St. Angelo's®
COMPUTER EDUCATION
Creating Global Careers
AN ISO 9001:2000 CERTIFIED COMPANY
A Division of St. Angelo's Computers Ltd.

Faculty Reference Manual

(FRM)

Updated Aug 2010

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INDEX

Ms-Office & Tally

Faculty Reference Manual
Computer Fundamentals & Windows (6 Hrs)

Lecture 1: Computer Introduction, Applications of Computer, Understanding the architecture, Different parts of a computer, Input and Output Devices, CPU (ALU, Control Unit, Memory), Memory Units, Different types of Memory {Primary, Secondary}, ROM, RAM.

Lecture 2: Typed of Hardware, Motherboards, Storage Devices- Floppy disk, Hard disk, CD-ROMs, Printers, Keyboards, Mouse, Plotters, Modems, Multimedia, etc. Types of Softwares, application software, system software, GUI, CUI

Lecture 3: Windows Explorer : Start Button & it's different elements, Shutdown process of Windows, Starting programs through Windows, Using My Computer, Creating Folders, Renaming Folders, Removing Folders, Copying files and folders, Moving Files, Deleting Files, Recycle Bin, Renaming Files and Folders, Creating shortcuts.

Lecture 4: Drawing simple objects with Ms Paint, drawing line, ellipse, rectangle, polygon, curves, filling color, using brush & eraser, saving & opening the files.

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Faculty Reference Manual
Ms Word (12Hrs)

Lecture 1: What is Ms Word 2007, Use of Ms Word 2007, Difference Between Ms Word 2007 & Other Applications(Versions), First view of Word Screen, Office Button Operations: Creating a New Document, Saving Files, Opening Files, Closing Files, Use of Ribbons & Other Toolbars in MS-Office: It's types, Displaying and, Hiding Toolbars, Home Tab: Use Font Dialog Box like Font, Font style, Font Size, Font Effects, Character Spacing; Font Group options like Bold, Underline, Italics, Strikethrough, Grow Font & Shrink Font, Text Highlight Color, Font Color, Clear Formatting; Showing Office Clipboard Task pane, Clipboard Group like Cut-Copy-Paste, Undo, Redo, Format Painter, etc., View Tab: Use Document Views: Print Layout, Web Layout, Outline, Draft, Full Screen Reading. Show / Hiding Ruler, Gridlines, Thumbnails, Document Map
Classroom Assignment: - Assignment 1, Assignment 2
Student Assignment: - Assignment 1, Assignment 2

Lecture 2: Home Tab: Basic Editing Group options: Find and replace commands, Go to option, Select Options like select all, select object, select text with similar formatting; Paragraph Dialog Box like Indentation & Spacing, Line & Page Break option; Paragraph Group options like Paragraph Alignment, Line Spacing, Increase & Decrease Indent, Show / Hide Paragraph Marks, Use & Defining new Bullets, Numbers & Multilevel Lists, Sorting number / text alphabetically, Page Layout Tab: Working Print Setting / Print Preview with Page Setup Dialog Box like Margins, Orientation, Page Size, Paper Source, Layout like Section, Different Headers & Footers, Preview Options like Magnifier, One page, Next Page, Previous Page, Shrink One Page; View Tab: Zoom options like Zoom to percentagewise, Page Width, Text Width, Whole Page, Two Pages, Many Pages, 100% Zoom
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3, Assignment 4
Student Assignment: - Assignment 1, Assignment 2, Assignment 3, Assignment 4

Lecture 3: Home Tab: Working with Bullets & Numbering, Shading the Text, Border & Shading like Customize the border Top, Bottom, Left, Right, Inside & Outside, All Border, No Border, Inside Horizontal & Vertical Border, Diagonal down /up border, Horizontal Line, View Gridlines, Draw Table; Border Setting for selected Text, Page Border & Shading; Insert Tab: Insert Decorative Text like Word Art & apply Word Art Tools: Word Art styles, change word art shape, shape fill, Shape Outline, Edit Text, Spacing between text, Align Text, Even Height, Word Art Vertical Text, Shadow Effects & color, 3D Effects like color, Depth Effects, Direction Effects, Lighting Effects, Surface Effects, Parallel Effects, Perspective Effects, Rotate in Perspective Effects, Arrange Group like Position, Text Wrapping, Rotate, Align, Word Art Size, etc., Drop Cap Effect like Dropped, In Margin; Drop Cap Options like Font, Line To Drops, Distance From Text; Inserting Cover Page, Blank Page; Page Layout Tab: Page wise Break like Page, Column, Text Wrapping & Section wise Break like Next Page, Continuous, Even Page, Odd Page **Classroom Assignment: -** Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 4: Home Tab: Using Style Gallery, Creating New Quick Styles, Change Style Set, colors, fonts, Save a style, Using Templates of Word to create official documents like Resumes & CV etc; Insert Tab: Using Link options like Hyperlink, Bookmark, Cross- reference; References Tab: Insert & Remove Table Of Contents, Update Table, Add Text; Insert Footnote & Endnote Dialog Box, Show notes, Next & Previous Endnote & Footnote; Insert Caption like Table Of Figures, Update Table, Cross - reference ,Insert Citation, Manage Sources, Bibliography, Mark Citation, Insert Index, Mark entry, Update Index, Insert Table Of Authorities, Update Table Of Authorities, View Tab: Use windows option like New window, Arrange All, Splitting window, View side by side, Synchronous scrolling, Reset Windows Position, Switch Windows
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 5: Insert Tab: Illustrations Group like Pictures & it's Tools Format option, Chart & it's Tools(Design , Layout, Format option) Clip Art, Insert Shapes & it's Drawing Tools Format option, Insert Smart Art & it's Tools like Design & Format option, Date and Time, Inserting Symbols, Object & Text From File, Text Box, Equations; Page Layout Tab: Themes Group like Office Themes Styles, Themes color, Themes Font, Themes Effects; Page Setup Groups like Columns, Line Numbers, Hyphenation; Page Background like Text Watermark, Picture Watermark, Remove Watermark, PageColor & Fill Effects, Add / Change the Page Border; Paragraph Group like Left / Right Indent, Before / After Text Spacing; Arrange Group like Position option, Text Wrapping option, Align option, Group option, Rotate option, Send To Back option, Front To Back option
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Faculty Reference Manual
Ms Word (12Hrs)

Lecture 6: Insert Tab: Header and Footer options: Inserting & Removing Header & Footer & Page Number, Review Tab: In Proofing Group like Spelling & Grammar Checking, Research, Thesaurus, Translate, Set Language, Choosing a Dictionary, Word Count, Autocorrect facility - Adding, Deleting entries; Comments Group like New Comment, Delete Comment, Previous & Next Comment, Tracking Group like Track Changes, Balloons, Display For Review option, Show/ Hide Markup, Reviewing Pane; Changes Group Like Accept / Reject Changes, Previous / Next Changes; Compare Group like compare / combine documents, Show Source Documents, Protecting Document
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 7: Insert Tab: Table Groups like Insert Table, Draw Table, Quick Table, Excel Spreadsheet & it's Tools like Design & Layout Menu Design Menu: Use Table Style & it's options, Draw Border Group like Border & Shading option, Use Draw Table, Table Eraser, Pen Color, Line Weight & style; Layout Menu: Table Group like Select option, View Gridlines, Properties, In Rows & Columns Group like Inserting & Deleting Rows, Columns, cells & Table, Use Merge & Unmerge cells, Split Table & Cells, Use Cell Size & Auto Fit option, Alignment Group Aligning the Text, Text Direction, Cell Margins; Data Group like Sorting Table data, Putting Formula in tables, Converting text to tables and vice-versa
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 8: Mailings Tab: Mail merge facility in Word, Using merge with Envelopes & Mailing Labels; View Tab: Creating and Running a Macro
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

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Faculty Reference Manual
Ms Excel (15Hrs)

Lecture 1: What is Ms excel 2007, Use of Ms excel 2007, Difference Between Ms excel 2007 & Other Applications (Versions), First view of excel Screen, What is a Spreadsheet Package, Advantages & Features of Excel as a Spreadsheet package, examples, Worksheet Organization (rows, columns, cells), Office Button Operations New, Save, Open, Close, Print Preview, Other Toolbars in MS-Excel, Home Tab: Bold, Underline, Italics, Alignment, Merge Cells &Center, wrap text, clipboard options like cut, copy, paste, format painter, font options like font size, color, font face, fill color
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 2: Editing Cell entries with Edit command like undo, redo, Home Tab: Working with the Go To, Find / Replace option, Working with cells formatting like insert cell, delete cell, Adjusting Column Widths/height, Inserting & Deleting Rows, Columns, organizing sheets like Moving, Inserting & Renaming Sheets, moving between sheets, Formatting Numbers like increase/decrease decimal places, change the number style
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 3: Working with Functions: Sum, Avg, Max, Min, Round, etc., Home Tab: Using Auto Format, Cell Formatting: Cell Borders, Background Colors & Patterns, Working with readymade Format Styles, conditional formatting, format as table, cell styles Formula Tab: working with popular function, insert function, recently used function, name manager
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 4: Concept of Absolute, Relative and Mixed Referencing, Referencing Cells of other sheets in formula, Formula Tab: If condition - simple and Nested if conditions (AND & OR operators/logical functions),text function (Char,Concatenate,Len,Lower,Upper,Proper), math function(Abs,sqrt,Ceiling,Floor,Power,Pi,Round,Rand), date & time function, formula auditing like trace precedent/dependents, show errors, error checking, watch window, evaluate formula
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 5: Review Tab: Spelling Checking, Autocorrect options, Protecting Worksheets & workbook, protect & share workbook/sheets, working with comments show , hide, insert, delete, using track changes highlight changes View Tab: Working with multiple views: normal, page layout, page break preview, custom view, full screen, zoom command, using multiple windows, Hiding, Unhiding of Windows, Arrangement of windows, Split & Freeze Panes options, Home Tab: Fill option :Series, Dates, etc
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 6: Page Layout Tab: Working with page break option, types of orientation, set print area, clear print area, using margin option, Paper size , insert background, print titles, working with header footer option, working with sheet options, view & print gridlines & heading Review Tab: Working With Comments, Adding Comments, Editing Comments, Delete Comments
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 7: Insert Tab: Working with Charts, Selecting different types of Charts, Formatting Charts, quick layouts, selection of data, working with quick styles, move chart location, use of pivot table & chart to arrange data, working with pivot table & chart, insert shape, clipart, picture, hyperlink, working with word Art option, symbols & textbox
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Faculty Reference Manual
Ms Excel (15Hrs)

Lecture 8: Data Tab: Data Sorting: Single as well as Multiple keys, Filter data: Auto Filter option, Advanced Filter, Subtotaling, group ungroup option, hide/show details using outline commands, working with external data connection, data validation
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 9: Data Tab: Using Subtotal Option, Grouping & Ungrouping Data, Generating Pivot Table, Review Tab: Protect Documents: Protect Sheet, Protect Workbook, Track Changes: Accept/Reject Track Changes, Working With Track Changes, Adding, Editing and Deleting Comments.
Classroom Assignment: - Assignment 1, Assignment 2, Assignment 3
Student Assignment: - Assignment 1, Assignment 2, Assignment 3

Lecture 10: Data Tab: Use of Goal Seek Command, Creating Scenarios, data table option, Using Solver, text to column, remove duplicates, Consolidate, table, using Macros
Classroom Assignment: - Assignment 1, Assignment 2
Student Assignment: - Assignment 1, Assignment 2

Faculty Reference Manual
Ms PowerPoint & Internet (9 Hrs)

Lecture 1: What is Ms PowerPoint 2007, Use of Ms PowerPoint 2007, First view of PowerPoint Screen, Office Button Operations: Creating a New Document, Saving Files, Opening Files, Closing Files, Use of Ribbons & Other Toolbars in MS-Office: It's types, Displaying and, Hiding Toolbars, **Home Tab:** Use Font Dialog Box like Font, Font style, Font Size, Font Effects, Character Spacing; Font Group options like Bold, Underline, Italics, Strikethrough, Grow Font & Shrink Font, Text Highlight Color, Font Color, Clear Formatting; Showing Office Clipboard Task pane, Clipboard Group like Cut-Copy-Paste, Undo, Redo, Format Painter, etc., **View Tab**: Use Presentation Views: Normal, Slide Sorter, Notes Page, Slide Show,
Slide Master, Handout Master, Notes Master, Full Screen Reading. Show / Hiding Ruler, Gridlines, Zoom, Color/Grayscale, Window Options
Classroom Assignment: - Assignment 1, Assignment 2
Student Assignment: - Assignment 1, Assignment 2

Lecture 2: Home Tab: Basic Editing Group options: Find and replace commands, Go to option, Select Options like select all, select object, select text with similar formatting; Paragraph Dialog Box like Indentation & Spacing, Line & Page Break option; Paragraph Group options like Paragraph Alignment, Line Spacing, Increase & Decrease Indent, Show / Hide Paragraph Marks, Use & Defining new Bullets, Numbers & Multilevel Lists, Sorting number / text alphabetically**, Insert Tab:** Use Tables, Insert Picture, Clip Art, Shapes, Smart Art, Chart, Create Hyperlink, Action, Text Options, Header and Footer, WordArt, Date & Time, Slide Number, Symbol, Use Object Options Inserting Movie, Sound
Classroom Assignment: - Assignment 1, Assignment 2
Student Assignment: - Assignment 1, Assignment 2

Lecture 3: Animation Tab: Adding Animation with Custom Animation Option, Adding Transition Sound, Speed to Slides, Using Advance Slide Options Such as On Mouse Click, Setting Automatic Time to Slides. **Slide Show Tab:** Using Start Slide Show Options, Creating Custom Slide Show, Setting up Slide Show, Hiding Slides, Record Narrations, Setting up Screen Resolution, Using Presenter View Option, **Design Tab**: Use Page Setup Option, Use of Color, Fonts, Effects in Themes, Add Background Styles.
Classroom Assignment: - Assignment 1, Assignment 2
Student Assignment: - Assignment 1, Assignment 2

Lecture 4: Review Option: Use Proofing Options: Spelling Checking, Research, Thesaurus, Translate, Language, Use of Comment Option, Protecting PowerPoint Presentation, **Drawing Tools:** Insert Shapes, Shape Styles, WordArt Styles, Arrange, Size Option, Use of Package CD Option.
Classroom Assignment: - Assignment 1, Assignment 2
Student Assignment: - Assignment 1, Assignment 2

Lecture 5: Internet: Introduction to Internet, History of Internet Advantages & Disadvantages of Internet**,** Requirements for Internet Connection, Web Terminology: Browsing, Web Site, Website Addresses (URLs), Understanding the Browser Options, Using Various Search Engines, Surfing Net, Downloading Information, Surfing Various Important Sites.
Practicals: Browsing, Surfing, Downloading

Lecture 6: E-mail Concept, Advantages of Emailing, Creating free E-mail Accounts on Yahoo, Gmail etc. Sending And Receiving E-mails, Sending Attachments With the mail
Practicals: E-mailing

Faculty Reference Manual
Accounting Package – Tally (23 Hrs)

Lecture No 1: Introduction to Accounts, accounting terms, types of accounts, accounting cycle, difference between manual account & automatic accounts, Tally Screen, Create Co., basics ledgers, groups. Command to be used: Create Co., Create Ledger, Purchase Account, Sales Account, Bank Account, and few entries.

