Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
INF432	Computer Graphics	7	3	0	0	3	4

Prerequisites	
Admission Requirements	

Language of Instruction	French
Course Type	Elective
Course Level	Bachelor Degree
Objective	Offered as an elective to Computer Engineering students, this course provides students with an introduction to graphic programming and introduces different representation and design techniques related to 2- and 3-dimensional object concepts in the light of different architectures. Like this; Students will gain the skills to solve problems related to graphic design and object modeling that they will encounter both in business life and during their academic careers. In this context, we can list the objectives of this course as follows: To students; To provide basic information about mathematical models regarding object design, transformation and reflection, To provide the ability to apply the theoretical background of object and graphic design in the OpenGL environment, To gain the ability to develop up-to-date video-game engines in terms of different objects and graphic architectures, To give an idea about the effects of today's technologies on object and graphic design suitable for changing platforms and architectures.
Content	1. Introduction to OpenGL Programming 2. 3D Graphics System 3. 2 and 3 dimensional object representation 4. Object modeling and rendering 5. Object transformation functions, projection designs 6. Object animation 7. Animation models 8th Midterm Exam 9. Object Oriented Graphic Design 10. Interactive OpenGL Programming 11. Introduction to Different OpenGL Variants: WebGL, OpenGLES, GLSL, JavaScript 12. Game engine architectures 13. 3D stage design, Ray Tracer 14. Projects
References	

Theory Topics

Week	Weekly Contents
1	1. Introduction to OpenGL Programming
2	2. 3D Graphics System
3	3. 2 and 3 dimensional object representation
4	4. Object modeling and rendering

Week	Weekly Contents
5	5. Object transformation functions, projection designs
6	6. Object animation
7	7. Animation models
8	Midterm Exam
9	9. Object Oriented Graphic Design
10	10. Interactive OpenGL Programming
11	11. Introduction to Different OpenGL Variants: WebGL, OpenGLES, GLSL, JavaScript
12	12. Game engine architectures
13	13. 3D stage design, Ray Tracer
14	14. Projects