



T-104
2022

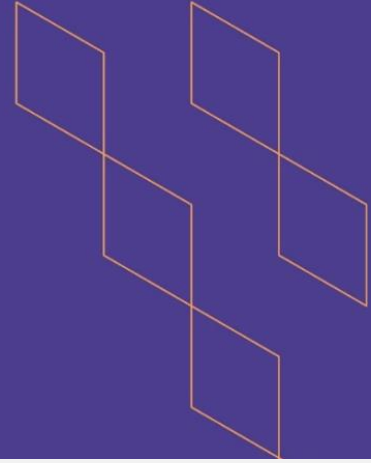
Course Specification





T-104
2022

Course Specification



Course Title: Computer Graphics and Multimedia
Course Code: 2314 CIS
Program: Information Systems
Department: NA
College: Applied College
Institution: King Khalid University
Version: 1
Last Revision Date: 6 August 2023



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A. General information about the course:

Course Identification

1. Credit hours:

2. Course type

a. University College Department Track Others

b. Required Elective

3. Level/year at which this course is offered:

3rd Level

4. Course general Description:

Graphics, animation and video software are rapidly growing sector of business technology. Graphics such as cartoons, drawings and photographs are used to enhance presentations, publications and Web pages. Students will learn to use graphics, animation and video in a variety of applications. This course includes individual and integrated coverage of all related topics of multimedia.

5. Pre-requirements for this course (if any): **1331CIS**

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

7. Course Main Objective(s):

This Course provides students with graphics and multimedia overview, including image, video, audio and 2D/3D graphics processing techniques. The course is designed to teach the students overall understanding of Multimedia fields, systems and applications, the fundamentals knowledge about the components of multimedia, media formats, compression standards.

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	64	100
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> ● Traditional classroom ● E-learning 		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	32





2.	Laboratory/Studio	32
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	64



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 understanding			
1.1	Define Graphics and multimedia fundamentals.	k1	Lectures + Lab	Exams, Assignments, Quizzes
1.2	Understand the Inter-media and Intra-media issues for authoring multimedia contents.	k2	Lectures + Lab	Exams, Assignments, Quizzes
1.3	Describe various computer graphics and multimedia tools.	k1 k2	Lectures + Lab	Exams, Assignments, Quizzes
1.4	Understand the applications of linear algebra for graphics.	K3		
2.0	Skills			
2.1	Apply different drawing algorithms.	s2	Lectures + Lab	Exams, Assignments, Quizzes
2.2	Justify the compression necessity and compare the state-of-the-art compression techniques.	s3	Lectures, Lab, group discussion	Exams, Assignments, Quizzes
2.3	Compare and Apply illumination models & their effects.	s1	Lectures, Lab, group discussion	Exams, Lab Assignments, Quizzes
2.4	Compose 2D and 3D transformation.	s4		
3.0	Values, autonomy, and responsibility			
3.1	Use OpenGL, MATLAB & Macromedia Flash to practice theoretical concepts	v1	Lectures, Lab, Case Study	Exams, Assignments and presentation
3.2	Use the impact of multimedia including graphics dissemination with effective skills	v2	Presentations, Lab	Exams, Assignments and presentation

C. Course Content

No	List of Topics	Contact Hours
1	Graphics Overview	3
2	Creating Special Effects	3



3	Animations and Enhancing Animations	3
4	Action Scripts	3
5	Drawing Algorithms, Illuminations Models, 2D, 3D Transformations	8
6	Linear Algebra for Graphics: (Points, Scalars, Vectors)	3
7	Introduction to Multimedia, Media Representation & Media Formats	4
8	Multimedia Authoring	3
9	Overview of Compression	2
Lab Topics		
1	Introduction to Flash, knowing your workspace, Working with text	4
2	Working with Pictures	4
3	Motion Tween and Shape Tween	4
4	Combining effects of Motion and Shape Tween	4
5	Action Script	5
6	MATLAB introduction, Drawing Algorithms of line circle, ellipse,	5
7	Open GL	3
8	2D, 3D Transformations	3
Total		64

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz 1	4	5
2.	Midterm Exam 1	7	10
3.	Practical Assessment	1 to 16	30
4.	Midterm Exam 2	12	10
5.	Quiz 2	14	5
6.	Final Exam	After week 16	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	<p>Computer Graphics and Multimedia by Tarun Kumar Ghosh 2017 ISBN-13: 978-8187972648</p> <p>Edward Angel, Dave Shreiner (2011) Interactive Computer Graphics: A Top-Down Approach with Shader-based OpenGL (Sixth Edition), Addison/Wesley, (ISBN-10: 0132545233)</p>
Supportive References	<p>Computer Graphics and Multimedia: Applications, Problems and Solutions ISBN-13: 978-1591402664</p> <p>Graphics and Animation Basics by Weixel and Morse Fundamentals of Computer Graphics 4th Edition ISBN-13: 978-1482229394</p>
Electronic Materials	<p>https://www.cengage.co.uk https://elc.kku.edu.sa www.tutorialspoint.com/Multimedia www.course.com/Graphics</p>
Other Learning Materials	<p>Database System Concepts: Abraham Silberschatz, Henry F. Korth , S Sudarshan ISBN No:-978-007-128959-7</p>

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> Lecture Room with enough capacity Chairs Projector/Screen. Laboratories with Computers
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> Macromedia Flash Adobe Photoshop Media editing tools Coral Draw Maya SVG (Scalar Vector Graphics)
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect
Effectiveness of students assessment	Course Teacher	Direct
Quality of learning resources	Program Supervisor, Quality Unit	Direct



Assessment Areas/Issues	Assessor	Assessment Methods
The extent to which CLOs have been achieved	Course Teacher	Direct
Other	Course Teacher, Quality Unit	Direct

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	