Lecture No 2: (Accounts Only). Create/Alter a Company, Create/Display/Alter Ledger, pass voucher entry in purchase, sales, receipt, payment, contra, Display Balance Sheet, Trading /Profit/Loss Account, Trial Balance, Day Book
Class Assignment: Assignment No 1
Lab Assignment: Assignment No 1

Lecture No 3 (Accounts Only). Date, Print/Display/ F12 Configuration for Balance sheet, Profit & Loss Account, Trial Balance, Backup, Restore, Split company data.
Class Assignment: Assignment No 2
Lab Assignment: Assignment No2

Lecture No 4: (Accounts with Inventory). Create a Company Using Accounts with Inventory, Create Stock Group, Category, Items, Units of Measurement, Stock Summary, Discount Feature, Stock Valuation (FIFO, LIFO)
Class Assignment: Assignment No 3
Lab Assignment: Assignment No 3

Lecture No 5: (Accounts Only). Create Group Ledger, Use Interest Calculation (F11), Use Export option, E-mail, Upload, Use Import of data option, Group Company, Currency
Class Assignment: Assignment No 4
Lab Assignment: Assignment No 4

Lecture No 6: (Accounts with Inventory) Use of VAT in Tally, Use VAT of 4%, Credit / Debit Note, VAT form print out with different states, Invoice Purchases Sales Print Preview.
Class Assignment: Assignment No 5
Lab Assignment: Assignment No 5

Lecture No 7: (Accounts with Inventory). Use of VAT with different percentage, Using CST, Display/Print of VAT & CST forms
Class Assignment: Assignment No 6
Lab Assignment: Assignment No 6

Lecture No 8: (Account Only). Cost Centre, Cost Category, Use of TDS, Challan print out of TDS.
Class Assignment: Assignment No 7
Lab Assignment: Assignment No 7

Lecture No 9: (Account with Inventory). Use of TCS in Tally, Service Tax, Create necessary ledgers
Class Assignment: Assignment No 8
Lab Assignment: Assignment No 8

Lecture No 10: (Account Only). Tally Vault Password, Create administrative & Data entry users, Use Audit Features, cheque printing, Budget / Scenario and control, Income Expenses Statement.
Class Assignment: Assignment No 9
Lab Assignment: Assignment No 9

Lecture No 11: (Account with Inventory). Actual/Billed quantity, Zero value entries, Sales/Purchase Order, Rej In/Out, Receipt Note, Delivery Note, Goods Transferred, Standard Rates, Re-Orders
Class Assignment: Assignment No 10
Lab Assignment: Assignment No 10

Faculty Reference Manual
Accounting Package – Tally (23 Hrs)

Lecture No 12: (Account with Inventory). Manufacturing Journal, Price Levels, Track additional costs, Bill of Material, Batch wise details
Class Assignment: Assignment No 11
Lab Assignment: Assignment No 11

Lecture No 13: (Account Only). Use of FBT in Tally, pass necessary journal entries, and print of challans of FBT, ODBC & Mail Merge in Ms-Word, Import Data in Excel, Language Option (English, Hindi, Marathi…)
Class Assignment: Assignment No 12
Lab Assignment: Assignment No 12

Lecture No 14: Payroll, with pay slip, gratuity, and other employee details.
Class Assignment: Assignment No 13
Lab Assignment: Assignment No 13

Lecture No 15: (Account with Inventory) **2Hrs**
Excise for Manufacturer, CENVAT, Other Duties, Exercise Reports
Class Assignment: Assignment No 15
Lab Assignment: Assignment No 15

Web & Software Engineering

Faculty Reference Manual
HTML/DHTML (21 Hrs)

Lecture 1: Introduction to HTML, advantages of HTML, content of web pages, simple structure of HTML program, Working with basics tags, body attributes: alignment
Class Assignment: assign 1
Lab Assignment: assign 1

Lecture 2: Working with tags (block level tags), Understanding Tags – Paragraphs, attributes of paragraphs: alignment, Heading, attributes of heading: alignment, Horizontal Rule, attributes of horizontal ruler alignment, width, color, size etc
Class Assignment: assign 1, assign 2, assign 3, assign 4
Lab Assignment: assign 1, assign 2, assign 3, assign 4

Lecture 3: Working with tags (text level tags), Understanding various formatting tags - Bold, Underline, Italics, preformatted text, small, strong, address, div, etc.
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 4: Using Comment, Specifying Colors by Name or RGB Code, Working with special characters (< >….), creating lists, types of lists, ordered list, attributes of ordered list: type, start, unordered list, attributes of unordered list: type, and definition list, definition term, definition description.
Class Assignment: assign 1, assign 2, assign 3, assign 4, assign 5, assign 6
Lab Assignment: assign 1, assign 2, assign 3, assign 4, assign 4, assign 6

Lecture 5: Using Nested List, Assignments
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 6: Creating simple web pages, marquee, attributes of marquee: behavior, direction, width, height and scrollamount, Scroll text on web page using marquee option. working with images (jpeg, bmp, gif, png formats).
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign 1, assign 2

Lecture 7: Types of links: internal link and External link, attributes of link: href, name and target creating text & image links, creating linked web pages, Assignments.
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign 1, assign 2

Lecture 8: Inserting images, attributes of image {src, width, height, alignment, border, hspace, vspace and alt}, Image Linking / Image mapping, shape of the map {rectangle, circle and polygon}.
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign 1

Lecture 9: Concepts of a table, creating a table, attributes of table {align, width, border, cellpadding, cellspacing and bgcolor}, creating a table row, attributes of tr {bgcolor, align, background}, create a table header and table data, attributes of th and td {bgcolor, align, background image, width, align, vspace, hspace, rowspan and colspan}, maintaining database in tabular format, linking cells, working with different tags associated with tables.
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign 1

Lecture 10: Using nested tables, working with images and tables
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 11: The concept & features of frames, Working with different types of frames in HTML, Using various tags associated with frames, attributes of frameset { cols, rows, border color}, attributes of frame { src, target, bordercolor, marginheight, marginwidth and scrolling}
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1

Lecture 12: Concept of forms, different components of a form: textfield, buttons, submit, reset, checkbox, radio button, listbox, dropdown menus, textarea, file etc, creating forms with different components, different methods and actions used with forms, using table with forms
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1

Lecture 13: Introduction to DHTML, working with styles {align, background, border, font, link, list, position, size, spacing, text}, link over styles, div tag, positioning the object
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1

Lecture 14: Creating embedded stylesheet using style tag, creating class, external CSS, link tag, DHTML filter.
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1

Faculty Reference Manual
JavaScript (21 Hrs)

Lecture 1: Introduction Scripting Languages, using basic input & output {document.write(), alert, prompt, confirm}, data types, variables
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment*:* assign1, assign2

Lecture 2: Operators {Assignment, Arithmetic, Logical, expression, shift, comparison operators}
Class Assignment: assign 1, assign 2, assign 3, assign 4
Lab Assignment*:* assign1, assign2

Lecture 3: If else, nested if else, switch case, break statements
Class Assignment: assign 1, assign 2, assign 3, assign 4
Lab Assignment*:* assign1, assign2, assign 3

Lecture 4: For loop, while, do...while loop, nested loop
Class Assignment: assign 1, assign 2, assign 3, assign 4
Lab Assignment*:* assign1, assign2

Lecture 5: Functions, Structure - With and without Parameter & return type
Document object: properties & methods
Class Assignment: assign 1, assign 2, assign 3, assign 4
Lab Assignment*:* assign1, assign2

Lecture 6: Arrays, 1 & 2 Dimensional Arrays, Multi-Dimensional Arrays
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment*:* assign1, assign2

Lecture 7: Javascript events, onClick, onMouseover, onMouseout, onLoad, onBlur, onFocus, onKeydown, onKeyup, onMousedown, onSubmit,Capturing the keystrokes, onkeyup, onkeydown,
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment*:* assign1, assign2

Lecture 8: Math Object: methods {abs(), acos(), asin(), atan(), atatn2(), ceil(), cos(), exp(), floor(), log(), max(), min(), pow(), random(), round(), sin(), sqrt(), tan(), PI(), E() }
Date object: methods {getDate(),getMonth(), getYear(), getTime(),getHour(), getMinutes(), getSeconds(), getMilliseconds() }, other functions {tostring(), parseInt(), parseFloat(), isNan(),slice()}
Class Assignment: assign 1, assign 2
Lab Assignment*:* assign1, assign2

Lecture 9: String Object: methods {charAt(), IndexOf(), substring(), length(), toLowerCase(), toUpperCase(), lastIndexOf(), big(), blink(), bold(), fixed(), fontSize(), fontColor(), italics(),link(), small(), separate(), strike(), sup()} ,
Class Assignment: assign 1, assign 2
Lab Assignment*:* assign1, assign2

Lecture 10: Window Object: methods, blur(), clearInterval(), clearTimeout(), close(), focus(), scroll(), setInterval(), setTimeout(), status(), open(), options for window.open(){menubar, tollbar, location, directories, status, scrollbar, resizable, width, height}
Navigator Object: properties {appCodeName, appName, browserLanguage, cookieEnabled, cpuClass, platform, userAgent}
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment*:* assign1, assign2

Lecture 11: Validation: Validating form elements regular expressions {text, email, numeric, date…, length}
Class Assignment: assign 1, assign 2
Lab Assignment*:* assign1

Lecture 12: JavaScript and DHTML: creating dynamic content, formatting, hiding & un-hiding the contents, creating menu.
Class Assignment: assign 1, assign 2
Lab Assignment*:* assign1

Lecture 13: JavaScript and DHTML: Animating & dragging the objects.
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment*:* assign1, assign2

Lecture 14: Introduction to the concept of cookies, Types of cookies, advantages and drawbacks of cookies, Storing data in cookies and reading it
Class Assignment: assign 1, assign 2
Lab Assignment*:* assign1

Faculty Reference Manual
XML (15 Hrs)

Lecture 1: Introduction of EDI benefits & Limitation of EDI, Introduction of XML, advantages of XML over EDI, data interchange format, differences between SGML, HTML, XML, W3C in defining XML related specification, Create an XML document, processing instruction, tags, elements, content, attributes, entities, comments, rules for creating well formed XML documents
Class assignments: assign1, assign 2
Lab assignments: assign 1, assign 2

Lecture 2: Introduction of DTD, types of DTDs {internal & external}, elements and attributes in DTD, XML parsers {non-validating & validating}, create XML schema
Class assignments: assign1, assign 2
Lab assignments: assign 1, assign 2

Lecture 3: Data types in XML schema {primitive, derived, atomic, List}, Working with XML schemas, declare attributes in an XML schema, global attributes, simple & complex XSD, validate an XML DOM objects against an XML schema, loading an xml file using load() method, readystate property.
Class assignments: assign1, assign 2, assign 3
Lab assignments: assign 1, assign 2, assign 3

Lecture 4: XML namespaces, use of components of one XML schema in another, include, import element
Class assignments: assign1, assign 2
Lab assignments: assign 1, assign 2

Lecture 5: Defining facets using restriction element, using pattern element
Class assignments: assign1, assign 2
Lab assignments: assign 1, assign 2

Lecture 6: Create groups of elements and attributes in an XML schema, use of XSD elements {sequence, group, choice, all, attributeGroup}
Class assignments: assign1, assign 2
Lab assignments: assign 1, assign 2

Lecture 7: Rendering XML documents, using CSS to format data, identify the needs for style sheets, create cascading style sheet, create an XSLT for formatting data, style sheet element {value-of, for-each, sort, text}
Class assignments: assign1, assign 2, assign 3
Lab assignments: assign 1, assign 2, assign 3

Lecture 8: Displaying data with XSLT, perform conditional formatting in a style sheet {if, choose element}, comparison and Boolean operators
Class assignments: assign1, assign 2
Lab assignments: assign 1, assign 2

Lecture 9: Using XPath pattern matching in a style sheet, XPath functions {string, node-set, Boolean, number}, create a comma separated list of values, import a style sheet in another style sheet
Class assignments: assign1, assign 2
Lab assignments: assign 1, assign 2

Lecture 10: Working with XML document object model (DOM), XML DOM objects and methods, use of DOM objects to access different parts of an XML documents, creating new node, creating new elements, accessing elements from an xml file, accessing text values of elements, appending anew child node, inserting a node before an existing node, removing a child node, replacing a node, using XML objects in scripts
Class assignments: assign1, assign 2
Lab assignments: assign 1, assign 2

Faculty Reference Manual
FTP (2 Hrs)

Lecture 1: Introduction networks, server client concepts, protocols, IP address different Softwares used for FTP, making connection to server using FTP software, view server contents, downloading, uploading files using Dreamweaver, cute FTP or SeagullFTP

Faculty Reference Manual
C- Programming (with PLT) (36 Hrs)

PROGRAMMING LOGIC TECHNIQUES (PLT)

Lecture 1: Introduction to flow charts, Symbols used in Program Flow charts, Data Types, Variables, Data Structures
Class Room Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 2: Flowcharts on decision statements, If else, nested if else
Class Room Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 3: Making flow charts on loops
Class Room Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 4: Modular approach in flowcharts, using dry run tables
Class Room Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

C- PROGRAMMING

Lecture 1: Introduction to language, program, Origin of C Language, features of C, compilers, keywords, Preprocessors , structure of C program, Hello World program, Data types, variables, constants, conversion characters, escape sequences.
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign1, assign 2

Lecture 2: Operators {Arithmetic Operator, Logical Operator, Relational Operators, Assignment Operators, Expression operators}
Class Assignment: assign 1, assign 2, assign 3,assign 4
Lab Assignment: assign 1, assign 2

Lecture 3: Control Statements {if-else, nested if -else, switch-case, break}
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 4: Loops {While, Do-While, For Loop}, nested loops
Class Assignment: assign 1, assign 2, assign 3,assign 4
Lab Assignment: assign1, assign 2, assign 3, assign 4

Lecture 5: goto, labels, continue, exit statements.
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 6: Preprocessors & directives**,** # include, # define, # undef, # if, # ifdef, # ifndef, # elif, # else, # endif, # line, # error, # pragma, # - null directive.
Class Assignment: assign 1, assign 2
Lab Assignment: assign1, assign 2

Lecture 7: Introduction to Array, Types of Array {1, 2 & multi dimensional}, Initializing an Array, using arrays with for loop
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 8: Sorting data in the Arrays, Bubble sorting, Selection sorting, quick sorting
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign1

Lecture 9: Multidimensional Array and Matrices, adding, subtracting & multiplying matrices
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 10: Introduction to structures, creating a structure, creating & initializing object of structure, nested structure,
Class Assignment: assign 1, assign 2
Lab Assignment: assign1, assign 2

Lecture 11: Introduction to unions, creating a union, difference between union & structures, Enumeration, typedef
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

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Lecture 12: String functions {strlen(), strrev(), strupr(), strlwr(), strcmp(), strcmpn(), strcpy(), strncpy(), strcat(), strncat(), strchr(), strcpsn(), strbrk(), strspn()} ,
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 13: Date & Time functions {clock(), difftime(), mktime(),time(), asctime(), ctime(),localtime(),strftime(), timeptr, format()} , abbreviation
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1

Lecture 14: Math functions {acos(), asin(), atan(), atan2(), cos(), sin(), tan(), log(), log10(), pow(), sqrt(), ceil(), floor(), fmod(), abs(), labs()}.
Class Assignment: assign 1
Lab Assignment: assign 1, assign 2

Lecture 15: Local & Global Variables, Concept of a Function, Function with & without Argument, function with & without return type, Recursive functions.
Class Assignment: assign 1, assign 2
Lab Assignment: assign1, assign 2

Lecture 16: Pointers, Need and Importance, relationship between Array and pointer, call by values & call by reference concept, dynamic array using malloc, alloc functions.
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign 1, assign 2

Lecture 17: Concept of storage classes, types of storage Classes - Automatic, Extern, Static, Register Advantages of Storage classes
Class Assignment: assign 1
Lab Assignment: assign 1

Lecture 18: File handling in C, concept of file, opening and closing a file, different modes of opening a file, reading and writing data into a file, handling text and data records in a file.
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 19: Concept of command line arguments, executing the programs from command prompt, creating the functions to accept parameters from command prompt
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 20: Graphics, drawing line, rectangle, polygon, setting background & line color, adding sounds
Class Assignment : assign 1, assign 2,assign 3,assign 4,assign 5
Lab Assignment: assign 1, assign 2

