1. College	Chancellor College
2. Faculty/School of	Science
3. Department	Computer Science
4. Programme	BSc in Computer Science
5. Module Title	Operating Systems
6. Module Code	COM211 / COM311
7. Year	2
8. Credits	12
9. Lectures per week	3
10. Lab Hours per week	1
11. Tutorial hours per week	
12. Revised	After 5 years
13. Approval Date	August 2016

14. Prerequisites:

Introduction to Computer Programming (COM121)

15. Co-requisites:

None

16. Module Aim

The aim of this module is to introduce students to the key concepts of computer operating systems, design and implementation and provide the practical ability to use the common operating systems.

17. Intended Learning Outcomes

On successful completion of this module, students should be able to:

a) Explain the principles of operating systems

b) Understand relationship between subsystems of a modern operating system

c) Develop multi-process and multi-threaded applications

d) Evaluate the efficiency aspect of using system resources (processor, memory, disk)

18. Indicative Content

a) Introduction to operating systems

b) Operating system structures, computer hardware properties

c) Process concept in modern operating systems

d) Multi-processes

e) Thread concept and multi-threading

f) Process synchronization

g) Process synchronization

h) Deadlocks in multi-processing

i) Memory management

j) Virtual memory management

k) CPU scheduling algorithms

l) File system

m) Disk subsystem

19. Assessment

Continuous assessment 40%, final examination component 60%

20. Teaching and Learning Methods / Activities

a) Lectures

b) Practical laboratory sessions

c) On-line learning

21. Recommended Resources and Prescribed Reading Lists

a) Prescribed Reading

Silberschatz, A., Galvin, P.B., Gagne, G. (2012). Operating System Concepts (9th ed.). New Jersey, USA: Wiley

Tanenbaum, A. S., Bos, H. (2014). *Modern Operating Systems* (4th ed.). Essex, England: Pearson

b) Recommended Reading

Anderson, T. Dahlin, M.(2014). *Operating Systems: Principles and Practice* (2nd ed.). Recursive Books

Stallings, W. (2014). Operating Systems: Internals and Design Principles (8th ed.). Essex, England: Pearson

Journals

SIGOPS - Operating Systems Review

IEEE Transactions on Parallel and Distributed Systems