FUTURE UNIVERSITY IN EGYPT
جامعة المستقبل

Faculty of Computers and Information Technology

Multimedia

Information :

Course Code :	DM442	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Digital Media Technology

Instructor Information :

Title	Name	Office hours
Professor	NEVEEN IBRAHIM MOHAMED GHALI	
Teaching Assistant	Hoda Ahmad Moustafa Abdelrahman Ismail	
Teaching Assistant	Mona Mohamed Mohamed Ali Almakhton	
Teaching Assistant	Debaj Shady Mahmoud Talha Mohamed Elmaghraby	

Area Of Study :

ÅUnderstand knowledge that enhances skills in fundamental area of multimedia.
ÅUse and adopt fundamental and advanced mathematics, basic sciences and computer science theories in all development phases of multimedia systems.
ÅUse all available principles and tools to develop multimedia systems.
ÅComprehend deeply the basic concepts of multimedia to be ready for further and continuous learning.
ÅDevelop and evaluate multimedia components

Description :

Introduction to multimedia systems, Media Types, Digital Audio, Digital video, Lossy and lossless data compression, Predictive coding techniques, Transform coding techniques, Scalar and vector quantization, Entropy encoding, Huffman coding, Arithmetic coding, Adaptive techniques, Dictionary based coding (LZ11- LZ78- LZW), JPEG compression, Motion estimation and compensation in video, MPEG compression, Wavelet coding, multimedia databases, Network considerations for multimedia transmission. Screen Resolution And Screen Technology, Video Accelerator Design System, Vaster Graphics (3d- Transformation), Analog to Digital Conversation, Video Compression, Mixing and Displaying at 30 FPS with Full Color Capacity, Physics Of Sound, Sound Cards, Sound Cards Limitations

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Discuss the fundamental mathematics and statistics required to solve problems in multimedia
2 -	Illustrate the basic concept of high level programming languages
3 -	Explain different concepts and theories related to multimedia systems.
b.Intellectual Skills: :	
1 -	Illustrate a set of alternative solutions for a given problem associated with their results for multimedia systems
2 -	Select appropriate methodologies and techniques for a given problem solution and setting out their limitations, restrictions and errors for multimedia systems

3 -	Analyze different solutions using well-defined criteria for multimedia systems
4 -	Classify methods, techniques and algorithms used in for multimedia systems
c.Professional and Practical Skills: :	
1 -	Deploy effective supporting tools to implement and test multimedia systems
2 -	. Apply effective information to learn multimedia programming languages and different supporting tools
3 -	Use human computer interaction principles in the construction and evaluation of user interfaces for wide ranges of applications for multimedia systems
d.General and Transferable Skills: :	
1 -	Work in a team to develop the requirement documentation
2 -	Apply communication skills in presentations and report writing using various methods and tools
3 -	Apply quantitative methods and skills in understanding and presenting cases

ABET Course outcomes :	
1 -	Demonstrate adequate understanding of the knowledge that enhances skills in fundamental area of multimedia.
2 -	Use and adopt fundamental and advanced mathematics, basic sciences and computer science theories in all development phases of multimedia systems.
3 -	Use all available principles and tools to develop multimedia systems. Comprehend deeply the basic concepts of multimedia to be ready for further and continuous learning.
4 -	Develop and evaluate multimedia components.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to Multimedia and concepts of data representation, lossy and lossless data.	4	2	2
Basics of Digital Text, Audio, Image, and Video	4	2	2
Text data: concepts, creation, editing	4	2	2
Image creation & editing	4	2	2
Planning and Costing for Multimedia development projects: scheduling, estimating, RFPs	4	2	2
Developing Multimedia: design, creativity, content, team work, etc	4	2	2
Editing and authoring tools	4	2	2
Content and talent acquisition: Content acquisition, ownership and talent acquisition	4	2	2
Mid Term	2		
Content Based Media Retrieval	4	2	2
Multimedia and Human Computer Interfaces	4	2	2
Multimedia project delivery	4	2	2
Practical Exam	4	2	2
Final Exam	2		

Teaching And Learning Methodologies :

Interactive Lectures including discussion

Practical Exam
Self-Study (Project / Reading Materials / Online Material / Presentations)
Others (Participation)

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00	14	
Midterm Exam (s)	20.00	9	
Others (Participation)	10.00		
Practical Exam	20.00	13	
Presentations	5.00		
Research and Reporting	5.00		

Course Notes :

Course Notes are available with all the slides used in lectures in electronic form on Learning Management System (Moodle)

Recommended books :

Tay Vaughan, Multimedia: Making It Work, McGraw-Hill, latest edition.

Web Sites :

prezi.com