Faculty Reference Manual
C++ (27 Hrs)

Lecture 1: Drawbacks of procedural language, procedural languages and object- oriented languages comparison, Concept of OOPS {class, object, encapsulation, data abstraction, polymorphism, reusability, inheritance, Dynamic binding, message passing}, benefits of OOPS, Introduction & History of C++.
Class Assignment: assign 1
Lab Assignment: assign 1

Lecture 2: Basic program structure, writing first program in C++, comments, output, input operators return statement, An example with class, tokens {Keywords, Identifiers, variables, Constant**s,** Strings, datatypes, Operators}
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 3: Loops and Decision Statements {if -else, nested else if, switch, break, goto & labels, continue, for loop, While loop, do-while loop}
Class Assignment: assign 1, assign 2, assign 3, assign 4
Lab Assignment: assign 1, assign 2, , assign 3, assign 4, assign 5

Lecture 4: Arrays, one dimensional, two dimensional arrays and multi dimensional array
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 5: User defined data types Structure, Accessing structure members, Nested structure, creating objects from Structures, Enumerated data type
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 6: String functions, Time functions, math functions,
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign 1, assign 2

Lecture 7: Functions, Main functions, function prototyping, call by reference, call by value, default argument, const Argument
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 8: Creating class & objects, defining data members & member functions, accessing class members, access Specifier {private, public, protected}, defining member functions outside the class using scope resolution Operator
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 9: Memory allocation & deallocation using new, delete operators, creating static data members and Member Functions, object as function arguments, friendly functions, returning object from function,
Class Assignment: assign 1, assign2, assign 3
Lab Assignment: assign 1, assign 2

Lecture 10: Constructor & destructor, Constructor types {default constructor, constructor with default argument, Parameterized constructor, copy constructor}, constructor overloading
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 11: Inline functions, creating object array, passing object as argument in function
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 12: Operator overloading, rules for operator overloading, overloading unary operators, overloading binary Operators, overloading binary operators using friends, Type conversions
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 13: Inheritance, types of inheritance, {simple, multiple, multilevel, hierarchical}, creating derived classes, Accessing methods, and variables from base class
Class Assignment: assign 1, assign 2, assign 3, assign 4
Lab Assignment: assign 1, assign 2

Lecture 14: Pointers, pointer to object, this pointer, pointers to derived classes, virtual functions, rules for virtual Functions
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign 1, assign 2

Faculty Reference Manual
C++ (27 Hrs)

Lecture 15: Managing console I/O operations, C++ streams classes, unformatted I/O operations, formatted console I/O operators, managing output with manipulators
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 16: Linked Lists, inserting a node in the linked list, displaying the lists, deleting a node, updating a node
Class Assignment: assign 1
Lab Assignment: assign 1

Lecture 17: File Stream operations, opening and closing a file, detecting end of file, file open modes, file pointers and Their manipulations, sequential input and output operation, updating a file {random access}, error handling During file operation, command line argument
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2

Lecture 18: Templates and class templates, function templates, template argument
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1

Faculty Reference Manual
System Analysis & Design (15 Hrs)

Lecture 1: INTRODUCTION TO SYSTEMS ANALYSIS AND DESIGN
Introduction, Role of the Systems Analyst, Systems Development Life Cycle, Systems Development Methodologies, Project Team Skills and Roles, Project Identification, Feasibility Analysis, Project Selection
Class Assignment: assign 1
Lab Assignment: assign 1, assign 2

Lecture 2: OBJECT-ORIENTED MODELING
Modeling and Abstraction, Objects and Classes, Generalization, Links and Associations
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2, assign 3

Lecture 3: SOFTWARE DEVELOPMENT
Generic And Historical Perspectives, Unified Software Development Process, Waterfall, Prototyping, Fourth Generation, Spiral, Phased, Use-Case Model
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2, assign 3

Lecture 4: SYSTEM REQUIREMENTS
Life Cycle Role, Artifacts, Workers And Process, Importance & Difficulty, Process, Domain Modeling, Use-Case Modeling User-Interface Description & Prototyping, Validating System Requirements **,** User Needs — Identification, Feasibility Determination, Identifying Classes & Associations, Identifying Actors, Identifying User Interface Elements,
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1, assign 2, assign 3

Lecture 5: SYSTEM ANALYSIS
Life Cycle Role, Use-Case Model, Analysis Model, System Analysis Process, Analysis Class — Entity Class, Analysis Class — Control Class, Discovering Analysis Class Interactions, Collaboration Diagrams, Sequence Diagrams, Specifying Object Behavior - Decision Tables, Object States, State chart, Activity Diagrams
Class Assignment: assign 1
Lab Assignment: assign 1, assign 2

Lecture 6: USER INTERFACE DEVELOPMENT
UI Development Process, UI Requirements Capture, capturing tasks, documenting tasks, UI Analysis, task synthesis, dialog description
UI Design, models, dynamics, metaphors, process and principles
Class Assignment: assign 1, assign 2, assign 3
Lab Assignment: assign 1

Lecture 7: SYSTEM DESIGN
System Design — General, Life Cycle Role, Artifacts And Workers, Importance Of Design, Design Goals, System-Wide, Issues, Implementation Environment, Design Process, System Design — Unified Development Process, Design Use Cases, Design Classes, Design Subsystems **,** Use-Case Design, Deployment Model
Class Assignment: assign 1
Lab Assignment: assign 1

Lecture 8: IMPLEMENTATION.
Implementation - General, Life Cycle Role, Artifacts and Workers, Process, Implementation — Unified Development Process, Component Model, Implement a Class, Implement a Subsystem, Integrate System, Architectural Implementation
Class Assignment: assign 1
Lab Assignment: assign 1

Lecture 9: TESTING.
Plan Tests, Design Tests, White Box, Black Box, Regression, Implement Tests, Perform Tests, Unit Integration, System Acceptance, Evaluate Tests, Debugging
Class Assignment: assign 1
Lab Assignment: assign 1

Lecture 10: SOFTWARE QUALITY ASSURANCE.
Quality Assurance, An Umbrella Activity - Software Metrics, Software Standards, Product Quality, Design Quality Metrics - Formal Approaches, Program Quality Metrics, Project Quality, Reviews, Software Configuration Management, People Quality, People Capability Maturity Model.
Class Assignment: assign 1, assign 2
Lab Assignment: assign 1

Faculty Reference Manual
Oracle (36 Hrs)

Lecture 1: Introduction DBMS, RDBMS concepts, differences between DBMS & RDBMS, Database Designing through ERD, getting familiar with ERD Symbols, Creating relations, defining attributes in ERD.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 2: Transforming ERD into RDBMS Database Design, Understanding Codd's rules, Applying Normalization, Understanding the tier architecture.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 3: Creating and Managing Tables: Data Types, SQL Command Types {DML, DDL, DCL, TCL}, Creating a Table, Dropping Tables, Altering Tables, Creating a Table from a Table, adding, altering & dropping constraints, ROLLBACK, COMMIT
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 4: Selecting & Updating Data: displaying records using select statement, from clause, displaying selected columns, filtering the data using where clause , insert, update, merge, and delete
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 5: Operators: arithmetic operators {+, -, /, *}, logical operators {AND, OR, NOT}, comparison operators {=, <>, <=, >=}, Range Operators {Between, Not Between} List Operators {IN, NOT IN} , Like, Not Like, using wild cards.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 6: Aggregate & group functions: {SUM, AVG, COUNT, MAX, MIN}, grouping result sets {GROUP BY, GROUP BY ALL, COMPUTE, COMPUTE BY, ROLLUP, CUBE}
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 7: Math Function: {ABS, ACOS, ASIN, ATAN, ATAN2, BITAND, CEIL, COS, COSH, EXP, FLOOR, LN, LOG, MOD, POWER, ROUND (number), SIGN, SIN, SINH, SQRT, TAN, TANH, TRUNC (number)} String Function: {CHR, CONCAT, INITCAP, LOWER, LPAD, LTRIM, NLS_INITCAP, NLS_LOWER, NLSSORT, NLS_UPPER, REPLACE, RPAD, RTRIM, SOUNDEX, SUBSTR, TRANSLATE, TREAT, TRIM, UPPER, ASCII, INSTR, LENGTH}
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 8: Date Functions: {ADD_MONTHS, CURRENT_DATE, CURRENT_TIMESTAMP, LOCALTIMESTAMP, MONTHS_BETWEEN, NEW_TIME, NEXT_DAY, NUMTODSINTERVAL, NUMTOYMINTERVAL, ROUND (date), SESSIONTIMEZONE, SYS_EXTRACT_UTC, SYSDATE, SYSTIMESTAMP, TO_DSINTERVAL, TO_TIMESTAMP, TO_TIMESTAMP_TZ, TO_YMINTERVAL, TRUNC (date) }
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 9: Conversion and Transformation Functions : Date Arithmetic, ROUND and TRUNC in Date Calculations, TO_DATE ,TO_CHAR, TO_NUMBER, Formatting Dates in where Clauses, Dealing with Multiple Centuries, Using the EXTRACT Function, Using the TIMESTAMP Data types, Conversion and Transformation Functions
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 10: Analytical Queries: RANK, DENSE_RANK, TOP_N, PERCENT_RANK, ROW_NUMBER, RATIO_TO_REPORT, FIRST, LAST
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 11: Joins: Natural, Inner, Outer, Self, Cross Joins, UNION, INTERSECT, and MINUS
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 12: Subqueries: simple & advanced subqueries, using in, any, all operators with subqueries
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 13: DECODE and CASE: If, then, else, Replacing Values via DECODE, DECODE Within DECODE, Greater Than and Less Than in DECODE, Using CASE
Class Assignments: **assign 1, assign 2**
Lab Assignments: **assign 1, assign 2**

Lecture 14: Views, Indexes, Clusters, and Sequences: Creating an Index-Organized Table, Using Partitioned Tables, Creating a View, Indexes, Clusters, Sequences
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 15: Basic Oracle Security: Creating & altering Users & Roles, Grant & Revoke Privileges
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 16: **Using Flashback Queries**: Time-Based Flashback Example, Saving the Data, SCN-Based Flashback Example, What If the Flashback Query Fails?, What SCN Is Associated with Each Row? , Flashback Version Queries, Planning for Flashbacks, The flashback table Command, The flashback database Command
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 17: Introduction to PL/SQL: PL/SQL Overview, Declarations Section, Executable Commands Section, IF statement, Exception Handling Section
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 18: Control Structures: FOR LOOP, EXIT, WHILE, LOOP…EXIT, GOTO
Class Assignments: assign 1, assign 2, assign 3
Lab Assignments: assign 1, assign 2, assign 3

Lecture 19: Procedures & Functions: Creating, Replacing & Dropping Procedures, Passing parameters
Class Assignments: assign 1, assign 2, assign 3
Lab Assignments: assign 1, assign 2, assign 3

Lecture 20: Functions: Creating, Replacing & Dropping functions, Executing the functions, passing the parameters
Class Assignments: assign 1, assign 2, assign 3
Lab Assignments: assign 1, assign 2, assign 3

Lecture 21: Cursors & Packages: Using cursors, creating, replacing & dropping packages
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 22: Triggers: Required System Privileges, Required Table Privileges, Types of Triggers, Trigger Syntax Enabling and Disabling Triggers, Replacing Triggers, Dropping Triggers
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 23: Collectors (Types, Nested Tables & Varying Arrays): Implementing Types, Varying Arrays, Nested Tables, Additional Functions for Nested Tables and Varying Arrays, Management Issues for Nested Tables and Varying Arrays
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 24: Using Large Objects: Create Directory, Create External Table & Access External data, Available Data types, Specifying Storage for LOB Data, Manipulating and Selecting LOB Values
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

St. Angelo's COMPUTER EDUCATION
Creating Global Careers
AN ISO 9001:2000 CERTIFIED COMPANY

Faculty Reference Manual
Core Java (48 Hrs)

Lecture 1: History & creation of Java, Importance as an Internet language (security, portability, simple, object-oriented, robust, multithreaded, architecture-neutral, distributed Dynamic), Java architecture, platform Independence & Byte code, Java Development Environment. Concept of OOPS, First Java Program
Class Assignments: assign1
Lab Assignments: assign1

Lecture 2: The data types in Java, Keywords, Various Operators, Control (blocks) statements, If-else, Switch-case, and Using BufferedReader to accept values.
Class Assignments: assign1, assign 2, assign 3
Lab Assignments: assign1, assign 2, assign 3

Lecture 3: Iteration statements (loops), While loop, Do While loop, For loop, Break, break-label, continue.
Class Assignments: assign1, assign 2, assign 3
Lab Assignments: assign1, assign 2, assign 3

Lecture 4: Class overview, Class Instantiation (object creation), References, Methods, Constructors. Access Specifiers (public, private, protected)
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 5: Constructor overloading, Method overloading, Argument passing, Call-by-value, Call-by-reference, Returning objects
Class Assignments: assign1, assign 2, assign 3
Lab Assignments: assign1, assign 2, assign 3

Lecture 6: Inheritance, use super & this operators
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 7: Abstract Class, Method overriding, “Final” keyword, Finalize method.
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 8
Interfaces & Packages
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 9: Exception Handling, “Try” & “Catch”, “finally”, “throw” & “throws”
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 10: Multithreading concept, Thread basics, Creating threads, Extending thread class, Implementing runnable interface, Thread groups.
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 11: File Handling, reading, writing files
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 12: Collections- Arrays, ArrayList, Enumeration, Hashtables, Vector
Class Assignments: assign1, assign 2, assign 3
Lab Assignments: assign1, assign 2, assign 3

Lecture 13: String Functions, Using Date Functions
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 14: Applet basics, Applet Communication, Conversion of Applet to Application, Graphics class, Color, Fonts
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 15: Mouse & Key event, handling Events, Event Delegation model (Event Listeners), Action & handle Event methods
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 16: AWT Components, buttons, label, textfields, Layout managers Flow, Grid, border, and Card, Frames
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 17: Using Swing Components , JLabel, JButton, JTextFiled , Action Listener
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Faculty Reference Manual
Core Java (48 Hrs)

Lecture 18: JCheckBox, JRadioButton
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 19: JComboBox, JListbox, JScrollPane Change Listener
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 20: JScrollbar, JSlider,
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 21: JMenu, JMenubar, JMenuItem,
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 22: JToolbar, tooltips , File Choosers, Color Chooser
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 23: JProgressBar, Jseperators,
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 24: tabbed panes
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 25: JTree, adding items dyanamically
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 26: Inserting images using image objects, Imageicon, animation
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 27: Inserting sounds, playing, stopping, pausing sounds
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 28: Introduction to Java Beans, Creating a simple bean program, using jar command
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 29: Networking Basics (IP address, Port address, URL, DNS)
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 30: Socket Programming
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 31: Introduction to JDBC, Connection, ResultSet, Statement Objects
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 32: JDBC – Inserting, Updating, Deleting Data Tables
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Faculty Reference Manual
Advance Java (RMI, Servlets & JSP) (18 Hrs)

Lecture 1: RMI (Remote Method Invocation)**,** Distributed Computing principles – Difference from client server computing, Features of RMI Architecture, concepts of stubs & skeletons, Understanding different classes & interface for RMI, Using RMI class & its methods, Deploying RMI programs.
Class Assignments: assign1
Lab Assignments: assign1

