

Course Contents
IT WS I - ICS102
Monsoon 2009

Saurabh Barjatiya
IIIT Hyderabad

18th July, 2009

Contents

1 Lectures (Tentative)	3
1.1 Introduction to Computers	3
1.2 Introduction to filesystem	3
1.3 Basic Internet Skills	3
1.4 MS Word / OpenOffice.Org Writer	3
1.5 MS Excel / OpenOffice.Org Spreadsheet	4
1.6 MS Powerpoint / OpenOffice.Org Impress	5
1.7 Basic GUI Tools	5
1.8 Vim editor	6
1.9 HTML and CSS	6
1.10 Advanced Linux commands	6
1.11 Octave	7
1.12 Linux / Windows installation demo	7
1.13 Computer internals hardware demo	7
2 Labs (Tentative)	7
2.1 Introduction to Computers	7
2.2 Basic Internet Skills	8
2.3 MS Word / OpenOffice.Org Writer	8
2.4 MS Excel / OpenOffice.Org Spreadsheet	8
2.5 MS Powerpoint / OpenOffice.org Impress	8

1 Lectures (Tentative)

1.1 Introduction to Computers

This includes basic introduction to computers, like they are reliable, accurate, fast, programmable, etc. We also describe parts of computers including keyboard, mouse, CPU, monitor, CD drive. Inform about ports to which we connect devices including USB, serial, parallel, VGI/DVI, ethernet.

1.2 Introduction to filesystem

Using GUI: Talk about directories and files, windows drives and linux root directory. Creating / Editing / Deleting simple text files using GUI editor (similar to notepad). Cut / Copy / Paste text. Creating / Deleting / Moving directories. Information of file size / folder size. Creating tar / .tar.gz / .tar.bz2 files. Extracting .tar / .tar.gz / .tar.bz2 files. Explain storage units like bits, bytes, nibble. Data transfer units bits/sec and storage device specification units.

Above things using shell (mkdir, rmdir, ls, touch, rm, mv, cd, tar, df, du). Introduction to man command.

1.3 Basic Internet Skills

This includes introduction to various browsers (Internet Explorer, Firefox, Opera). We would cover proxy configuration. Browsing websites, registering at websites, handling email using browsers (squirrelmail, gmail, yahoo). Basic security tips on good password, not to give personal information to untrusted sites, etc. Tips on using web search engines(Google) effectively will be given. Using instant messengers for chatting, web based messaging sites (meebo, coolim). Checking IP address of machine. Good websites like wikipedia, stackoverflow, w3schools, etc. will be introduced. What is URL?

1.4 MS Word / OpenOffice.Org Writer

In MS Word following topics / concepts / skills will be covered :

- Font: Size Color, Bold, Italic, Underline, Face/Type
- Paragraph: Indentation, Justification, Spacing, Alignment
- Page: Border, Numbering, Border, Layout
- Cut / Copy / Paste / Select / Undo / Redo

- Find / Replace
- Toolbar, StatusBar, TitleBar, Maximize, Minimize
- Keyboard shortcuts
- File Save, Save as, print as pdf, export
- Bullets and Numbering
- Tables
- Inserting pictures from file and clip art
- Hyperlink
- Editing Headers and Footers
- Macros (Optional)

1.5 MS Excel / OpenOffice.Org Spreadsheet

In MS Excel following topics / concepts / skills will be covered :

- Cells / Rows / Columns / Cell Range / Sheets
- Insert / Delete, Row or column or sheets
- Data Types: Text / Number / Float / Date
- Select / Cut / Copy / Paste / Undo / Redo
- Keyboard shortcuts
- Formula / Functions
- Graphs
- Export to csv, save, save as,
- Auto Fill
- Text formatting (Bold, Italic, etc.), text alignment (left, right, etc.), font size, font color
- Sorting
- Find / Replace

- Filters
- Macros (Optional)

