Course outline

Course name	Operating Systems Theory and Design
Course code	
Semester	
Lecturer/email address	Wairagu Richard

1. Course objectives

The overall aim of this course is to provide an understanding of how a computer works, the underlying hardware, design of the operating system as well as its structure and key functions

2. Course Content

1) Operating System Principles
2) Multitasking systems
   a) control and co-ordination of tasks
   b) synchronization,
   c) mutual exclusion
   d) sharing
3) Interprocess communication
   a) Semaphores
   b) Deadlocks
4) Scheduling
5) Memory management
   a) virtual memory
   b) segmentation
   c) paging
   d) protection
6) I/O Handling
7) File systems
8) Resource management
9) Evaluation and prediction of performance

2Teaching methodology

The activities will involve lectures, research assignments, discussions, reflections and presentations. They will also be involved in facilitating discussions. Group presentations are emphasized to enhance team work where each group is expected to present to class its work .

3. Course text and recommended reading

1. Information Systems for you, 3rd Edition, By Stephen Doyle.
2. McGraw-Hill's Samba UNIX And NT Internetworking (2000) (copy).pdf
3. Operating systems Stallings William 2nd Edition

4. **Distributed Operating systems Tanenbaum Andrew S.**
5. Image technology applications: OS and Networking issues Dailey Franklyn

4. **Websites**

1. http://www.cecm.sfu.ca/~loki/Talks/FMC99/tsld001.htm open source
2. http://www.edugrid.ac.in/webfolder/courses/os/os_resource.htm os resource
3. http://www.itee.uq.edu.au/~comp2303/lectures/
4. http://www.answers.com/topic/computer-multitasking?method=5&linktext=Computer%20multitasking
5. www.comptechdoc.org/basic/basictut/osintro.html
6. www.webopedia.com/TERM/O/operating_system.html
7. www.nondot.org/sabre/os/articles
8. http://www.iu.hio.no/~mark/os/os.html

5. **Course evaluation**
    a. Continuous assessment tests 30% and Final semester exams 70%.