





Course Specification

- (Postgraduate Programs)

Course Title: Multimedia Systems Design

Course Code: 0912628 (IS-628)

Program: Master in Computer Information Systems

Department: Information Systems

College: College of Computer Sciences and Information Technology

Institution: King Faisal University

Version: V 1.0

Last Revision Date: 20 April 2024







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A. General information about the course:

1. Course Identification:

1. Credit hours: (3)

Α.	□University	⊠ College	□Depa	rtment	□Track	
B.	□Required			🛛 Elect	ive	
3. Level/year at which this course is offered: (3 rd / 4 th Level)						

4. Course general Description:

Multimedia systems explores the fundamental aspects of multimedia computing, including multimedia operating systems, networking, communication, and middleware. This course provides a comprehensive understanding of multimedia applications by integrating user interface development with underlying system components such as operating systems, networks, security, and multimedia devices. The course is structured into two main parts. The first part covers the design and construction of multimedia delivery systems, including human perception, data coding, and storage techniques to ensure realistic multimedia experiences. The second part focuses on advanced concepts for achieving true multimedia computing, emphasizing the generation and interaction with multimedia content.

5. Pre-requirements for this course (if any):

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

None

7. Course Main Objective(s):

By the end of the course, students will not only gain technical skills to design multimedia systems but also explore future trends in multimedia computing, preparing them for advancements in the field.

2. Teaching Mode: (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom		40%





No	Mode of Instruction	Contact Hours	Percentage
2	E-learning		60%
3	HybridTraditional classroomE-learning		
4	Distance learning		

3. Contact Hours: (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	45
2.	Laboratory/Studio	0
3.	Field	0
4.	Tutorial	0
5.	Others (specify)	0
	Total	45

B. Course Learning Outcomes (CLOs), Teaching Strategies and

Assessment Methods:

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and unders	standing		
1.1	Explain the fundamental concepts of multimedia computing and security.	K1	Lecture	Assignments Exams
2.0	Skills			
2.1	Design and develop multimedia applications by integrating user interfaces with underlying system components such as operating systems,	S2, S4	Lecture Course Project	Assignments Exams Project Evaluation





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	networks, and multimedia devices.			
2.2	Apply appropriate data coding, storage, and processing techniques to enhance the realism and efficiency of multimedia content delivery.	S2, S4	Lecture Course Project	Exams Project Evaluation
3.0	Values, autonomy, and responsibility			
3.1	Recognize the ethical, legal, and security considerations in multimedia system development and their impact on users and society.	V1	Lecture Course Project	Exams Project Evaluation

C. Course Content:

No	List of Topics	Contact Hours
1.	Introduction to Multimedia and Design	3
2.	Multimedia Operating Systems, Networking and Communications	3
3.	Perception and Data Coding	3
4.	Organizing and Delivering Multimedia Objects	3
5.	Hardware to Support Multimedia Systems	3
6.	Multimedia Interactivity	3
7.	Speech Generation	3
8.	Speech Recognition	3
9.	Gesture Recognition	6
10.	Motion Following and Interpretation	6
11.	Synthesizing a Visual Response	3
12.	Advanced Topic on Current Multimedia Systems	3
13.	Project Presentations	3
	Total	45





D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework Assignments	8 th	10%
2.	Technical Research Report	14 th	20%
3.	Mini Development Project	14 th	5%
4.	Mid Term Exam	9 th	25%
5.	Final Exam	$15^{th} - 16^{th}$	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities:

1. References and Learning Resources:

Essential References	Tim Morris, "Multimedia Systems Delivering, Generating and Interacting with Multimedia", 2000, Springer London.		
Supportive References	 Multimedia Systems, Ralf Steinmetz, Klara Nahrstedt, Springer Verlag, 2004 		
Electronic Materials			
Other Learning Materials			

2. Educational and Research Facilities and Equipment Required:

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Sufficient seats (typically 20) as per student registration required in the lecture
Technology equipment (Projector, smart board, software)	Data show needed to demonstrate in the class.
Other equipment (Depending on the nature of the specialty)	Not required

F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Survey (Indirect)
Effectiveness of students assessment	Students	Survey (Indirect)
Quality of learning resources	Faculty	Rubrics (Direct)
The extent to which CLOs have been achieved	Faculty	Rubrics (Direct)





Assessment Areas/Issue	es	Assessor	Assessment Methods	
Other				
Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))				
Assessment Methods (Direct, Indirect)				
G. Specification Approval Data:				
COUNCIL/COMMITTEE	Information Systems Department Council			
REFERENCE NO.				
DATE				