Lecture 2: Getting started with Servlets, Life Cycle of Servlets, writing hello world program, HttpServletRequest, HttpServletResponse, configuring Web.xml file, deploying the application on web server, processing the requests
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 3: Creating & processing forms using Servlets, redirecting the page, using QueryString
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 4: Getting Started with Java Server Pages, A "Hello World" JavaServer Page, Using the <% %> Tags in a JavaServer Page, Displaying a Value with <%= %>, Inserting Comments, Declaring Methods and Variables with <%! %>
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 5: Working with JSP Directives, The page Directive, The include Directive
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 6: Creating & processing the forms in JSP, using QueryString
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 7: Working with session for passing the data between web pages
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 8: Working with cookies, reading & writing the cookies
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 9: Working with JavaBeans & Applet
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 10: Introduction to JSTL, using taglib directives, using core tag library
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 11: Working with databases, accessing & displaying the data, using JSTL SQL Tag Library
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Lecture 12: Creating forms for inserting, updating, deleting the data
Class Assignments: assign1, assign 2
Lab Assignments: assign1, assign 2

Faculty Reference Manual
SQL Server 2008 (30 Hrs)

Lecture 1: Introduction DBMS, RDBMS concepts, differences between DBMS & RDBMS, Database Designing through ERD, getting familiar with ERD Symbols, Creating relations, defining attributes in ERD.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 2: Transforming ERD into RDBMS Database Design, Understanding Codd's rules, Applying Normalization, Understanding the tier architecture.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 3: Getting Started with SQL Server Management Studio, Understanding database objects, Introduction Structured Query Language, Data Types, Types of Commands (DDL, DCL, TCL, DML), Select statement, selecting columns, executing query, displaying columns with user defined heading, displaying selected rows from a table using where clause
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 4: Tables & Constraints: Creating Database, Creating, Altering & dropping Tables, creating & dropping constraints {unique key, primary key, foreign key, check, default}, Inserting, Updating, deleting the data in the tables
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 5: Operators: Arithmetic operators {+, -, *, /, %}, Comparison operators {>,>=,<=,=,<>, !=, !<, !>, ( )}, Logical operators {AND, OR, NOT},
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 6: Operators & Aggregate functions: BETWEEN, NOT BETWEEN, IN, LIKE operators, IS NULL, IS NOT NULL, Aggregate {SUM, AVG, COUNT, MAX, MIN, GROUP BY}
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 7: String functions: {ASCII, CHAR, CHARINDEX, DIFFERENCE, LEFT, LEN, LOWER, LTRIM, PATINDEX, REVERSE, RIGHT, RTRIM, SPACE, STR, STUFF, SUBSTRING, UPPER},
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 8: Date & Math functions: Date {DATEADD, DATEDIFF, DATENAME, DATEPART, GETDATE}, Math {ABS, ACOS, ASIN, ATAN, COS, SIN, COT, DEGREES, EXP, FLOOR, LOG, LOG10, PI, POWER, RADIANS, RAND, ROUND, SIGN, SQRT}
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 9: Joins: Types of joins {inner, outer, cross, equi, natural, self}, displaying data from two table using inner join, outer join, cross join, natural join, correlating the other rows from same table using self join.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 10: Subqueries: using Subqueries with {IN clause, EXISTS clause, aggregate functions}, nested Subqueries, correlated Subqueries, Subqueries with modified comparison operators {>ALL, >ANY, =ANY, <>ANY, <>ALL}, UNION operator, Common Table Expressions (CTE)
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 11: Pivoting & Ranking functions: PIVOT and UNPIVOT Operators, Top N, ROWNUMBER()
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 12: Indexes & Views: types of indexes, creating of indexes, Creating, Altering, dropping views
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 13: Procedural Structure: Variable, IF, CASE, BEGIN…END
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 14: Loops & Exception Handling: WHILE, Error Message, @@ERROR, TRY...CATCH, RAISERROR
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 15: Stored procedures: Creating, & Executing Procedures, Input & Output Parameters, Altering & dropping the procedures.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 16: Functions: Types of functions, creating, altering & dropping the functions, returning values from functions, passing parameters
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 17: Cursors & Temporary Tables: Type's cursors, creating, altering & dropping cursor, Creating Table Variable, Temporary Tables.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 18: Triggers: types of triggers {DML, DDL}, creating, altering & dropping triggers
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 19: Using XML in SQL Server 2005: XML enhancements in SQL Server 2005 , FOR Clause, Enhancements to OpenXML function , XML Data Types, XML Typing , storing XML in databases, Untyped XML data , Using Typed XML , Using XML Schemas, Managing XML indexes , XQuery
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 20: SQL Security & Management: Creating Logins, Roles, Schema, Granting & Revoking the Permission, Backup & Restore Database, Attaching & Detaching Database, SQL Server Registration, Importing & Exporting Data
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Faculty Reference Manual
C# 2008 (39 Hrs)

Lecture 1: Introduction & Features of .NET, .NET Framework Architecture, CLR, CTS, CLS, MSIL, JIT, Assemblies, Meta Data, .NET Languages, Code Access Security, Language Integration, Writing Hello world program
Class Assignments: assign 1
Lab Assignments: assign 1

Lecture 2: C# Data Types, operators, If else, switch case
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 3: Loops – For, While, Do While, continue, break statements
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 4: Array, Exception Handling
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 5: Working with Class & Objects, Methods, Properties, Structures
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 6: Polymorphism- Overloading Constructor & Methods, Inheritance- Types of Inheritance
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 7: Creating Abstract class, Interfaces
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 8: Windows forms: TextBox, Label, Button, CheckBox, RadioButton, GroupBox controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 9: Windows forms: ListBox, ComboBox, and PictureBox
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 10: Windows forms: ScrollBar, Timer, NotifyIcons, ToolTip controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 11: ImageList, ListView controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 12: Windows forms: Tree view, progress bars, tab controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 13: Using MenuStrip, ToolStrip, StatusStrip, RichTextBox, File handling – Reading & Writing Files, Open file dialog, save file dialog
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 14: Print dialog, font dialog, color dialog, page setup dialog controls, Context Menu
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 15: Crating user controls, Class Library
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 16: Threading, MultiThreading, Thread Methods
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Faculty Reference Manual
C# 2008 (39 Hrs)

Lecture 17: ADO.NET- Introduction, simple binding and complex binding, DataSet (typed & untyped)
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 18 : ADO.NET - Creating data entry form, navigating, adding, updating & deleting the records
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 19: ADO.NET – Adding DataSource, Using DataSource Panel for creating forms, Editing Data in DataGridView
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 20: WPF - XAML**,** working with common controls, Button, Textbox, PasswordBox, GridControl, GridSplitter, Canvas Control, Using Static & Dynamic Resource, Setting style
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 21: WPF - XAML**,** DataBinding
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 22: LINQ: Introduction to LINQ Queries, Query Operators – Sorting, Filtering, Quantifier, Projection, Partition, Join, Grouping, Generation. Element, Conversion, Aggregate Operators
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 23: LINQ: LINQ to SQL & DataSet
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 24: Crystal Reports – Creating simple report through wizard and report expert, modifying & adding objects on the reports, adding special fields
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 25: Crystal Reports – Using Typed DataSet for creating Invoice report, grouping fields, summary fields and formula fields
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 26: Creating Setup and deployment projects, adding files & resources, creating shortcuts, customizing user interface
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Faculty Reference Manual
VB.NET 2008(39 Hrs)

Lecture 1: Introduction & Features of .NET, .NET Framework Architecture, CLR, CTS, CLS, MSIL, JIT, Assemblies, Meta Data, .NET Languages, Code Access Security, Language Integration, Writing Hello world program
Class Assignments: assign 1
Lab Assignments: assign 1

Lecture 2: VB.NET Data Types, operators, If else, Select Case
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 3: Loops – For, While, Do While, Exit statement, with statements
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 4: Array, Exception Handling
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 5: Working with Class & Objects, Methods, Properties, Structures
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 6: Polymorphism- Overloading Constructor & Methods, Inheritance- Types of Inheritance
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 7: Creating Abstract class, Interfaces
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 8: Windows forms: TextBox, Label, Button, CheckBox, RadioButton, GroupBox controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 9: Windows forms: ListBox, ComboBox, and PictureBox
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 10: Windows forms: ScrollBar, Timer, NotifyIcons, ToolTip controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 11: ImageList, ListView controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 12: Windows forms: Tree view, progress bars, tab controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 13: Using MenuStrip, ToolStrip, StatusStrip, RichTextBox, File handling – Reading & Writing Files, Open file dialog, save file dialog
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 14: Print dialog, font dialog, color dialog, page setup dialog controls, Context Menu
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 15: Crating user controls, Class Library
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 16: Threading, MultiThreading, Thread Methods
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Faculty Reference Manual
VB.NET 2008(39 Hrs)

Lecture 17: Introduction ADO.NET, simple binding and complex binding, DataSet (typed & untyped)
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 18: ADO.NET - Creating data entry form, navigating, adding, updating & deleting the records
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 19: ADO.NET – Adding DataSource, Using DataSource Panel for creating forms, Editing Data in DataGridView
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 20: WPF - XAML**,** working with common controls, Button, Textbox, PasswordBox, GridControl, GridSplitter, Canvas Control, Using Static & Dynamic Resource, Setting style
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 21: WPF - XAML**,** DataBinding
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 22: LINQ: Introduction to LINQ Queries, Query Operators – Sorting, Filtering, Quantifier, Projection, Partition, Join, Grouping, Generation. Element, Conversion, Aggregate Operators
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 23: LINQ: LINQ to SQL & DataSet
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 24: Crystal Reports – Creating simple report through wizard and report expert, modifying & adding objects on the reports, adding special fields
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 25: Crystal Reports – Using Typed DataSet for creating Invoice report, grouping fields, summary fields and formula fields
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 26: Creating Setup and deployment projects, adding files & resources, creating shortcuts, customizing user interface
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Faculty Reference Manual
ASP.NET 3.5 with IIS(39 Hrs)

Lecture 1: IIS - Windows NT Platform basics, Web Server Concepts, IIS Installation Concepts, IIS - Internet Service Manager, Internet Explorer Settings, Working with Domains

Lecture 2: IIS – WWW Server Implementation, WWW Server Settings, FTP Server Settings, IIS – Security Concepts, Firewalls, Planning Intranet.

Lecture 3: Introduction, Features, ASP.NET Page Life Cycle, Creating a Website, Using TextBox, Label, Button Controls, code behind concept, Using HTML controls as server controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 4: Working with Image, ImageMap, ImageButton, HyperLink, LinkButton, RadioButton, CheckBox controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 5: CheckBoxList, RadioButtonList, DropdownList, ListBox controls,
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 6: Working with validation controls: RequiredFieldValidator, CompareValidator, RangeValidator, RegularExpressionValidator, CustomValidator
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 7: Working with AJAX Controls: Script Manager, Update Panel, Update Progress, Timer
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 8: Working with Master Pages, Accessing master pages at runtime, working with Themes and Skins.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 9: Introduction Web Parts controls: WebPartManager, CatalogZone, EditorZone, WebPartZone, ConnectionsZone, Creating a simple WebParts Page
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 10: Working with Ad Rotator controls, FileUpload Controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 11: Navigation Controls- Menu, TreeView, SiteMap
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 12: Working with State: Application State, Session State, View State
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 13: Working with Cooking, reading writing cookies, Using QueryStrings
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 14: ADO.NET: Introduction, Accessing Data from database, Data Binding with List controls like CheckBoxList, RadioButtonList, ComboBox, and ListBox
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 15: Working with DataGridView, Paging, Updating data in DataGridView, Adding Command Button & Hyperlinks, working with RowDataBound event.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Faculty Reference Manual
ASP.NET 3.5 with IIS(39 Hrs)

Lecture 16: Working with DataList, DataRepeater
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 17: Working with DetailView, FormView, ListView, DataPager Controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 18: Creating a form for inserting, updating & deleting the data.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 19: LINQ: Introduction to LINQ Queries, Query Operators – Sorting, Filtering, Quantifier, Projection, Partition, Join, Grouping, Generation. Element, Conversion, Aggregate Operators
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 20: LINQ: LINQ to SQL & DataSet
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 21: Working with Login Controls, Managing users and roles with ASP.NET membership provider
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 22: Creating Web User Controls
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 23: Using SilverLight in ASP.NET for making rich interactive content.
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 24: Sending Emails, Providing the SMTP Server's Details, using the MailMessage and SmtpClient classes
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 25: Working with WCF Services & Web Services, Creating a Simple "Hello World" Service
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Lecture 26: Packaging and Deploying ASP.NET Applications, Copying website, publishing website
Class Assignments: assign 1, assign 2
Lab Assignments: assign 1, assign 2

Hardware & Network Engineering

Faculty Reference Manual
Hardware & Laptop Repairing (45 Hrs)

DESKTOP REPAIRING **Duration: 37 Hrs.**

Lecture 1: Assembling of Computer – Introduction to different parts of computers, connecting various Devices & Components.
Students Assignment: Steps of Assembling of Computer – Connecting various Devices & Components.
Practical Session: Assemble the different parts of the Computer such as Power supply, RAM, Motherboard, Microprocessor etc.

Lecture 2: Introduction to Computers, Advantages, Disadvantages, Introduction to different Types of Electronic Components on the motherboard, Resistors, Capacitors, Diodes, Transistors, IC etc.
Students Assignment: Computer Definition, Advantages & Disadvantages, Introduction to different Types of the Components on the motherboard, Resistors, Capacitors, Diodes, Transistors, IC etc.
Practical Session: Identifying the Different types Electronic components on the Motherboard, and testing different components of computers.

Lecture 3: BIOS Setup –Load Fail-Safe Default, Load Optimized Default, Standard CMOS Features, Advance BIOS Features, Advance Chipset Features
Students Assignment: What is ROMBIOS? Define the function of BIOS Programs.
Practical Session: Setup the- Load Fail-Safe Default, Load Optimized Default, Standard CMOS Features, Advance BIOS Features.

Lecture 4: BIOS Setup –Integrated Peripheral, Power Management Setup, PnP/PCI Configuration, Frequency Voltage Control, Supervisor/User Password Setting
Students Assignment: BIOS Setup –Integrated Peripheral, Power Management Setup, PnP/PCI Configuration, Frequency Voltage Control, Supervisor/User Password Setting.
Practical Session: BIOS Setup - Integrated Peripheral, Power Management Setup, PnP/PCI Configuration, Frequency Voltage Control, Supervisor/User Password Setting.

Lecture 5: Partitioning and Formatting of HDD, Introduction to file system, different types of file system, and Practical of Partitioning and Formatting of HDD Drive.
Students Assignment: Define the partition & format, Different types of partitions, Steps of Partitioning and Formatting. Define the File system & differentiate the file system.
Practical Session: Assemble the HDD, Creating new Partition and Format it.

Lecture 6: Introduction to OS, Types of OS, Installation of Operating System and Application Software. (Ms Office, Tally & WinZip, Winrar etc.)
Students Assignment: Steps Installation of Operating System and Application Software, Steps of the installing windows XP. (Add Images of installing windows XP).

Practical Session: Installation of Operating System and Application Software.

Lecture 7: Repairing windows Operating System (Console repairing & graphical repairing) and Removing Application Softwares.(MS Office, Tally & WinZip, Winrar Etc.)
Students Assignment: Steps for repairing Operating System and Steps for removing Application Software. (MS Office, Tally & WinZip, Winrar Etc.).
Practical Session: Repairing Windows Operating System and Removing Application Software.

Lecture 8: Introduction of the Software, Different types of the Software, Difference between Systems softwares & Application Software, Third Party Software.
Students Assignment: Different types of the Software, Difference between Systems software & Application Software, Third Party Software.
Practical Session: Installation of the System Software & application Software.

Lecture 9: Input Devices, Function of Input devices– Keyboard, Mouse, Scanner, MIC, Light Pen, and Touch Screen and their Components.
Students Assignment: Define keyboard and its types, Mouse and its types. Define the working of the keyboard, Mouse &scanner.
Practical Session: Types the Keyboard & connectors, Different types of Mouse & connectors.

