range of audiences	Discussion with advisor	Seminar Presentation
4.2	Use of latest information technologies	Discussion with advisor	Seminar Presentation
4.3	Demonstrate the ability to use mathematical and statistical techniques in the design and analysis of intelligent systems	Discussion with advisor	Seminar Presentation

5.0	Psychomotor (if any)		
5.1	Ability to operate and construct necessary tools required for computing system	Discussion with advisor	Seminar Presentation

5. Assessment Task Schedule for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Presentation of Research Project	1-14	100%

D. Student Academic Counseling and Support

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

- v. Office Hours for student counseling and support – Three hours/week
- vi. Availability of teaching Staff on e-learning resources like uqu20/Piazza

E Learning Resources

1. List Required Textbooks

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

- iii. Recent Papers in Artificial Intelligence Research

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

- v. The IEEE Computer Society
<https://www.computer.org/>
- vi. Association for Computing Machinery
<https://www.acm.org/>

4. 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.)

- v. Seminar room

2. Technology resources (AV, data show, Smart Board, software, etc.)

- vi. Whiteboard
- vii. Internet connection

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Procedures

1. Strategies for Obtaining Student's Feedback on Effectiveness of Teaching

- iii. At the end of semester, course evaluation forms will be filled by the students electronically or on paper. The evaluation forms will be anonymous.

2. Other Strategies for Evaluation of Teaching by the Instructor or the Department

<ul style="list-style-type: none"> v. Course file of the course will be maintained and evaluated by some senior faculty member. vi. Instructor evaluation is performed for every semester
<p>3. Procedures for Teaching Development</p> <ul style="list-style-type: none"> iii. Constant reading of new books and research papers, attending related conferences and workshops, participation in the research groups and blogs etc.
<p>4. Procedures for Verifying Standards of Student's Achievement (e.g. check marking by an independent member teaching staff of a sample of student's work, periodic exchange and remarking of tests or a sample of assignments with staff members at another institution)</p> <ul style="list-style-type: none"> v. A random sample from the marked papers may be evaluated by an independent senior faculty member. vi. Departmental quality assurance committee can review the students grades and course files to make sure that high standard of teaching is maintained.
<p>5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for developing it.</p> <ul style="list-style-type: none"> v. Department has curriculum committee that periodically review courses. vi. Faculty council review offer program as per need.

Name of Course Instructor: Dr. Murtaza Ali Khan

Signature: Murtaza Ali Khan **Date Completed:** Oct. 22, 2018

Program Coordinator: _____

Signature: _____

Date Received: _____