

SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
SYLLABUS (Tentative)
COSC 350 *Systems Software*

Description: To help students deepen their understanding of C and C++ programming and program development, mostly in a Linux environment, and develop familiarity with the Linux operating system and script programming. Three hours lecture, two hours lab per week.

Prerequisites: Data Structures & Algorithm Analysis (COSC 220) and Microcomputer Organization (COSC 250) with grades of C or better.

Required Text: “Beginning Linux Programming,” by Matthew and Stones; Wiley Publishing, Inc, 4th edition, 2010. ISBN: 9780470147627

Recommended Text: “Linux in a Nutshell,” by Siever et al; O’Reilly & Associates, 6th edition, 2009.

	<i>Weeks</i>
<i>The UNIX/Linux Operating System Basics</i> UNIX/Linux basic commands, login scripts and environment set up, C programming environment.	2.0
<i>Working with files</i> File and directory structure, low level file access, standard I/O library, formatted input and output.	3.0
<i>Terminals</i> Control terminal, canonical and non-canonical mode, termios structure, pseudo-terminals.	1.0
<i>Linux Process</i> Basic concepts of Linux process and process attributes, process control using fork, exec and wait.	2.0
<i>Inter-process communication</i> Basic concepts of inter-process communication using signals and pipes.	2.0
<i>Socket programming</i> Basic concepts of socket communication, network information and multiple clients.	3.0
<i>Perl programming</i> Basic concepts of the Perl programming language and its general applications.	1.0

EVALUATION
Homework and Programs 30%
Tests & Final Exam 60%
Quizzes 10%

NOTE: ONCE A STUDENT HAS RECEIVED CREDIT, INCLUDING TRANSFER CREDIT, FOR A COURSE, CREDIT MAY NOT BE RECEIVED FOR ANY COURSE WITH MATERIAL THAT IS EQUIVALENT TO IT OR IS A PREREQUISITE FOR IT.