Lecture 10: Output Devices, Function of output devices —Monitor & Types of monitors, Speaker, Printer & its types, inside to printer & Plotter.
Students Assignment: Define the Monitor and its types, Printer and its types & working of the Printer.

Practical Session: Identification of the Output Devices, No of the Pins, Connectors.

Lecture 11: What is Memory? Primary & Secondary Memory, RAM & ROM and its types, memory Packages & Modules (SIP, DIP SIMM, DIMM, RIMM's) Modules, Installation Techniques
Students Assignment: Difference between Primary & Secondary Memory, RAM & ROM and its types. Describe the steps to installing RAM on the DIMM slots. Define Memory Packages & Modules with their generation. Define the memory Modules with neat diagrams.
Practical session: Types the RAM, Identification, No. of Pins on Different Types of RAM, and RAM Speed & Installation of RAM.

Lecture 12: Introduction of the Cache Memory, Types of the Cache Memory, Virtual Memory, Flash Memory,
Student Assignment: Introduction of the Cache Memory, Types of the Cache Memory, Virtual Memory, Flash Memory.
Practical Session: Identification of the cache memory, Virtual, Flash memory.

Lecture 13: Secondary Storage Devices – FDD, CD, HDD, DVD, and their Internal Components & Structures, installing different storage devices.
Students Assignment: Secondary Storage Devices, parts of the HDD, FDD & CD-ROM. Describe the steps to installing CD-ROM, Floppy, HDD with Master & slave configuration. Steps for installing devices.
Practical Session: Types of the HDD & Identification, Differences, Types of the Connectors, installing devices.

Lecture 14: Introduction to OS, Distinction Between DOS & Windows, DOS – Internal Commands (cd.., cd\, dir, dir/p, dir/w, dir/s, date, time, ver, copycon, edit, ren, copy, del, deltree, path, dir *.*, md or mkdir, task list, task kill, help(?), label, etc…)
Students Assignment: Define the Different types of the DOS command, Difference between DOS & Windows, describe the different dos commands.
Practical Session: Working on the External & Internal DOS Commands on Computer.

Lecture 15: DOS – External Commands. (Fdisk, format, chkdsk, scandisk, disk copy, disk comp, backup, restore, Etc.
Students Assignment: Define External & Internal Commands.
Practical Session: Working on the External & Internal Dos Commands on Computer.

Lecture 16: Microprocessor, BUS & It's Types, CPU Generation and X86 Intel family processor, MHz & GHz. Identification of Processor
Students Assignment: Define Microprocessor, CPU Generation and X86 Intel family processor, Difference between Intel & AMD Processor
Practical Session: Identification of different types Microprocessor & Speed, Assemble the Microprocessor on the Motherboard.

Lecture 17: Different Parts of Motherboard (Processor Slot/Socket, Memory Slot, Expansion Slot, IDE Connector, FDC connector, COM Port, Parallel Port, USB, BIOS, Front panel connector, Keyboard Connector, Power connector, Display connector, Sound Port, Ps/2 Connector etc
Students Assignment: Define the Different components of Motherboard, Chipsets on the motherboard, Buses and Its Types.
Practical Session: Types of Motherboards, Identification & Their Components, Fixing the Motherboard on the Cabinet.

Lecture 18: Expansion Slots, ISA, MCA, EISA, PCI, Some Specific Expansion Slots(AGP,AMR,PCI Express), Different Types of Cards & Its Identification.
Students Assignment: Define Expansion Slots, ISA, MCA, EISA, PCI, Some Specific Expansion Slots, Different Types Cards & Its speed and Uses.
Practical Session: Installation of Different types of Cards on the Different Slots. (Display, LAN Card, Sound Etc.)

Lecture 19: Power Supply, SMPS, Types of SMPS, Power Safe Guard Devices (Spike Guards, Stabilizer), Power Backup Devices (SPS, UPS).
Students Assignment: What is the SMPS, Types of SMPS, Different Voltages AT & ATX power supply, Power Safe Guard Devices (Spike Guard, Stabilizer), Power Backup Devices (SPS, UPS), and
Practical Session: Components of the SMPS Check the SMPS working or not, Fixing the SMPS on the cabinet.

Lecture 20: Assembling of Computer on P-IV Computer – Introduction to different parts of computers, connecting various Devices & Components.
Student Assignment: Write down the step by step procedure of assembling of PC; also mention the Do's and don't's.
Practical Session: Assembling of computer with latest Computer.

Lecture 21: VIRUS, Major Areas of VIRUS Attacks, Types of Viruses, Anti-Virus & Various Types of Antivirus Packages & Tools.
Students Assignment: Types of the VIRUS, Major Areas of VIRUS Attacks, Types of Anti-Virus & Various Types of Antivirus Packages & Tools.
Practical Session: Installation of the Anti-Virus, Scanning of the Computer through, Folder, File, Updating the Anti-virus through the Internet.

Lecture 22: Troubleshooting of Computer-Definition, Tools to be carried by Engg, Troubleshooting Display Problem, HDD problem, CDROM problem, FDD problem, Sound problem Etc.
Students Assignment: Troubleshooting of Computer-Troubleshooting Keyboard Problem, Mouse Problem, Sound Problem, Printer Problem, Modem Etc.
Practical Session: Troubleshooting Tips.

Lecture 23: Troubleshooting of Computer-Troubleshooting Keyboard Problem, Mouse Problem, Sound Problem, Printer Problem, Modem Etc.
Students Assignment: Troubleshooting Steps Keyboard Problem, Troubleshooting Steps Mouse Problem, Sound Problem, Printer Problem, Modem Etc.
Practical Session: Troubleshooting Tips.

Faculty Reference Manual
Hardware & Laptop Repairing (45 Hrs)

Lecture 24: Networking Concept-Definition, Requirements of Network, Different types of Network, (peer to peer & server based).

Students Assignment: Definition, Requirements of Network, Different types of Network, (peer to peer & server.
Practical Session: No practical

Lecture 25: Networking Concept- Media –Definition, Bandwidth, Bounded & Unbounded media, media types (Coaxial, Twisted Pair, and Fiber Optic), Benefits and Limitations of each type of media.
Students Assignment: Networking Concept- Media –Definition, Bandwidth, Bounded & Unbounded media, media types (Coaxial, Twisted Pair, and Fiber Optic), Benefits and Limitations of each type of media.
Practical Session: Showing the Practical network in the lab

LAPTOP REPAIRING FRM **Duration: 8 Hrs.**

Lecture 26: Introduction to Portable Systems, History and Background, Defining the Portable Computer, Evolution of the : ortable Computer, Advantages of Laptops, The Problems of Using Portables, General Solutions to Laptop Problems, Types and Classes of Portable Computers, Major Features.
Students Assignment: Difference between Laptop & Notebook, Advantages & Disadvantages of the Laptop.
Practical Session: Identification of the Different Components of the Laptop.

Lecture 27: System Maintenance and Assembly, Preventive Maintenance, Maintenance Tools, Upgrading and Repairing Portables, BIOS Setup, Dealing with Passwords, Processors, Mobile Processor Features, Mobile Processor Packaging, Processor Features, Intel Mobile Processors, AMD Mobile Processors.
Students Assignment: System Maintenance and Assembly, BIOS Setup, Dealing with Passwords, Processors, Mobile Processor Features.
Practical Session: Reassembling & assembling of the laptop.

Lecture 28: otherboards, Form Factors, System Bus Types, Functions, and Features, Types of I/O Buses, Components of Motherboard, System Resources, Plug-and-Play devices. Memory Upgrades, Removable Storage, Removable Media, Optical Disc and Drive Technology, CD-Based Optical Technology, DVD Technology, Optical Disc Formats, CD/DVD Read-Only Drives and Specifications, Removable Magnetic Storage Devices, Floppy Drives, Flash Cards and Digital "Film" Memory Devices.
Students Assignment: Motherboards, Functions, and Features, Types of I/O Buses, Components of Motherboard, Plug-and-Play devices. Memory Upgrades, Removable Storage, Removable Media, Optical Disc and Drive Technology, CD-Based Optical Technology, DVD Technology, Optical Disc Formats, CD/DVD Read-Only Drives and Specifications, Removable Magnetic Storage Devices, Floppy Drives, Flash Cards and Digital "Film" Memory Devices.
Practical Session: Types of the Motherboard & Their Identification, Input & Output Devices, Assemble on the Laptop.

Lecture 29: Power Supply, AC/DC Power Supplies, Batteries, Power Management, Expansion Buses, PC Cards (PCMCIA), High-Speed Connections, Low-Speed Connections, Hard Disk Storage, Hard Drive History and Advancements, Areal Density, Hard Disk Drive Operation, Basic Hard Disk Drive Components, Hard Disk Features, The ATA (IDE) Interface, ATA Standards, ATA Features, Serial ATA. Components required for assembling of laptop,
Students Assignment: power supply used in the Laptop, Types of the Hard disk, Hard disk components. Components required for assembling of laptop, Components required for assembling of laptop.
Practical Session: Assemble the Hard Disk, Battery, RAM & Other Components on the Motherboard.

Lecture 30: Problem Solving and Troubleshooting, Basic Troubleshooting, Troubleshooting display, sound, MIC, LAN & Wi-Fi, Modem, Splitting the display, changing multi display, Mobile connectivity, Bluetooth connectivity Etc.
Students Assignment: Steps for Troubleshooting display, sound, MIC, LAN & Wi-Fi, Modem, Splitting the display, changing multi display, Mobile connectivity, Bluetooth connectivity Etc.
Practical Session: Show practical's of multi display, Bluetooth connectivity and Wi-Fi modem & Network Connectivity.

Faculty Reference Manual
Networking Technologies (40 Hrs)

Lecture 1: Introduction of various types of Cables, Concept of Crimping & Various Types of Cabling pattern, : AT5 Cable Crimping, Configuring Peer to Peer Networking.
Student Assignment: Concept of Crimping & Various Types of Cabling pattern, Practical of CAT5 Cable Crimping. Configuring Peer to Peer Networking.
Practical Session: Concept of Crimping & Various Types of Cabling pattern.

Lecture 2: Installation of windows 98 OS.
Student Assignment: Steps to install of windows 98 OS.
Practical Session: Installation of windows 98 OS.

Lecture 3: Installation of windows XP.
Student Assignment: Steps to install of windows XP.
Practical Session: Installation of windows XP.

Lecture 4: Installation of Windows Server 2003 OS.
Student Assignment: Installation of Windows Server 2003 OS.
Practical Session: Installation of Windows Server 2003 OS.

Lecture 5: Introduction to LAN, Definition, Advantage & Disadvantage, Requirement of a Network, Different types of computing (Centralized, Distributed, Collaborative), Different types of Network. (Peer to peer & server based) Project Guidelines in LAN Technology.
Student Assignment: Advantage & Disadvantage, Requirement of a Network, Different types of computing (Centralized, Distributed, Collaborative), Different types of Network. (Peer to peer & server based).
Practical Session: Centralized, Distributed, Collaborative), Different types of Network

Lecture 6: Assigning IP Addressing (Windows 98 / 2000 Professional/Windows XP).Sharing & Accessing the drive /folder over the network, using multiple sharing.
Student Assignment: Assigning IP Addressing (Windows 98 / 2000 Professional/Windows XP).Sharing & Accessing the drive /folder over the network, using multiple sharing.
Practical Session: Assigning IP Addressing (Windows 98 / 2000 Professional/Windows XP).Sharing & Accessing the drive /folder over the network, using multiple sharing.

Lecture 7: Creating Local users & groups, adding users to group, assigning rights to the users, configuring local security rights, using NTFS permissions.
Student Assignment: Local users & groups, adding users to group, assigning rights to the users, configuring local security rights, using NTFS permissions.
Practical Session: Creating Local users & groups, adding users to group, assigning rights to the users, configuring local security rights, using NTFS permissions

Lecture 8: Using windows control panel and its options
Student Assignment: control panel and its options.
Practical Session: control panel and its options.

Lecture 9: IP Addressing, Definition, Types of IP addressing (Static & Dynamic), Different Network Classes, Max. No. of Network No. of Hosts in each Class. Conversion of Decimal to Binary & Binary Number to Decimal.
Student Assignment: IP Addressing, Definition, Types of IP addressing (Static & Dynamic), Different Network Classes, Max. No. of Network No. of Hosts in each Class. Conversion of Decimal to Binary & Binary Number to Decimal.
Practical Session: Subnetting on Different Classes,

Lecture 10: Concept of Domain controller, Difference between workgroup & Domain controller, DNS, installation and configuration DNS, Installing domain controller, uninstalling domain controller, connecting client to domain controller.
Student Assignment: Concept of Domain controller, Difference between workgroup & Domain controller, DNS, installation and configuration DNS, Installing domain controller, uninstalling domain controller, connecting client to domain controller.
Practical Session: DNS, installation and configuration DNS, Installing domain controller, uninstalling domain controller, connecting client to domain controller.

Lecture 11: Creating Domain user & group, assigning user rights, resetting user password, adding user to group, deleting user account, sharing file and folder, providing security, Security inheritance.
Student Assignment: Creating Domain user & group, assigning user rights, resetting user password, adding user to group, deleting user account, sharing file and folder, providing security, Security inheritance.
Practical Session: Creating Domain user & group, assigning user rights, resetting user password, adding user to group, deleting user account, sharing file and folder, providing security, Security inheritance.

Faculty Reference Manual
Networking Technologies (40 Hrs)

Lecture 12: Concept of network mapping, manual mapping & auto mapping, remote desktop sharing, web connectivity (Through logmein), using netmeeting,
Student Assignment: Concept of network mapping, manual mapping & auto mapping, remote desktop sharing, web connectivity (Through logmein), using netmeeting,
Practical Session: Network mapping, manual mapping & auto mapping, remote desktop sharing, web connectivity (Through logmein), using netmeeting,

Lecture 13: Introduction to printer, types of printer, installing printers, sharing printers, printer properties, installing network printer.
Student Assignment: printer, types of printer, installing printers, sharing printers, printer properties, installing network printer.
Practical Session: Installing printers, sharing printers, printer properties, installing network printer.

Lecture 14: Introduction to backup, what to backup, types of backup, scheduled backup and restoring backup data.
Student Assignment: backup, what to backup, types of backup, scheduled backup and restoring backup data.
Practical Session: scheduled backup and restoring backup data.

Lecture 15: Media –Definition , Bandwidth, Bounded & Unbounded media, media types (Coaxial, Twisted Pair, Fiber Optic), Benefits and Limitations of each type of media.
Student Assignment: Definition, Bandwidth, Bounded & Unbounded media, media types (Coaxial, Twisted Pair, Fiber Optic), Benefits and Limitations of each type of media.
Practical Session: Identification & Limitations

Lecture 16: Wireless Technology (Radio, Microwave, Infrared), Signal Transmission, LAN Connectors (BNC, AUI, RJ45, RJ11, Null Modem, etc.).
Student Assignment: Wireless Technology (Radio, Microwave, Infrared), Signal Transmission, LAN Connectors (BNC, AUI, RJ45, RJ11, Null Modem, etc.).
Practical Session: Types of connectors & Identification.

Lecture 17: Network Topologies-Definition, Different types of network topology (Bus, Ring, Star, Star Bus and Star Ring, Physical Mesh).
Student Assignment: Network Topologies-Definition, Different types of network topology (Bus, Ring, Star, Star Bus and Star Ring, Physical Mesh).
Practical Session: Identification & Installation of the Topologies.

Lecture 18: Different Network Devices –Hub, Switch, Repeater, Bridge, MUX, Different Internetworking Devices -Router, Brouter, Gateway, CSU's / DSU's.
Student Assignment: Different Network Devices –Hub, Switch, Repeater, Bridge, MUX, Different Internetworking Devices -Router, Brouter, Gateway, CSU's / DSU's.
Practical Session: Identification & Installation the different types of Network Devices in the network.

