**CSC 2200 Operating Systems (3 CU)**

**Course Description:** This course introduces students to software that controls hardware and makes the hardware usable. Its interaction with other computer devises and how it controls other computer processes is explored.

**Aims**: The course aims to:

• Provide students with a detailed understanding of how operating systems work

• Provide students with skills to write basic programs to utilize underlying operating system infrastructures.

**Learning outcomes**: The dominant categories of operating systems are Windows and UNIX (Linux, Mac

OS, Solaris, etc). On completion of this course unit, the students will be able to:

• Have a proper understanding of the differences between these two operating systems

• Understand different design principles for operating systems and various software tools that make operating systems usable.

**Teaching and learning patterns**: The teaching pattern is by lectures, lab sessions and group projects

**Indicative content**:

• Operating Systems Structures

• Processes and threads

• Thread creation, manipulation and synchronization

• Deadlock

• Implementing Synchronization operations

• CPU scheduling

• Memory management

• File systems and file system implementation

• Monitors

• Segments

• Disk Scheduling

• Networking

• UDP and TCP

**Assessment method**: The assessment will constitute Practical assignments on at least 5 chapters of the course and written course work (40%) and written Exam (60%)

**Reference books**:

(i) Operating Systems: Internals and Design Principles – William Stallings, 4th Edition, 2007.