Republic of Iraq
The Ministry of Higher Education & Scientific Research
2024-2023

Flow up of implementation syllabus

University: Thi - Qar
College: Pure science
Department: Computer Sciences
Stage: Third
Lecturer name: H. Y. Alshaeaa
Academic Status: Ass. Professor
Qualification: Ph.D
Place of work:

Course Instructor	Hyder Yahya Atwan Alshaeaa				
E_mail	Haideryhya.comp@utq.edu.iq				
Title	Drawings (Computer Graphics)				
Course Coordinator	Annual				
Course Objective	We are defining drawing using a computer and creating and processing drawn images to improve the presentation of computer-generated information and clarify it to the student. In addition to the possibility of the student dealing with two- and three-dimensional images and modifying them by performing some transformation operations.				
Course Description	1 - The student recognizes and understands the subject of drawing (computer graphics). 2 - The student will be recognized with the algorithms used in drawing (point, line, curve, or circle) and their representation by using computers and what are the advantages of these algorithms. 3 - The student will be recognized with different methods in the drawing process and performing two-dimensional (D2) transformations such as (moving, rotating, and scaling...). 4 - The student will learn (How to deal with three-dimensional (3D) transformations and link them to reality?). 5 - The student will be recognized with tripartite modeling, its operations, and its advantages.				
Textbook	• Foley, J. D., Van Dam, A., Feiner, S. K., Hughes, J. F., & Phillips, R. L.(1994). Introduction to computer graphics (Vol. 55). Reading: Addison Wesley. • Foley, J.D., 1996. Computer graphics: principles and practice (Vol.12110). Addison-Wesley Professional. • Sbert, M., Feixas, M., Rigau, J., Chover, M., & Viola, I. (2022). Information theory tools for computer graphics. Springer Nature.				
Course Assessment	Term Tests	Laboratory	Quizzes	Project	Final Exam
	30	15	5	-	50
General Notes					

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Course weekly Outline

Week	Date	Theoretical material	Lab. Experiment Assignments	Notes
1	17/9/2023	Drawing, what is means ? Applications of computer graphics	Application of the theoretical aspect	
2	24/9/2023	Concepts and principles Picture Elements (Pixel) , Screen clarity Necessary requirements for computer graphics	Application of the theoretical aspect	
3	01/10/2023	Computer Graphics Files Bitmap Graphics, Vector Graphics	Application of the theoretical aspect	
4	08/10/2023	1: - Types of the vector graphics: 2: - Unit vector. 3: - Measurement associated with vectors. 4: - Manipulation vectors. 5:- Direction Cosine.	Application of the theoretical aspect	
5	15/10/2023	1. Plotting points. 2. Line Drawing Algorithms: 1. Horizontal and vertical lines. 2. Diagonal lines	Application of the theoretical aspect	
6	22/10/2023	A. Using line equation 'Y=mX+b': B. The simple DDA	Application of the theoretical aspect	
7	29/10/2023	C. Bresenhams line drawing algorithm	Application of the theoretical aspect	
8	05/11/2023	Drawing curves, Drawing circles The polar representation of circles	Application of the theoretical aspect	
9	12/11/2023	Incremental drawing of circles Symmetric of circle points	Application of the theoretical aspect	
10	19/11/2023	Bresenham circle algorithm	Application of the theoretical aspect	
11	26/11/2023	Drawing ellipses : A. The polynomial method of an ellipse	Application of the theoretical aspect	
12	03/12/2023	B. The polar representation of an ellipse C. Incremental method to drawing of ellipse	Application of the theoretical aspect	
13	10/12/2023	2D-Transformations Fundamental Transformation	Application of the theoretical aspect	
14	17/12/2023	A: Translation B: Scaling	Application of the theoretical aspect	
15	24/1/2023	Exams	Application of the theoretical aspect	
16	31/1/2023	Exams	Application of the theoretical aspect	

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Half-year Break

17	28/1/2024	C: Rotation 1:- Rotation about the origin 2:- Rotation about a pivot point	Application of the theoretical aspect	
18	04/2/2024	Inverse transformations Mirror reflection about an axis	Application of the theoretical aspect	
19	11/2/2024	Matrix representation of transformations Mirror about arbitrary line	Application of the theoretical aspect	
20	18/2/2024	Mirror about arbitrary point Shearing	Application of the theoretical aspect	
21	25/2/2024	Introduce for Window and Viewport	Application of the theoretical aspect	
22	03/3/2024	Clipping Polygon	Application of the theoretical aspect	
23	10/3/2024	3D Transformation Coordinate System Modulus of a vector Unit vectors Angles between vectors and axis	Application of the theoretical aspect	
24	17/3/2024	Adding vectors Subtracting vectors Scaling Vectors	Application of the theoretical aspect	
25	24/3/2024	Multiplying vectors uses the "dot Product" Transformation Scaling	Application of the theoretical aspect	
26	31/3/2024	Rotation Rotation about an arbitrary Axis	Application of the theoretical aspect	
27	07/4/2024	Mirror in 3D	Application of the theoretical aspect	
28	14/4/2024	PROJECTS A- Parallel (orthogonal) projection	Application of the theoretical aspect	
29	21/4/2024	B- Perspective projection C - Oblique projection	Application of the theoretical aspect	
30	28/4/2024	Spline Curve	Application of the theoretical aspect	
31	5/5/2024	3D Shapes	Application of the theoretical aspect	
32	12/6/2024	Exams		

تؤيد اللجنة العلمية مطابقة الخطة التدريسية لمفردات منهج المادة الدراسية

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Place of work:

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Instructor Signature(Lab.)

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Instructor Signature(Theoretical)

.....
1st Scientific committee member

.....
2nd Scientific committee member

.....
3rd Scientific committee member

.....
Head of Scientific committee

.....
Dean

ملاحظة: أعدت الاستمارة أستنادا الى كتاب وزارة التعليم العالي والبحث العلمي، جهاز الاشراف والتقويم العلمي، دائرة ضمان الجودة والاعتماد الاكاديمي، قسم تقويم الاداء ..... ج د ت / ١٨٦٠ في تاريخ ٠٢/ ١٠/ ٢٠١٤