Lecture 19: OSI Reference Model, Importance & Need, Function of each OSI Model Layer {Application Layer, Presentation Layer, Session Layer, Transport Layer, Network Layer, Data link Layer, Physical Layer}.
Student Assignment: OSI Reference Model, Importance & Need, Function of each OSI Model Layer {Application Layer, Presentation Layer, Session Layer, Transport Layer, Network Layer, Data link Layer, Physical Layer}.
Practical Session: Introduction of the OSI Model.

Lecture 20: What is a protocol? Need & importance, Various TCP/IP Protocols Suite-TCP, IP, ICMP, UDP, DNS, FTP, Telnet etc
Student Assignment: What is a protocol? Need & importance, Various TCP/IP Protocols Suite-TCP, IP, ICMP, UDP, DNS, FTP, Telnet, Etc.
Practical Session: Configuring the Protocol in the network.

Lecture 21: Troubleshooting network connectivity, sharing internet connection (LAN Sharing & Proxy), using messenger service over the LAN, using command netstats, netview, tracert, ipconfig/all, nslookup, and other network utilities.
Student Assignment: network connectivity, sharing internet connection (LAN Sharing & Proxy), using messenger service over the LAN, using command netstats, netview, tracert, ipconfig/all, nslookup, and other network utilities.
Practical Session: sharing internet connection (LAN Sharing & Proxy), using messenger service over the LAN, using command netstats, netview, tracert, ipconfig/all, nslookup, and other network utilities.

Faculty Reference Manual
Networking Technologies (40 Hrs)

Lecture 22: What is topology, different types of wireless topology (WWAN, WMAN, WPAN, and WLAN), and 802.11Topology (Access-point, Client Station, Distribution System, Wireless Distribution system, SSID, BSS, BSSID, BSA, ESS, non standard 802.11 topologies.
Student Assignment: What is topology, different types of wireless topology (WWAN, WMAN, WPAN, and WLAN), and 802.11Topology (Access-point, Client Station, Distribution System, Wireless Distribution system, SSID, BSS, BSSID, BSA, ESS, non standard 802.11 topologies.
Practical Session: Identification of the Access-point, Clint Station, SSID, BSS, 802.11 topologies.

Lecture 23: Introduction to IEEE 802.11 standard, Importance, Difference between 802.3 standard and 802.11 wireless standard, difference between CSMA/CD v/s CDMA/CA ,802.3 frame format v/s 802.11 frame format, identify the methods describe in 802.11 standard for locating, joining & maintaining connection with WLAN,
Student Assignment: Introduction to IEEE 802.11 standard, Importance, Difference between 802.3 standard and 802.11 wireless standard, difference between CSMA/CD v/s CDMA/CA ,802.3 frame format v/s 802.11 frame
Format, identify the methods describe in 802.11 standard for locating, joining & maintaining connection with WLAN,
Practical Session: Installation of the Wireless LAN card, Driver Installation of the wireless Lan Card.

Lecture 24: Installing and connecting the Access point. Configuring and connecting the wireless LAN, Assigning IP Address to LAN card, defining Workgroup name, Configuring various LAN options and Access point. Accessing WLAN with the wired network, sharing files & folders
Student Assignment: Installing and connecting the Access point. Configuring and connecting the wireless LAN, Assigning IP Address to LAN card, defining Workgroup name, Configuring various LAN options and Access point. Accessing WLAN with the wired network, sharing files & folders
Practical Session: Installation of the Access-point, providing IP address, configuring the Access-point with option given.

Lecture 25: Configuring the Access-point across wired & Wireless Network, Implement the Security on the wireless Network, Sharing Data, Files, and Folders across the Wireless & Wired Network.
Student Assignment: Configuring the Access-point across wired & Wireless Network, Implement the Security on the wireless Network, Sharing Data, Files, and Folders across the Wireless & Wired Network. (Add Images If Possible)
Practical Session: Configuring the Access-point across wired & Wireless Network, Implement the Security on the wireless Network, Sharing Data, Files, and Folders across the Wireless & Wired Network

Lecture 26: Implementation of 802.11, shared key authentication, Encryption Algorithm, wireless security attacks, preventing attacks, eavesdropping, RF jamming, man in middle, encryption & cracking, hijacking etc.
Student Assignment: Implementation of 802.11, shared key authentication, Encryption Algorithm, wireless security attacks, preventing attacks, eavesdropping, RF jamming, man in middle, encryption & cracking, hijacking etc.
Practical Session: Giving the security to the Wireless Network**,** Authentication.

Lecture 27: Troubleshooting wireless LAN, Identifying the problem, Implementation challenges, multipath ,Hidden nodded, Near/far, narrow band and wideband, RF interface, system throughput, co-channel & adjacent channel, weather problem.
Student Assignment: Troubleshooting wireless LAN, Identifying the problem, Implementation challenges, multipath ,Hidden nodded, Near/far, narrow band and wideband, RF interface, system throughput, co-channel & adjacent channel, weather problem.
Practical Session: Troubleshooting Tips for the wireless Network.

Faculty Reference Manual
MCSE 2003 (128 Hrs) 2Hrs/Lecture

70-270 - Installing, Managing, & Maintaining Microsoft Windows XP Professional

Lecture 1: Introduction of Microsoft, Introduction of MCSE Paper, Introduction of MCSE Exam papers, Introduction to Windows XP Professional, Overview Of Windows XP professional, Different Editions of Windows XP & Comparison Between Them, HCL for Windows XP Professional.

Lecture 2: Installation of windows XP professional from CD-ROM, Types of installation & up gradation of windows XP Professional, different between Fresh Installation & Up gradation Installation.

Lecture 3: Introduction of File System, Configuring, Managing File System, Type of File System, Difference Between File System (FAT16, FAT32 & NTFS), Conversion of File System, Implementing, Managing & Troubleshooting of Hard Disk Drive with File system.

Lecture 4: Introduction of unattended installation, RIS Installation & Sysprep Installation. Implementing of Unattended Installation, Sysprep & RIS Installation.

Lecture 5: Installing, Managing, & Troubleshooting of Hardware Devices, Installing Hardware Device & Drivers, configuring, Managing, Implementing & Troubleshooting Hardware Devices, Introduction of Device Manager & Hardware profile, Configure, Managing & Troubleshooting Hardware Profile.

Lecture 6: Implementing, Configuring & Managing User Account & Groups. Setting up & managing user Accounts & Groups. Creating, Modifying & Deleting User Accounts & Groups. Configuring Properties of User Account & Groups. Creating user Profile, Roaming Profile, Mandatory Profile.

Lecture 7: Configuring Security Setting & Internet Explorer, Overview of Security Policy Configuration, Implementing & Auditing Security Policy, Configuring Internet Explorer Options, Configure, Managing Internet explorer Properties.

Lecture 8: Managing Printer, Configuration, Troubleshooting of Printers. Backup & Restore Installation, Study of Backup & Restoring Option by Using NTBACKUP utility.

Lecture 9: Managing Data Store, Securing Files & Folders. Managing Disk Quota, Disk Management, Disk Cleanup, Managing Dynamic Disk. Compression, Encryption of files, Offline Files.

Lecture 10: Configuring Network & Internet Connections, Configuring TCP/IP Properties. Concept of Workgroup & Domain. Configuring Dial-up Connection & Wireless Network Configuring, Internet Connection Sharing (ICS), & Windows Firewall

Lecture 11: Configuration of Control Panel & Windows XP Tools, Using Control Panel to Configure Different Properties Working With Services, Event Viewer, Scheduled Task, System Restore Using remote Desktop & Remote Assistance.

Lecture 12: Monitoring, Optimizing, & Troubleshooting System Performance Optimizing & troubleshoot, Memory, Processor, Disk Performance Using Performance Console.

Lab Assignment:
1) Format the HDD with FAT file system and Convert it into the NTFS files System.
2) Perform Unattended Installation.
3) Take the Backup of the of the system state and restore it.
4) How can User use the accessibility options that user can use mouse from Keyboard.

70-290 Implementing, Managing, & Maintaining Microsoft Windows Server 2003 Environment.

Lecture 13: Introducing Microsoft Windows Server 2003.Types of Windows Server2003 Edition & Difference between Them. Overview of Windows Server 2003. HCL for Windows Server 2003.The Windows 2003 Server Family Installation & Configuration of Windows 2003 Server.

Lecture 14: Introduction Active Directory Services (ADS). Introduction of Domain Controller, Managing & Implementing Centralize Directory data Base. Creating & Configuring Domain User & Groups Configuring User Profile.

Lecture 15: Configuring, Managing & Implementing Organizational Unit, Groups & User. Create and Modify by Using Automation, troubleshoot Computer Account, Diagnose and Resolve Issues Related to Computer Account by Using The Active Directory Users & Computers, Reset Computer Account.

Faculty Reference Manual
MCSE 2003 (128 Hrs) 2Hrs/Lecture

Lecture 16: Administering Microsoft Windows 2003 Server. The Microsoft management Console, Managing computers Remotely with MMC, Managing Server with Remote Desktop, Administration Remote Assistance, Terminal Server.

Lecture 17: Securing Files & Folders (NTFS Permission) Share Permission, Home Directory Different NTFS Permission Used for File Security File Encryption & Compression & quota Mgn.

Lecture 18: Disk Management Basic Disk & Dynamic Disk Configuration of RAID 0 –RAID 5, Disk Defragmentation Disk Cleanup, Disk Quota, Shadow Copy.

Lecture 19: Backup & Restore, Disaster Recovery Types of Backups, ASR, Recovery Console.

Lecture 20: Printers Installing & Configuring Printer Advanced Printer Configuration & Management Maintaining, Monitoring, & Trouble Shooting Printer.

Lecture 21 : Configuring Security Setting & Internet Explorer Overview of Security Policy Configuring, implementing & Auditing of Local Security Policy Configuring internet Explorer Options.

Lecture 22: Monitoring, Optimizing, & Trouble Shooting System Performance Optimizing & Troubleshooting Memory, Processor, Disk Performance Using Performance Console.
Lab Assignment:
1) Add two or more HDD in the system and Use the space of the Added HDD.
2) Perform Quota management.
3) Connect two or more PCs and give permission that users can copy the data from another computer through remote connection.

70-291 Implementing, Managing, & Maintaining Microsoft Windows Server 2003 Network Infrastructure.

Lecture 23: Concept of Windows Server 2003 Network, Managing Network Infrastructure, Networking with Default Components in Windows server 2003, Managing TCP/IP, Concept of IP Addressing, Concept of Sub-netting IP Networking, Installation & Configuration of TCP/IP, Troubleshooting.

Lecture 24: Introduction of DNS, Pre-requisite for installing DNS, Function of DNS, Introduction of DNS Server, Properties of DNS.

Lecture 25: Installation & Configuration of DNS server, Concept of Name Resolution in Windows Server 2003, Managing DNS in Windows Server 2003, Deploying DNS Server & Clients.

Lecture 26: Implementing DNS infrastructure Configuring DNS server, Properties & Transfer Configuring Advance DNS Server Properties Deploying Stub Zone.

Lecture 27: Introduction of IIS 6.0 Web Server, Installation & Configuration of IIS 6.0, Manage & Configuration of Web Server With IIS Installation & Configuration of FTP server with IIS server.

Lecture 28: Configuring DHCP server & Client Configuring DHCP server & Clients, Managing DHCP in Windows Network, Configuring DHCP Server to Perform DNS Updates.

Lecture 29: Examine the System Event log and DHCP Server Services, Diagnose & Resolve Issues related to Configuring DHCP Server & Scope Option, Verify that the DHCP Relay Agent is Working Correctly, Verify Data Base Integrity.

Lecture 30: Routing with Windows Server 2003, Configuring Windows server 2003 for LAN Routing, Configuring NAT & Packet Filter.

Lecture 31: Configuring & Managing Remote Access, Configuring Remote Access Connection, Authorizing Remote Access connection, Implementing VPN Server, User Authentication & Security Protocol.

Lecture 32: Maintaining Network Infrastructure, Monitoring Network Performance, Troubleshooting Internet Connectivity, Troubleshooting Server Service.
Lab Assignment:
1) Install the DNS and DHCP. Provide the Automatic IP to the client machine.
2) Create VPN Network and Assign Authentication on the Users.
3) Host the web page that user can access the web page from the client machine.

70– 293 Planning & Maintaining a Microsoft Windows Server 2003 Network Infrastructure

Lecture 33: Routing & remote Access Service, Configuring VPN Server, Tunneling Protocol, User Authentication & Secure Connectivity, NAT Configuration, Remote Access Server, DHCP Relay Agent.

Lecture 34: Clustering Servers, Concept of Server Clustering, Concept of Network Load Balancing, Configuring Server Cluster & NLB (Network Load Balancing)

Lecture 35: Certificate Authority & IP Sec for Security, Concept of SSL & Certificate Authority, Public Key, Private Key, SSL User Authentication & Encryption of Data, Securing Web Server with CA, Understanding & Implementing IP Sec.

Lecture 36: Creating the Physical Design for the Network Infrastructure Security, Designing Public & Private LANs, Design 802.1X Authentication for Wireless Network.

Lecture 37: Designing Security for Emergency Management Services, Design a Software Update Services (SUS) Infrastructure, Design Group Policy to Deploy Software Updates, Design a Strategy for identifying Computers that are not at the Current Patch Level.

Lab Assignment:

1) How to configure the static routing and Dynamic routing use the protocol OSPF.
2) Configure the NAT in the Network.

70 – 294 Planning, Implementing & Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure

Lecture 38: Introduction to Active Directory, Installing & Configuring Active Directory, Active Directory Overview, Planning ADS Infrastructure, Installing & Removing Active Directory Service, Configuring Domain Controller, Additional Domain Controller, Child Domain Controller.

Lecture 39: Administering Active Directory, Installing & Managing, Domains, Tree, Forest, Using Active Directory Administrative Tools, Backing Up & Restoring AD, Defragmentation Of AD Authoritative & Non Authoritative Restore, Managing Operation Master, FSMO Roles.

Lecture 40: Administering Active Directory Objects, Managing Active Directory through Command Line Managing User, Group, OU Objects, and Setting Properties of Objects.

Lecture 41: Configuring Sites & managing replication, trust relationship Understanding Sites & Replication, Configuring Site & Replication, Configuring Global Catalog Server, Understanding, Trust Relationship between Domains, Creating Trust, Migrate Object from One Domain to Other.

Lecture 42: Implementing, Administering Group Policy, Understanding Group Policy, Group Policy Strategy, Implementing Group Policy, Folder Redirection, Deploying Software with Group Policy, Trouble shooting Group Policy.

Lab Assignment:

1) Install the ADS and Create OU (Name MCSE), Group (Name Students) and Create the users and Users are the member of the students Group. Assign group policy that users can't open the Drives.
2) Map the Drive Automatically that user can access the drive when login.
3) Create the Trust between two Domains name Yahoo and SACL.

70-297 Designing a Microsoft Windows Server 2003 Active Directory Network Infrastructure.

Lecture 43: Designing Delegation Strategy, Analyze Auditing Requirement, Design the Appropriate Group Strategy for Files & folders, Design a strategy for the Encryption & Decryption of the Files & Folders, Design Security for a backup & Recovery Strategy.

Lecture 44: Analyzing and Existing Infrastructure, Analyzing the existing Network Topology. Analyzing the Existing Directory Structure, Designing a Forest & Domain Model, Defining a Naming Strategy. Designing Group Policy. Organizational Structure, Account Strategy.

Lecture 45: Designing DNS, Remote Access Strategy, Designing DNS, Primary & Secondary DNS Designing Remote an Access Policy.

Lecture 46: Designing a Network and Routing Infrastructure, Creating an IP Address Scheme Creating DHCP Strategy, Routing.

Lecture 47: Design an Authentication Provider & Accounting Strategy for the Remote Network Access by Using IAS (Internet Authentication Service), Design a Strategy for Hardening client Operating Systems, Designing a Strategy for Restarting User Access to Operating System Features.