1.6 MS Powerpoint / OpenOffice.Org Impress

In powerpoint following topics / concepts / skills will be covered:

- Slides: Templates / Background
- Presentation: Insert / Delete / Edit slide
- Slide Show
- Insert Word Art / Clip Art / Graph / Picture from file
- Animation / Time settings
- Different views - slide sorter / normal
- Insert slide / Delete slide / Moving slide
- Charts / Tables

1.7 Basic GUI Tools

Following basic GUI tools / softwares will be covered

- Calculator (Standard / Advanced)
- Notepad / gedit / kedit / Wordpad
- Paint brush / Kolourpaint
- Email clients (Outlook Express, MS Outlook, Evolution, Kmail, Thunderbird)

In email clients following things will be covered

- Setting new account
- Sending / Receiving emails
- Filters / Folders / Quota
- Difference between IMAP and POP3 from user point of view
- Contacts / Address Book
- Tasks, Notes, Misc client features
- Backup of emails and contacts
- Kompare

1.8 Vim editor

- Open / Save / Edit File
- Select / Cut / Copy / Paste text
- vimtutor
- search / replace
- line numbering / matching braces
- vimrc file (indentation, line numbering, shift width, spell check, etc.)
- custom keyboard shortcuts

1.9 HTML and CSS

Following topics will be covered in HTML

- Basic Tags: <html>, <head>, <body>, , <p>, <pre>,
 <hr>, , <a>, <u>, , <h1>, <sup>, <sub>
- HTML escape sequences: > < & "
- Frames
- Creating HTML Forms
- Lists - Ordered and Unordered
- Tables
- Alignment, Color, Font

Proper XHTML rules will be taught. Very basic introduction to CSS so that CSS can be used to specify font, color, size based on element type.

1.10 Advanced Linux commands

Following Linux commands will be covered

- grep - Very basic introduction to regular expressions as given in man page
- File search / listing - find, locate, ls

- Remote Access - scp, ssh
- Common commands - history, sudo, more, less, cat
- Shell redirection
- Multiple tasks - bg, fg, jobs, ps, nohup, disown, top, renice, screen

1.11 Octave

Following things would be covered in octave

- Declaring matrix and strings
- Basic matrix and string manipulation
- Operations over matrix
- Simple octave functions, constants and commands
- if, for, while, do-until, etc. statements
- Very basic user input
- Drawing graphs with help of plot function

1.12 Linux / Windows installation demo

Basic demo on how to install Linux / Windows would be given to users. Various choices like partition size, partition type, which packages to install would be explained properly.

1.13 Computer internals hardware demo

Demo of internals of CPU would be given. We will tell about RAM, SMPS, Hard-disks, CD/DVD drives, Connectors (SATA and IDE), Heat-sink, CPU, PCI slots, etc.

2 Labs (Tentative)

2.1 Introduction to Computers

In this lab we can cover

- Create / Edit / Delete Files and Folders using both GUI and shell
- Zip / Extract files using shell / GUI
- Learn more commands using 'man' pages.

2.2 Basic Internet Skills

- Do proxy settings on browsers.
- Students should find answer to given set of questions using web search.
- Send email (with attachment) / Check email / Delete email
- Register on websites like gmail, yahoo, orkut
- Add your friends on messenger using meebo, coolim, etc. Send test messages.
- Change email password.

2.3 MS Word / OpenOffice.Org Writer

- A pdf word file would be given and student would be asked to create similar word file.

2.4 MS Excel / OpenOffice.Org Spreadsheet

- A pdf excel file would be given and students would be asked to create similar excel sheet.
- Then several values based on formulas will be asked and students should write excel formulas to calculate those values.
- Students should be able to filter rows based on specified constraints and create sheets with only relevant rows.

2.5 MS Powerpoint / OpenOffice.org Impress

- A pdf presentation would be given and students should create same presentation in powerpoint.
- Create a presentation of at least 15 slides with self chosen content / theme. Try using animation and inserting pictures / clip arts / word art.