EC-301 Computer Graphics - Course Contents

Reduction in Credit Hours (Theory)

a. **Credit Hours:** 2+1

b. **Objectives:**

The objective of this course is to give students an in depth knowledge of the algorithms running behind all the user interfaces, the image and video editing tools, 2D and 3D object designing and rendering structures.

c. **Outcomes**

Student will be able to develop skills for designing their own algorithms for designing the 3D scenes and render them into a visually attractive movie, or a graphical interface for a game etc.

d. **Contents with proposed contact hours**

1) Basics of Graphics
2) Drawing primitive shapes
3) Designing various fonts & texts
4) Ray tracings
5) Hidden surface removals
6) Anti aliasing
7) Polygon drawing
8) Clipping and Pipelines
9) Key frames for animations
10) Shadows and Lighting Effects

e. **Details of lab work/workshop practice**

1) The lab will cover the algorithm development part of all the theoretical topics covered in the class.
2) The lab mainly uses tools of OPENGL development in Visual C++.

f. **Recommended reading, including textbooks, reference books**

The textbook being used is “Computer Graphics: C Version” by Donald Hearn, Pauline Baker,

2nd Edition.