Lab Assignment:

1) Encrypt the file and crate the recovery agents that can recovery that encrypted file.
2) Configure the secondary DNS.

70– 284 Implementing & Managing Microsoft Exchange Server 2003

Lecture 48: Introduction of Mail Server, Difference between Mail Server & Data Base Server, Types of Exchange Server, Edition of Exchange server, Uses of the Exchange Server.

Lecture 49: Microsoft Exchange Server 2003 & Active Directory, Overview of Active Directory Exchange Server 2003, Integration with Active Directory Exchange Server 2003 and Windows Server 2003 Protocols & Services Integration.

Lecture 50: Planning a Microsoft Exchange Server 2003, Infrastructure Installation Consideration Preparing Forest & Domain, Performing an Exchange Server 2003, Installation Removing an Exchange Server 2003 from an Organization.

Lecture 51: Configuration & Management of Exchange Server 2003, Exchange System Management, Managing Storage Groups, Mailbox Stores & Mailboxes, Routing Groups.

Lecture 52: Configuration of Public Folder, Creating Public Folder, Administering Public Folder, Public Folder Security.

Lecture 53

Configuration of Outlook Web Access (OWA) Understanding Outlook Web Access Configuring Features & Options of OWA Configuration of SSL on OWA.

Lecture 54: Ms – Outlook (Mail Client) Configuration of e-mail of Account in Ms – Outlook , Managing & Maintaining Database, Import & Export of Database Setting Rules in Ms – Outlook, Backup & Restore PST on Client – side.

Lecture 55: Backup & Restore of Exchange Server 2003 Managing Data Storage, Backing up Exchange Server 2003, Restoring Exchange Server 2003, Backup & Restore with Ex-merge Utility

Lecture 56: Microsoft Exchange Server 2003 Security Securing Exchange Server 2003 with SSL Securing Mailboxes.

Lecture 57: Implementing A Front – End & Back – End Server Topology Explain the Front – End & Back – End Topology Implement Front – End & Back – End Topology Securing Front – End & Back – End Server Topology.

Lecture 58: Virtual Servers Overview of Exchange Server 2003 Virtual Server Configuring Virtual Server Settings Configuring Authentication Maintaining Virtual Servers.

Lecture 59: Up Gradation & Migration in Exchange Server Migration of Mailboxes Up-gradation From Exchange Server 2000 to Exchange Server 2003.

Lecture 60: Monitoring Microsoft Exchange Server 2003 Performing Daily Exchange Server 2003 Monitoring & Maintenance Performing Scheduled Exchange Server 2003, Monitoring & Maintenance.

Lab Assignment:

1) Create POP and SMTP server and send mails to the users.
2) Configure the Outlook Express and Outlook 2007 on mail server on client

Faculty Reference Manual
CCNA 640-802 (50 Hrs) – 2 Hrs Lecture

Lecture 1: Introduction about Cisco, Exams Paper Patterns, Basics of Networking, Ethernet Networking (Simplex, Half duplex, full duplex), Cisco Three Layer Hierarchical Model (Core, Distribution, Access layer).

Lecture 2: Networking & Internetworking Devices (Hubs, Switches, Routers), Ethernet media, UTP Implementation, Cabling LAN (Straight, Cross & Rolled over), Cabling WAN, Cabling Routers for Serial connections.

Lecture 3: Introduction to OSI Model, Advantage of OSI Ref. Model & Layers, Application Layer, Presentation Layer, Session Layer, Transport Layer, Network Layer, Data link Layer, Physical Layer, Functionality, TCP/IP and the DoD Model, Application layer Protocols (TCP/IP, ICMP, Telnet, FTP,TFTP,NFS, SMTP, XWindow, DNS, DHCP/BootP)

Lecture 4: Conversion of Decimal into Binary And Hexadecimal Conversion, IP Addressing ,Introduction ,Importance, Types of IP addressing(Static & Dynamic),Classes of IP addressing, reserved add, pub & Pvt. IP addressing, Concept of Subnetting.

Lecture 5: Importance of Subnetting, Calculating valid subnets for the network, VLSM, Fast way of Subnetting (Class –A, B & C), Troubleshooting IP addressing.

Lecture 6: Introduction to Cisco IOS, Bringing up a router, Command line Interface, Overview of router modes, Router / switch startup, Router & switch administrator function(Hostname, Banner, Setting password, password Encryption, Description Etc.).

Lecture 7: Configuring router from command line, Configuring Router interface E.g. Ethernet, Serial, Viewing, saving, and erasing configuration, creating a network on a router simulator.

Lecture 8: Routing Basics, Different Types of routing (Static, Dynamic & Default), Routing protocol basics (Administrative Distance, Routing protocol, Routing loops, Maximum Hop counts, root Poisoning, Holddowns),Configuring static Routing,

Lecture 9: Creating a simple network & Configuring Static routing on Router Simulator or Boson Software and practice.

Lecture 10: Configuring Dynamic Routing, Dynamic Protocols (RIP, EIGRP& OSPF) RIP Definition ,RIP timers, Configuring The RIP, Verifying the Rip Routing Table.

Lecture 11: EIGRP Definition, timers, Configuring EIGRP, Verifying EIGRP routing table, verifying your Configuration (show protocol, show IP protocol, Debug IP rip, debug IP IGRP).

Lecture 12: OSPF features & operation, Configuring OSPF,Verifying OSPF Features & Terminology, (show IP OSPF, show IP ,OSPF database, show IP OSPF interface, show ip, OSPF neighbor, show IP protocols etc.)

Lecture 13: Catalyst 1900 & Switch operations, Layer2 Switching, Bridging V/S LAN switching, Spanning Tree Protocol (STP), LAN switching types and Configuring Catalyst switch (switch startup, setting the password, Hostname, IP information, Interface description, Erasing switch configuration.).

Lecture 14: VLAN Basics, LAN membership (Static & Dynamic), Routing between VLAN, Configuring VLAN (Assigning Switch port, Trunk port, Configuring trunk port, Inter VLAN Routing), Configuring VTP.

Lecture 15: Internal components of a Cisco router, router boot sequence, managing Configuration registers(register bits, Checking current configuration, recovering password),Backing up and restoring the Cisco IOS, Backing up and restoring the Cisco configuration, Erasing configuration.

Lecture 16: Using Cisco Discovery Protocol (CDP timers and hold time information, gathering neighbors information), using telnet, Resolving hostname, Checking Networking Connectivity (Ping, Trace route etc.)

Lecture 17: Introduction of the IPv6, Benefits and uses of IPv6,Binary and Hexadecimal Format, Conversation of the Decimal numbers into Binary and Hexadecimal, address Types, Special Addresses.

Lecture 18: Introduction of the DHCPv6, ICMPv6, How IPv6 works in an Internetwork, Auto configuration of the IPv6, Configure Cisco Routers with IPv6, IPv6 Routing Protocols

Lecture 19: Describe the Standards Associated with Wireless media (including: IEEE WI-FI Alliance, ITU/FCC). Identify and describe the purpose of the components in a small wireless network. (Including: SSID, BSS, and ESS). Compare and contrast wireless security features and capabilities of WPA security (including: open, WEP, WPA-1/2).

Lecture 20: Describe today's increasing network security threats and explain, describe the functions of common security appliances and applications, Explain the basic operation of NAT.

Lecture 21: Static and Dynamic NAT configuration, Configure NAT for given network requirements. Troubleshoot NAT issues, configuring NAT Using SDM, Creating ACLs with SDM, and Creating Firewalls with SDM.

Lecture 22: Introduction to Access-list, Standard Access-list (Definition, Configuration), Extended access-lists (Definition, Configuration), named Access-list, Monitoring Access-list. Access list group & access list class., verifying access list.

Lecture 23: Introduction to WAN Overview, WAN Terms, WAN connection types, caballing The Wan network (Serial transmission, DCE & DTE), Fixed & modular interfaces, Describe the Cable & DSL.

Lecture 24: PPP Encapsulation, Authentication (PAP, CHAP), Configuring PPP on Cisco router, Verifying PPP encapsulation, Frame Relay (Introduction, Implementation & monitoring)

Lecture 25: Other WAN protocols HDLC, SDLC, Configuring VPNs/IPSec using the SDM.

Faculty Reference Manual
Red Hat Linux (45 Hrs) – 2 Hrs/Lecture

Lecture 1: Introduction to Linux, Red hat Linux, features of red hat Linux, what is red hat Linux difference : between windows, Linux kernel structure and Linux, and the culture of free software.

Lecture 2: Linux HDD strategy, linux file & folders hierarchy, Redhat Linux file systems,/,Ext2,Ext3,swap partioning,boot partition ,red hat Linux versions ,various red hat Linux editions(Personal edition,workstation,server & enterprise)minimum hardware requirement for installing the Redhat Linux.

Lecture 3: Installing red hat Linux, detailed installation of Redhat Linux.

Lecture 4: Getting started with the red hat linux, logging into Redhat linux, various desktop modes(GNOME desktop, KDE desktop) ,X terminal Desktop, Introduction to Linux shell, difference between Dos & shell ,understanding the Linux shell, using the various Linux shell commands.

Lecture 5: Using Linux shell commands, difference between user prompt & root user prompt, Linux commands (id, who, pwd, echo $home, cd, ls, ps,ps –au,ps aux | less, /bin/date, echo $PATH, type bash, history, using vi editor and it's shortcuts, history 8,!n,!!, redirectors commands cat, using man command, echo "I am $(2003-1958) years old.",ls –l $BASH, echo $USER, setting our own environmental variables, jobs, fg %1,bg %5,

Lecture 6: Adding aliases, alias p='pwd ; ls-CF', alias rm='rm –I', mkdir, chmod, ls a*,ls g*t,ls ????e,ls g???e*,ls [abw]*,echo "I finished the proj $ (date)" >> ~/projects, understanding the file permissions, ls –ld ,umask, chmod –R 777 /tmp/test, mv, cp, rm, rm*,:!date,:!jobs,/hello,/the.*foot, and various vi editor commands.

Lecture 7: Using Redhat Linux software applications, Finding out the RPM's on the internet, Configuring the yum for downloading the packages, yum check-update,yum list | less, installing and managing RPm's files, -I, -u, -q,-e,-v etc.removing packages with rpmquering the packages with rpm, mount /mnt/cdrom, installing software in gzip/tar format .

Lecture 8: Running X window applications, running the application from run ,echo $DISPLAY, xmms &,connecting remote host into computer, fdisk –l, using internet tools, using remote logins, copy ,executions, configuring browsers.

Lecture 9: Using root logins, becoming super users with su commands, learning various administrating GUI tools & commands, working with HDD,CDROM & FDD mounting & unmounting the devices, using fdisk command to create partitioning, using Disk Druid,df,df –h,du,du –h /home/user,top,apm –m,apm –s,

Lecture 10: Creating user accounts, assigning password to user, creating a group, adding user to a group, deleting user, deleting a group, adding a user to home directory, resetting a user password, modifying user account, creating quota files. Checking quotas, removing temp files automatically

Lecture 11: System initialization ,Changing run level, managing xinetd services, Scheduling task, viewing schedule jobs, deleting scheduling jobs, introduction to Backup ,what to take backup, different types of backup, backup medium, writing a CD, restoring the backup files.

Lecture 12: What is LAN, LAN topologies, AN equipments,(NIC cables, Hubs, Switches),IP addressing, Configuring TCP/IP for LAN connecting computers in the lan ,creating workgroup network.

Lecture 13: Introduction to DNS, configuring DNS, configuring network, configuring primary name server, secondary name server, identifying name server, and varying DNS, resolving the name server, reserving a domain name.

Lecture 14: Connecting with internet, creating dial-up connection, setting up the Linux server as a router, configuring proxy server, configuring Mozilla for using proxy, configuring internet explorer to use proxy.

Lecture 15: Printer ,types, setting up the print server, choosing the CUPS/LPRng services, configuring local printer, adding windows(SMB) printer, Using web based administration, Using print commands, removing print jobs, configuring printer on windows network.

Lecture 16: Setting up the file server, advantage of creating file server, setting up an NFS file server in red hat linux,checking the NFS services, mounting NFS file system,unmounting NFS file system, setting up the samba file server, installing samba, configuring samba server, configuring samba with SWAT, using samba shared directories.

Lecture 17: Introduction to SMTP and send mail, Installing and running send mail, configuring send mail, getting mail from server, configuring Pop, administratoring mailing list, forwarding the mails and stopping the spams.

Lecture 18: Setting up an FTP server, Introduction to FTP server, FTP user types, Configuring vsFTPd, user accounts, setting FTP access, uploading and downloading the files, navigating the vsFTPd site, creating FTP users, setting up FTP directories, message file, specifying the permissions on FTP server.

Faculty Reference Manual
Red Hat Linux (45 Hrs) – 2 Hrs/Lecture

Lecture 19: Setting up a web server, introduction to web server, the apache web server, quick starting the apache web server, configuring apache web server, starting and stopping the server, configuring virtual hosting, displaying server information/status analyzing web server traffic.

Lecture 20: Setting up boot server (DHCP and NIS),using DHCP, setting up DHCP server, configuring the dhcpd.conf, assigning the fixed ip address, starting the DHCP server, setting up DHCP client.

Lecture 21: Setting up NIS domain, setting up red hat Linux as an NIS client, verifying Nis client, mapping the NIS mapping, setting up the red hat Linux as an NIS slave server.

Lecture 22: Preparing Kick start installation of Linux, installation of Redhat through FTP.

