Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
INF432	Computer Graphics	7	3	0	0	3	5

Prerequisites	
Admission Requirements	
Language of Instruction	French
Course Type	Elective
Course Level	Bachelor Degree
Objective	
Content	1. Introduction to OpenGL Programming 2. 3D Graphics System 3. 2D and 3D Object Representation 4. Object Modeling and Visualization 5. Object Transformation Functions, Projection Designs 6. Object Animation 7. Animation Models 8. Midterm Exam 9. Object-Oriented Graphic Design 10. Interactive OpenGL Programming 11. Introduction to Different OpenGL Derivatives: WebGL, OpenGLES, GLSL, JavaScript 12. Game Engine Architectures 13. 3D Scene Design, Ray Tracer 14. Projects
References	1- Computer Graphics with Open GL, Hearn Baker Carithers, Fourth Edition, Pearson, 2014 2- 3D Computer Graphics, A Mathematical Introduction with OpenGL, Samuel R. Buss, Cambridge University Press 2003 3- WebGL Programming Guide: Interactive 3D Graphics Programming with WebGL, Kouichi Matsuda, Rodger Lea Addison Wesley, 2013 4-Mathematics for 3D Game Programming and Computer Graphics Third Edition, Eric Lengyel, Course Technology, 2012

Theory Topics

Week	Weekly Contents
1	Introduction to OpenGL Programming
2	3D Graphics System
3	2D and 3D Object Representation
4	Object Modeling and Visualization
5	Object Transformation Functions, Projection Designs
6	Object Animation
7	Animation Models
8	Midterm Exam
9	Object-Oriented Graphic Design
10	Interactive OpenGL Programming

Week	Weekly Contents
11	Introduction to Different OpenGL Derivatives: WebGL, OpenGLES, GLSL, JavaScript
12	Game Engine Architectures
13	3D Scene Design, Ray Tracer
14	Projects