



UNIVERSITI TEKNOLOGI MARA

ECE671: INTRODUCTION TO COMPUTER GRAPHICS

Course Name (English)	INTRODUCTION TO COMPUTER GRAPHICS APPROVED
Course Code	ECE671
MQF Credit	3
Course Description	This course provides an introduction of the major topics in computer graphics. Topics include line drawing, planes, vectors, 2-D and 3-D representation, 2-D and 3-D transformations, 3-D viewing and projection, geometric modeling and rendering
Teaching Methodologies	Lectures, Tutorial
CLO	CLO1 Describe the current computer graphics hardware and software systems. CLO2 Utilize the process of modelling and generating images of 2-D and 3-D objects. CLO3 Implement algorithms for manipulating 2-D and 3-D models.
Pre-Requisite Courses	No course recommendations
Topics	
1. Introduction to Computer Graphics 1.1) Hardware and software systems, techniques and applications.	
2. 2-D Graphics 2.1) Points, lines, planes, and vectors; 2-D and 3-D coordinate transformations and their representation as matrices; 3-D viewing and perspective.	
3. Geometric Modeling 3.1) Modeling hierarchy, facets, polygons, curves, splines, and solids models.	
4. Rendering 4.1) Scan line and ray tracing techniques, camera models and illumination and reflection models for surfaces, shadowing, texture mapping, and anti-aliasing.	
5. GUI, Visualisation, Animation 5.1) GUI concepts and programming; visualisation and animation concepts.	
6. Test 1 6.1) n/a	
7. Test 2 7.1) n/a	
8. Assignment 8.1) n/a	
9. Quizzes 9.1) n/a	
10. Final Examination 10.1) n/a	

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	n/a	10%	CLO2
	Quiz	2 or 3 quizzes	10%	CLO1 , CLO2 , CLO3
	Test	Test 1	20%	CLO1 , CLO2
	Test	Test 2	20%	CLO3

Reading List	Recommended Text	D. Hearn and P. Baker 1997, <i>Computer Graphics</i> , 2nd Edition Ed., Prentice Hall Inc
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	