3D Animation

&

Visual Effects

Faculty Reference Manual
Foundation of Graphics Design (3 Hours)

Lecture 1: Meaning of Graphic design, mode of visual communication developing creative ideas, using paper & pencil to freeze idea, scanning for references, use of graphics design in industry, types of graphics (vector & raster), Graphics file format Resolution dependent & loss less resolution file format comparing file format quality v/s File size, Importance of converting font into curves.
Class assignment: File Format 1
Lab assignment: File Format 2

Lecture 2: Graphics layout & Styles, Importance of size in stationary design, using type face & formats, Goal of Graphic design, color theory in Display color & print color (RGB & CMYK) mode
Class assignment: Stationary design 1
Lab assignment: Stationary design 2

Faculty Reference Manual
Illustrator (18 Hours)

Lecture 1: Introduction of illustrator: illustrator workspace, application bar, control panel, tools panel, document window, panel groups, creating a new workspace, using multiple artboards, creating an artboards, editing an artboard, deleting an artboard, saving document, reverting a document, about vector graphics, about paths, line tools, line segment tools, arc tool, spiral tool, rectangle grid tool, polar grid tool.
Class assignment: Setting Artboard for Book Cover and Inner Pages
Lab assignment: Setting Artboard for Hand Book Cover and Inner Pages

Lecture 2 & 3: Using drawing tools: Shape tools in illustrator, rectangle tool, rounded rectangle tool, ellipse tool, polygon tool, star tool, flare tool, pencil tool, using pen tool using the blob brush tool, editing tools in illustrator, using the smooth tool, using the eraser tool, cutting tools in illustrator, using the scissors tool, using the knife tool.
Class assignment: Logo Design Mobile Company
Lab assignment: Logo Design Magazine

Lecture 4 & 5: Using Layers & Colors: Using layers panel, creating a layer, moving an object to a different layer, hiding and showing a layer, locking and unlocking a layer, deleting a layer. Using colors, RGB, CMYK, spot color, HSV, grayscale and Applying color, Using Kuler Panel, working with color groups, crating a color groups, editing a color group, adjusting color, blending colors.
Class assignment: User Manual for Mobile Handset
Lab assignment: Magazine Cover Design

Lecture 6: Working with text: Importing text or typing text, editing the text, formatting text, aligning text, and wrapping text around an object, character style, paragraph style, editing & applying character and paragraph style.
Class assignment: Leaflet Design for All Your Need Kitchen Set
Lab assignment: Leaflet Design for Mobile Handset

Lecture 7 & 8: Working with object: selecting objects, using selection tool, using direct selection tool, using group selection tool, using magic wand tool, using lasso tool, transforming objects, moving objects, rotating objects, reflecting objects, scaling objects, shearing objects, aligning objects, grouping and ungrouping objects , locking and hiding objects, locking objects, hiding objects,
Class assignment: Tea Bag Package Design
Lab assignment: Mobile Handset Package Design

Lecture 9: Graphics style and effects: Using graphic styles and panel, creating a graphic style and applying, applying the convert to shape effect, applying distorts and transforms effect, applying stylizes effects.
Class assignment: Party 2010 Event Logo Design
Lab assignment: Party 2010 Poster Design

Lecture 10: Working with symbol and 3d in illustrator: Using symbols panel, adding symbols, converting an object into a symbol, editing symbols, deleting symbols, using symbol sprayer tool, organizing the symbol libraries, using the symbol libraries, creating your own symbol library.
Class assignment: Jeweler Catalog Design
Lab assignment: Learning Alphabets Book Cover Design

Lecture 11: Creating 3d objects: Extruding and beveling objects, revolving objects, rotating objects, mapping 2d artwork to a 3d object.
Class assignment: Table Lamp Design with Logo
Lab assignment: Flowerpot Design with Logo

Lecture 12: saving, exporting, and printing documents: Exploring file formats to save documents, saving a document in the AI format, exporting document in illustrator, exporting a document in the PSD format, exporting for adobe flash, printing in illustrator.
Class assignment: Poster Print, Web Layout, Blend Animation
Lab assignment: Magazine Cover, Web Interface, Star Animation

Faculty Reference Manual
Introduction to Photoshop (18 Hours)

Lecture 1 & 2: Interface & Working with Images: Toolbar, Menu Bar, Options Bar, Document Window , Toolbox All New Tabbed Palettes, Opening an Existing File, Screen Modes, Standard Screen Mode, Full Screen Mode with Menu Bar, Creating a New Document, Saving Files, Reverting Files, Closing Files and Quitting Photoshop. Selecting Workspace, keyboard Shortcuts and Menu, File Handling Preferences and cursor Preferences. Differences between Bitmap and Vector Images, Understanding Image Resolution, Understanding Pixel Logic, Changing the Resolution of an Image, Changing the Size of a Document, Re-sampling an Image, Editing Images, Rotating an Image, Cropping an Image, Hiding an Image Instead of Cropping, Adjusting the Canvas Size, Duplicating an Image
Class assignment: Photograph Editing of Natural Scenery
Lab assignment: Photograph Editing of Family

Lecture 3: Working with color mode Different Color Modes in Photoshop, The RGB Color Mode, The CMYK, Indexed, Duotone, Grayscale, HSB, Lab, Multichannel Color Mode, Changing the Color Mode, Making Color Adjustments, Color Levels, Curves palette, Brightness/Contrast Palette ,Hue/Saturation, Histogram Palette, Variations Command, File Formats in Photoshop, Photoshop Document (PSD),Bitmap (BMP), Encapsulated PostScript (EPS), Tagged Image File Format (TIFF),Graphics Interchange Format (GIF), Joint Photographic Experts Group UPEG), Portable Document Format (PDF).
Class assignment: Photograph Editing of Natural Scenery
Lab assignment: Photograph Editing of Family

Lecture 4: Working with Selections working with Selection Tools, Marquee Tools, Lasso Tools, Magic Wand Tool, Making a Selection Based on Color Range, Modifying a Selection, Adding and Subtracting from a Selection, Expand and Contract Commands, Grow and Similar Commands, Refine Edges, Inverse Selection
Class assignment: Photograph Editing of Model in Lakme Ad
Lab assignment: Photograph Editing of Model in Catalog

Lecture 5, 6 & 7 Transform tool, Drawing, Painting, and Retouching Tools Transforming a Selection, Scaling a Selection, Rotating a Selection, Distorting a Selection, Skewing a Selection, Changing the Appearance of a Selection in a Perspective Manner, Warping a Selection, Saving and Loading Selection. Setting the Current Foreground and Background Colors, the Color Picker Dialog Box, Eyedropper Tool, the Color Palette, the Swathes Palette, the Drawing Tools Using Ellipse Tool, Custom Shape, Pen Tool, Painting Tools, Gradient Tool, Paint Bucket Tool, Brush Tool, Pencil Tool, Color Replacement Tool, Retouching Tools, Spot Healing Brush Tool, Healing Brush Tool, Patch Tool, Clone Stamp Tool, Pattern Stamp Tool, Eraser Tools, Background Eraser & Magic Eraser Tool, Blur Tool, Sharpen Tool, Smudge Tool, Dodge Tool, Burn and Sponge Tool.
Class assignment: Photograph Editing of Model in Magazine Cover
Lab assignment: Photograph Editing of Model in Banner

Lecture 8 & 9: Mastering Layers in Photoshop
About the LAYERS Palette, Working with Layers, Creating a New Layer, Hiding and Showing Layers, Deleting Layers, Deleting a Layer using Layer Menu, Changing the Stacking Order of the Layer, Relocating Layers in the Image, Merging Layers, Flattening Images, Moving Layers between Images, Linking and Unlinking Layers, Working with Adjustment Layers, Applying blend Modes, Masking Layers, Layer Masking, Vector Masking Type Masking, Shape Masking.
Class assignment: Contact Lance Ad
Lab assignment: Emergency Hand Battery Ad

Lecture 10 & 11: Layer Style and Filter Effects
Layer Style & Layer Style Dialog Box, Applying a Layer Style Copying Styles Clearing Styles, Creating Layers from Layer Styles, using filters, About Smart Objects and filters, Creating a Smart Object, Editing Smart Objects, Filter Gallery, Applying the Mosaic Tiles Filter, Liquefy Filter, Applying the Vanishing Point Filter, Applying the Artistic Filters, Applying the Blur Filters, Applying the Brush Stroke Filters, Distort and Noise Filters, Sketch Filters, Render Filters.
Class assignment: Converting photograph to painting look for gallery
Lab assignment: Converting photograph to artistic look painting for comic book

Lecture 12: Automation, 3D and printing in Photoshop.
Creating an Action, Performing Photomerge in Photoshop, Text Editing in Photoshop, Finding and Replacing Text, Creating 3D Artwork in Photoshop, Creating a 3D Shape, Editing 3D Shape, Loading a New Texture to 3D Shape, Animation in Photoshop, Printing in Photoshop, Page Setup, Various Print Commands in Photoshop.
Class assignment: Photomerge for panorama view of caves
Lab assignment: Photomerge for panorama view of sea beach

Faculty Reference Manual
Introduction to Adobe InDesign (12 Hours)

Lecture 1 & 2: Introduction Publishing Design using InDesign: Started with Adobe InDesign CS4, InDesign CS4 Workspace, Application bar, menu bar, control bar, tools panel, Document window, work Area, panel Groups, working with custom workspaces, creating a new document, working with Ruler Guides. Opening an existing Document, creating a master page, adding/deleting page numbers to a document, working with text, creating a text frame, modifying text frames, adding text to the document, importing text, working with the type on a path tool, creating type on a path tool, creating type on a path, Removing text from the created path, working with the type on a path tool, creating type on a path, removing text from the created path, working with object, importing an objects, wrapping text Around an object. Removing Wrapped Text, Creating Anchor Objects, Working with Layers, Adding Object to Layers, Locking and Unlocking the Layers, Deleting a Layer.
Class assignment: Leaflet Twinkle Toys Club
Lab assignment: Leaflet Haptoninn Hotel

Lecture 3: Formatting the Text: Basic Formatting Tasks, Changing the Font Size of the Text, Changing the Font Color of the Text, Aligning the Text in a Document, Applying Bulleted and Numbered Lists, Editing the Text, Spell Checking the Document, Using the Find and Replace Utility, Advance Formatting Tasks, Working with Character Styles/Paragraph Styles, Importing Styles from Other Documents,
Class assignment: Downeast dog News Paper Article
Lab assignment: Woodpecker Stamp Article

Lecture 4: working with Tables: Creating a table, Converting an Existing Text into a Table, Basic Operations Performed on a Table, Embedding a Table within a Table, Adding Text to a Table , Adding Graphics to a Table, Modifying a Table, Inserting Rows and Columns, Deleting Rows and Columns, Formatting a Table , Applying Text Alignment, Splitting and Merging cell, Setting Text Orientation of a Cell, Table Strokes and Fills ,Changing the Table Border ,Adding Colors to the Table, Cell and Table Styles ,Creating a Cell Style ,Applying a Cell Style, Creating a Table Style. Applying a Tables style
Class assignment: Index of Methodology
Lab assignment: TOC of Book

Lecture 5: working with drawing tools: Using shape tools, working with Rectangle tool working with Ellipse tool, working with polygon tool, using pencil tool, Drawing a Freeform path/closed path, editing a path, using the pen tool, drawing straight lines, drawing curves.
Class assignment: Elizabeth Alden Ad
Lab assignment: Amerihealth Poster Design

Lecture 6: Using Graphics and applying effects: Graphic formats, vector graphics, Bitmap, GIF, JPEG, PNG, TIFF, Importing graphics, Transforming object, Rotating an object, cropping an object, shearing an object, Applying effects, Removing the effects.
Class assignment: Three Fold Leaflet - NHS Design Front
Lab assignment: Three Fold Leaflet - NHS Design Back

Lecture 7: working with colors: Overview of colors, process colors, spot color, RGB color, using the KULER Panel, Creating and Saving a New Theme, Adding the Theme to the SWATCHES Panel, Using the SWATCHES panel, Creating a Color Swatch, Creating Gradient Swatch, Creating Tint Swatch, Applying Color Using the SWATCHES panel, Applying Gradient Swatch, Applying Tint Swatch, Saving a Swatch, Deleting a Swatch, Using the Eyedropper Tool.
Class assignment: VT Business News Paper
Lab assignment: The Times of India

Lecture 8: Publishing the Document: Using the Preflight Check, Saving the Document as a PDF File ,Creating a TOC, Creating and Applying Styles in a TOC, Importing styles, Printing a Document, Print Previewing a Document ,Exploring the Types of Print Options, Working with Print Presets, Applying a Print Preset, Deleting a Saved Print Preset.
Class assignment: Travel Three Fold Brochure Front
Lab assignment: Travel Three Fold Brochure Back

Faculty Reference Manual
Introduction to Networks / WWW / Internet / FTP (3 Hours)

Lecture 1: Introduction to Networks and Internet (World Wide Web): Connecting two or more computer to exchange data or sharing resources is called network, there various types of network term are used based on the type of connection and size, most commonly know network type is LAN (Local Area Network) and Internet (World Wide Web), Network of Networks forming web of computer connection is known as Word Wide Web or Internet, in Networking machine who send the request for information is called client machine and machine which reply to the client machine is known as Server, this server may connected to another server.
Class assignment: Surfing Internet, Email Account, Search Engine
Lab assignment: Finding the Article and Images

Lecture 2: Introduction to DNS / URL and Protocols, FTP for Uploading: Generally information over the internet is stored in form of a website, which is set of document created based on standards (rules), so that all computers understand that document. These documents are stored in the particular directory and computer called server. To identify server where the website directory is stored Domain Name are used, Domain Name Service is process of giving unique name to computer based on its location and IP(Internet Protocol). URL (Uniform Resource Locator): Means exact path to access website from server, generally it consist of which protocol to use, web path, and name of website along with domain type. E.g. http://www.yahoo.com is a URL to access the web site yahoo.com, here http means Hyper Text Transfer Protocols, WWW (World Wide Web), Yahoo is name of website and .com is a Domain type which means for it is a commercial web site. Protocols: Set of Standards (Rules) to communicate over the internet. E.g. HTTP (Hyper Text Transfer Protocol), FTP (File Transfer Protocol) etc. Uploading: Means putting website in to website directory which is located somewhere on server, FTP is a protocol that generally used to get an access t to web directory to upload website data.
Class assignment: Website Map Design 1
Lab assignment: Website Map Design 2

Faculty Reference Manual
Dreamweaver (15 Hours)

Lecture 1: Introduction to Dreamweaver & Websites: Overview of Dreamweaver, Dreamweaver Workspace, Application Bar, Document Toolbar, Document Window, Properties Inspector, Panel Groups, Creating a New Web Page, working with the Document Window, Opening the Document in the Code View, Opening the Document in Split View, Opening a Document in the Design View, working with the Workspace, understanding Web Site Structures, Organizing the Root Folder, Setting up Dreamweaver Sites, Using the Basic Tab, Using the Advanced Tab, managing Dreamweaver Web Site, Duplicating a Site, Deleting a Site, Exporting and Importing a Site.
Class assignment: i-finance Webpage (About Us Page)
Lab assignment: Lakme Webpage (Clients Page)

Lecture 2: Working with Web Pages: Working with Text, Adding Text, Setting Text Properties, Inserting Special Characters, Working with Graphics, Inserting an Image, Setting Image Properties, Creating a Rollover Image, Creating an image map, working with links, linking a text, linking an image, Creating Email Links, Creating Named Anchor Links, Editing a Link
Class assignment: i-finance Webpage (email & other page links)
Lab assignment: Lakme Webpage (email & other page links)

Lecture 4 and 5: Working with HTML Tables, Framesets, and Frames: Working with Tables, Creating Tables Editing Tables, Sorting Table Data, Importing Data into a Table, Working with Framesets and Frames, Creating Framesets and Frames, setting Frameset and Frames properties,
Class assignment: i-finance Webpage (Links Page with Visiting Pages)
Lab assignment: Lakme Webpage (Links Page with Visiting Pages)

Lecture 6 and 7: Introduction to Cascading Style Sheets: CSS Rules, Cascading Styles, Shorthand CSS Properties, Working with the CSS STYLES Panel, Exploring the Modes of the CSS STYLES Panel, Exploring the Buttons on the CSS STYLES Panel, Setting CSS Style Preferences, Creating a New CSS, Rule, Describing the Categories in the CSS Rule definition Dialog Box, Editing a CSS Rule, Adding a Property to a CSS Rule, Moving CSS Rules, Working with External CSS, Style Sheets, Creating an External Style Sheet, Linking to an External Style Sheet, Editing a CSS Style, Sheet, Using Design-Time Style Sheets, Using Sample Dreamweaver Style Sheets, formatting the CSS Code, working with css layouts, understanding CSS layout, creating a web page with a CSS layout, working with AP div element, inserting an Div elements, Drawing multiple AP Div elements consecutively, setting preferences for AP div elements, understanding AP div elements panel overview, Editing AP div elements.
Class assignment: i-finance Webpage (Services Page)
Lab assignment: Lakme Webpage (Product Brief Page)

Lecture 8: Working with Templates, Flash contents and HTML Forms: Understanding Dreamweaver Templates, creating Blank Templates ,creating a Template from an Existing Web Page, Editable Regions, setting Tag Attributes ,working with Nested Templates, modifying Template, Applying a Template to an Existing web page.
Inserting Flash swf file, flash video file, Exploring HTML Forms, Inserting a Radio Button, Inserting Check Boxes, Inserting Drop-Down List, Inserting Text Field, Inserting Text Area, Inserting Submit Button and Reset Button.
Class assignment: i-finance Webpage (Customer Enquiry Form)
Lab assignment: Lakme Webpage (Customer Enquiry Form)

Lecture 9. Working with JavaScript: Introducing JavaScript Behaviors, Working With the Behaviors Panel, Adding a Behavior, Modifying a Behavior, Deleting a Behavior , Adding JavaScript to a Web page, Displaying an Alert Box Displaying a Confirmation Box ,Detecting Browsers, Creating Dynamic Slide Shows, Altering the Content of Frames, Using Frames to Store Information, