

Course Title : **UNIX Shell Programming**
Course Code : ELE xxx.3
Semester: First/Second/Third/Fourth
Credit : 3
Class Load : 3 hours
Evaluation :

| | Theory | Practical | Total |
|------------------|--------|-----------|-------|
| Sessional | 60 | - | 40 |
| Final | 40 | - | 40 |
| Total | 100 | - | 100 |

Course Objective:

The objective of this course is to provide students with the knowledge of the UNIX/Linux operating system and shell programming. The course covers in detail basic commands, the vi editor, the file structure, the shell environment and shell scripts.

Course Contents:

- 1. Introduction to UNIX/Linux (6 hrs)**
Basic commands, Using the vi text editor, Working with files and directories, Filename substitution and wild cards, Creating a shell script, Standard I/O & error, Pipes and redirection: |, >, <, &
- 2. Shell Programming Basics (6 hrs)**
Login shell, Shell's responsibilities, Extracting data from files, Regular expressions
- 3. Writing Shell Programs (9 hrs)**
Variables, Built-in integer arithmetic, Use of quotes and backslash, Background command, Use of arguments
- 4. Conditions (6 hrs)**
Decisions, If structure and testing, Case, Null command, && and ||,
- 5. Looping (9 hrs)**
For loops, While and Until Loops, Stopping loops, Getting options
- 6. Printing, Formatting and Setting Environment (3 hrs)**
Using read and printf, local and exported variables, path and profile

References:

1. Stephen G. Kochan and Patrick H. Wood, UNIX Shell Programming, Hayden Books ISBN: 0-672-32490-3
2. Harley Hahn, Harley Hahn's Guide to Unix and Linux, McGraw-Hill ISBN: 978-0-07-313361-2
3. E. Quigley, UNIX Shells by Example, (2nd ed), Prentice Hall, 2000.
4. A. Robbins, O'Reilly, UNIX in a Nutshell, 1999.