Ministry of Higher Education and Scientific Research

Supervision and Scientific Evaluation Body

Quality Assurance and Academic Accreditation Office

Course Description Sample

Subject: Multimedia Computing

This course description provides a concise summary of the main features of the course and the learning outcomes expected of the student, demonstrating whether the student has made the most of the learning opportunities available. It must be linked to the programme description.

1. Educational Institution	Shatt Al Arab University College
2. Department / Center	Computer Techniques Engineering
3. Course Title /Code	Multimedia Computing
4. Lecturer Name	Dina Ayad AbdulJabbar Dhahi
5. Type of Teaching	Weekly
6. Academic Year /Term	Two semesters / Fourth academic year
7. Total No. of Teaching Hours	120 hours (2 theory + 2 practical)
8. Date f Preparing this Course Description	2024/10/10

9. **Course Objectives**

Clarify the concept of multimedia along with an explanation of its applications and components.

10. **Course Output, Methodology and Evaluation**

(A) **Cognitive Objectives**

If the student successfully completes this course, they will be able to:

1. Identify the basic concepts of multimedia computing.
2. Distinguish between the different and varied components of multimedia.
3. Describe the various forms of data representation and the sub-types of each form.
4. Use methods and algorithms for performing some basic processing in the field of multimedia, such as:
    - Arithmetic and Logical operations on images
    - Image histogram modification and equalization
    - Image, Audio, and Video compression

(B) **Skill Objectives Related to the Program**:

If the student successfully completes this course, they will be able to:

1. Identify the appropriate file formats used to represent data in its various forms.
2. Apply algorithms and techniques used in image processing and file compression of various types and formats.
3. Build integrated programs using MATLAB commands and functions to implement the mentioned algorithms and techniques.
4. Analyze the results of the mentioned algorithms and techniques for performance evaluation.
5. Use HTML commands to build web pages containing multimedia.

Methods of Teaching and Learning

1. Theoretical presentation of the course syllabus.
2. Group discussions on practical application examples.
3. Writing and practically applying programs in the lab.

Methods of Evaluation

1. Written tests (midterm and surprise).
2. Direct oral questions through discussions during lectures.
3. Practical tests (midterm and surprise) in the lab.

(C) **Sentimental and Value Objectives**

If the student successfully completes this course, they will be able to:

1. Recognize the requirements of the engineering profession and the ethical responsibility, in addition to the need for lifelong learning to enhance self-capabilities scientifically and practically.
2. Connect life problems with suitable programming solutions for each problem.

Methods of Teaching and Learning

Students are assigned to tackle a practical applied problem in their specialization and analyze the problem during their study period, then design a suitable solution, and finally implement the solution programmatically according to economic and realistic standards.

Methods of Evaluation

Results will be presented for class discussion and shared with other students.

D) **General and Qualitative Skills (other skills related to the ability of employment and personal development)**

1. Build ideas and communicate them effectively verbally and in writing.
2. Manage time and work within deadlines.
3. Participate constructively in groups.

11. **Course Structure**

Week	No of Hours	Required Learning Output	Title of Subject	Teaching Method	Evaluation
1-2	4 theoretical + 4 practical	that He is student Able to understand the basics of media Multiple	Introduction to Multimedia HyperText and HyperMedia	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework
6-3	8 theoretical + 8 practical	that He is student capable that He remembers Types , Components and Applications of Media Multiple	Components of Multimedia Multimedia Research Topics and Projects Multimedia Applications Multimedia on the web	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework
7	2 theoretical + 2 practical	that He is student Able to distinguish between species Different For data Media Multiple	Multimedia Data Basics	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework
8-13	12 theoretical +	that He is student Able to that Understand Image Properties Graphics	Graphics and Image Data Representation (1) Graphics and Image Data Representation (2)	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework

	12 practical	features and that distinguish differences existing Between them, as well To be understood How to acting the pictures Digitally And its types	Image Digitization Spatial resolution and quantification Type of Image Image file formats		
14-19	12 theoretical + 12 practical	that He is student Able to that Applies Mathematical operations And logical which can Implement it on ctures, in addition to operations Other Associated By processing The histogram Image the , student will also Applies And analyzes Roads used in pressure the pictures	Arithmetic operation on image Logical operation on image Image histogram Histogram modification and histogram equalization Image compression techniques (1) Image compression techniques (2)	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework
20-24	10 theoretical + 10 practical	that He is student Able to that Understand File properties Sound and distinguish its types, And also on To understand How to acting Files Sound Digitally	Sound and Audio Basics Digitization of Sound Nyquist Theorem Synthetic Sound Quantization and transmission of audio	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework

25	2 theoretical + 2 practical	that He is student Able to that Applies Methods used to compress audio files, as well as that Analyze This is amazing Ways and features features Each one From it For the purpose Rate it	Compression of Audio	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework
26-28	6 theoretical + 6 practical	that He is student Able to understand the properties of files Video and that Distinguish between its types, and also understand it . How to acting Files Video Digitally	Video Basics Video Color Models Types of Video Signals	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework
29	2 theoretical + 2 practical	that He is student Able to that Applies Methods used to compress files Video, as well as on that Analyze This is amazing Ways and features features all one From it For the purpose Rate it	Video Compression	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework
30	2 theoretical + 2 practical	that He is student Able to understand the basics and characteristics of media networks . Multiple	Multimedia over networks	Theoretical presentation using diagrams Illustration + practical lectures + seminars Discussion	Achievement test + discussion and question + homework

12.**Infrastructure**

a. Textbooks	
b. References	1. Electrical Technology B.L Theraja 2. Electric Circuit , Schaums outline Series
c. Recommended books and periodicals (journals, reports, etc.)	
d. Electronic references, internet websites, etc	Google

13. **The Plan of Improving the Course**

11. Structure Infrastructure	
Fundamentals of "Multimedia" , Ze-Nian Li, Mark S. Drew Prentice Hall, 2004.	1-Books The reporter Required
	2-the reviewer Home (Sources)
▪ **"Digital Image Processing Using MATLAB** ", Rafael C. Gonzalez, Richard E. Woods, and Steven L. Eddins, Prentice Hall, 2004. ▪ **Digital video processing** A. M. Tekalp , Prentice Hall, 2005. ▪ **"The data compression book"** , Mark Nelson, Imprint: M & T Books, Publisher: IDG Books Worldwide, Inc., January 1, 1991.	A Books References that Recommended With it(Fields Scientific , Reports)
Multimedia Tutorial " tutorialspoint . https:// www.tutorialspoint.com//multimedia/index.htm	for - the reviewer electronic , Sites The Internet....

12. plan development The decision Academic
changing Vocabulary the plan Academic For the decision So that It is done the focus In a way greater on Applications Media Multiple in area Internet And phones Smart.