



COURSE CODE: MSCS523

COURSE NAME : UNIX TOOLS

COURSE EMAIL ADDRESS: [MSCS523@CTUNIV.ORG](mailto:MSCS523@CTUNIV.ORG)

CLASS TIMINGS: 11:00AM TO 2:00PM (SATURDAYS)

## Lecture 1

### Course Overview

- \* Syllabus
- \* Assignments
- \* Books
- \* History of UNIX
- \* The UNIX philosophy, GUI
- \* Intro to UNIX

## Lecture 2

### The UNIX Filesystem and Shell Intro

- \* The Shell:
  - Executing commands and command options
  - Interactive features: job control, history
- \* The UNIX file system
- \* File Utilities (cp, mv, rm, etc.)
- \* comm, cmp, diff
- \* Tree walking: find, xargs

## **Lecture 3**

### **Processes and Filters**

- \* UNIX Processes
- \* Pipes
- \* Signals
- \* Process Utilities (ps, kill, wait, sleep)
- \* Filters: cat, head, tail, sort, uniq

## **Lecture 4**

### **Regular Expressions**

- \* Regular expressions
- \* grep, fgrep, egrep

## **Lecture 5**

### **Sed and Awk**

## **Lecture 6**

### **Shell Scripting, Scripting Examples**

- \* Variables
- \* Loops
- \* Functions
- \* Quoting
- \* Here documents
- \* Arithmetic
- \* Parsing

## **Lecture 7**

### **CGI Programming**

- \* bash/ksh
- \* KornShell 93
- \* Extended patterns
- \* Examples of shell scripts
- \* Introduction to HTML, WWW and CGI
- \* Web servers, HTTP
- \* KornShell for CGI
- \* Forms
- \* Discuss midterm

## **Lecture 8**

### **Midterm**

## **Lecture 9**

### **Perl**

- \* Perl
- \* Modules
- \* Perl for CGI
- \* CGI examples

## **Lecture 10**

### **Perl Part II and Programming Tools**

- \* make, nmake, gmake
- \* res, cvs, sccs
- \* ar, tar, cpio, pax
- \* RPM, autoconfig
- \* dbx, gdb

## **Lecture 11**

### **Security**

- \* Setting up CGI
- \* Worms, viruses
- \* Common security attacks
- \* Utilities: crypt, pgp, ssh

## **Lecture 12**

### **Linux Administration**

- \* Overview of Linux
- \* Startup sequence
- \* Login
- \* Users and permissions
- \* chmod, su, etc.
- \* mount, df, fsck, dd
- \* lpr
- \* cron
- \* NFS

## **Lecture 13**

### **Advanced command line tools Shell scripting**

## **Lecture 14**

### **Shell scripting**

## **Lecture 15**

### **FINAL EXAM**