Republic of Iraq
The Ministry of Higher Education & Scientific Research

University: University of Technlogy
College: Computer Science
Department: Artificial Intelligent
Stage: 3rd Prog. , info. , A.I, Multimedia
Lecturer name:Dr. Farah Tawfiq
Academic Status: Dr. Lecture
Qualification: Ph.D.
Place of work: Computer Science

Course Outline

Course Instructor	Farah Tawfiq Abdul Hussien
E-mail	Farah.T.Alhilo@uotechnology.edu.iq
Title	Computer Graphic
Course Coordinator	
Course Objective	1-Highlight the student to known between contours computer and graphic computer, recognize the mathematical basics and algorithms applied in the computer. 2-Design software tools that it help computer graphics apply its and build a simple one that Simulate Computer graphic application, and addition that help to explain the cases in this aspect.
Course Description	Knowledge to the introduction of computer graphics and applications and also Known the principle of the Vectors, we can plot basic geometric shapes with forms design and Transformation figure (moving shapes and rotation and scaled and shearing figure). Knowledge of clipping operations within the display window and Mapping operation. Then go to 3D system and know the deal in the previous cases of Transformation with how ways representation 3D in the computer and plot it into the computer and represent its. And other subject is a curve spline such as: Bezier-Spline, B-Spline, Cubic-Spline.
Textbook	s
References	• computer graphics mathematics first step, P. A. Egerto and W. S. Hall, 1998. • Visual Basic game Programming for teens, Jonathan S. Harboor, 2005 • Riškus, "Approximation of a Cubic Bézier Curve by Circular Arcs and Vice Versa", *Information Technology and Control*, 2006 • Juhász, "Approximating the helix with rational cubic Bézier curves" *Computer-Aided Design*, 1995.

Course Assessment	**semester**	**First Semester**	**1Second Semester**	**Laboratories**	**Final Examination**
	First Second	15	15	10	60

General Notes	• Stage:- 3rd that it is Studying on the Branch (**Programmatic** , *System Information* , **Artificial Intelligent** , *Multimedia*). • Was amended on Subject in 30/09/2013 by the subject Instructor, and authentication of the Scientific Committee in the Department of Computer

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First Course weekly Outline

week	Date	Topics Covered	Lab. Experiment Assignments
1	1st week	Introduction{Computer Graphics, Cathode Ray Tube (CRT),Generating color on a RGB monitors, Coordinates system, Raster–can display, Frame Buffer, Scan conversion, Applications of computer graphics }	Mathlab Environment Identify
2	2nd week	Vectors {unit vector, measurement associated with vectors, manipulation vectors, negative vectors and subtracting vectors, scaling Vectors, multiplying vectors uses the "dot Product" & direction Cosine, "cross product" }	Identify Mathlab Objects
3	3rd week	Draw Line {Standard line +DDA+ Bresenham }	Draw Line {Standard line+DDA+ bresenham }
4	4th week	Draw Circle{equation +Circle Polar, Bresenham }	Circle{equation +Circle Polar, bresenham }
5	5th week	Draw ellipse {polynomial + polar}	Draw ellipse{polynomial + polar}
6	6th week	2D-Translate in point	2D-Translate
7	7th week	2D-Rotate in origin + 2D-Rotate in point	2D-Rotate in origin + 2D-Rotate in point
8	8th week	2D-Scaling in origin +2D-Scaling in point	2D-Scaling in origin +2D-Scaling in point
9	9th week	2D-Reflect {X,Y,O}, 2D-Reflect{Y= X, Y= -X},point, Y=mx+b	2D-Reflect {X,Y,O},2D-Reflect{Y= X, Y= -X}
10	10th week	2D-Shear-X, 2D-Shear-Y and 2D-Shear-XY	2D-Shear-X, 2D-Shear-Y and 2D-Shear-XY
11	11th week	Matrix represent 2D-Transformation	Matrix represent 2D-Transformation
12	12th week	Mapping { Windowing and viewport}	Mapping { Windowing and viewport}
13	13 week	Clipping	Clipping
14	14th week	Polygon	polygon
15	15th week	Mid Exam	Lab exam
First Course examination Break			

Instructor Signature: **Dean Signature:**

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