**CSC 3105 Computer Graphics**

(a) Description

The course covers general purpose graphics systems and their use. It gives an in depth knowledge of computer graphics and graphical user interfaces.

(b) Aims

The aims of the course are:

*•* Introduce students to the concepts of graphical representation on computers

*•* Teach students the design of good graphical user interfaces

(c) Teaching and Learning Pattern

Teaching will be in terms of class lectures and tutorials

(d) Indicative Content

*•* Graphics hardware,

*•* Geometrical transformations,

*•* Surface and volume visualization,

*•* Design and implementation of graphical user interfaces.

*•* Two dimensional imaging processes.

*•* Computer graphics applications.

*•* Display system organization;

*•* Display devices and modes;

*•* Display file construction and its structure;

*•* Graphic primitive - device initialization,

*•* view porting and windowing;

*•* Line drawing,

*•* simple and symmetrical Digital Differential Analysis (DDA);

*•* Arch and circle generating DDA Line; and polygon clipping algo- rithms;

*•* Curve plotting;

*•* Transformations- projections and perspective views;

*•* Picture segmentation: Graphics standards - PHIGS and GKS.

(e) Assessment method Assessment will be in terms of assignments and tests (40%) and final exam (60%)

(h) Reading lists

(i) Introduction to Computer Graphics by James D. Foley, Andries van Dam, Steven K. Feiner, John F. Hughes and Richard L. Phillips, Addison Wesley, 2003.

(ii) Fundamentals of Computer Graphics by Peter Shirley. AK Peters,

2002.