INNOVATIVE COMPUTER ENGINEERING STUDENTS' SOCIETY
Paschimanchal Campus, Pokhara

Syllabus
For
Linux Training
"**Transition from Windows to Linux**"

DAY 1: INSTALLATION
- What is an OS?
- Currently used Operating Systems (Windows, OSX, Linux, BSD?)
- What is Linux? And, why you should use it?
    - A bit of the Linux History
    - General misconceptions about the Linux system
    - Useful Linux terminologies
    - Advantages of linux over Windows and others
- Different Linux distros (Debian and its derivatives (like Ubuntu, Mint), RHEL/CentOS, Arch and so on)
- How to get started with Linux?
    - Brief explanation on Installation, Dual booting and Virtual machines
- Virtualization(Virtualbox, VMware, Hyper-V,...)
- Creating a new Virtual machine
- Configuring the VM
- Starting the Linux distribution(Live boot)
- A brief look at the Linux Desktop
- Introduction to Desktop Environments (Gnome, KDE, Mate, and so on)
- Starting the Installation
    - Allocating disk space for Linux (Structure of drives, Mount points, encryption, …)
    - Location and Time Zones
    - Configuring System (Hostname, User credentials)
- GRUB (GRand Unified Bootloader)
- Starting the Installed Linux distribution

DAY 2: GETTING AROUND THE LINUX SYSTEM
- Gnome Desktop (Activities, Dash, Application Overview, Search, etc.)
- Softwares available in the default Installation
    - System tools
    - Multimedia Applications(Image viewer, Media player, Browser, etc.)
    - File manager
    - Productivity suite (Office packages, PDF viewer, etc.)
- Installing software in Linux
    - Installation packages (deb/rpm/source)

- ○ Software center
  - ○ Using apt/apt-get
- Updating/Upgrading the system
- Understanding error messages and solving issues on Linux
- Open source softwares
- Why use OSS?
- Open source alternatives to popular applications
  - ○ VLC
  - ○ LibreOffice Suite/Openoffice Suite
  - ○ GIMP
  - ○ Inkscape
  - ○ Blender, and so on.
- Using Wine to run windows applications on Linux
- The Linux Terminal
- The Shell (Bash, Korn, Zsh, etc.)
- The Linux Filesystem
  - ○ Directory hierarchy
- Getting around the linux terminal
  - ○ Configuring the terminal profile
- Using the terminal
  - ○ Navigating through files and directories
    - ■ ls
    - ■ pwd
    - ■ cd
  - ○ Creating files and directories
    - ■ touch
    - ■ mkdir
    - ■ rmdir
    - ■ rm
    - ■ cp
    - ■ mv
  - ○ Viewing files in the terminal
    - ■ cat
    - ■ tac
    - ■ less
    - ■ wc
    - ■ head
    - ■ tail
    - ■ diff
  - ○ Viewing and Navigating through the man/info pages

DAY 3: GETTING USED TO THE TERMINAL
- Introduction to the Linux Kernel

- Introduction to Text editors
  - Vim
  - Emacs
  - Nano
  - Gedit
- Basic text manipulation in the terminal
- More terminal commands
  - time
  - date
  - grep
  - which
  - where
  - find
  - locate
  - Whatis
- Absolute and Relative paths
- Hard links and Soft links
- Working with hidden files
- Working with special filenames
  - Using escape characters
  - Filename containing special characters
- Command history
- Combining commands (Using && and ||)
- Using wildcards characters (*, ?, etc.)
- The 'file' command
- Creating aliases for commands
- Customizing the prompt
- Working with archives
- Viewing network details
- Introduction to shell scripting
- Further learning and getting help from the Linux community

Note: This syllabus is subject to change based on the requirements of the attendees and the availability of time.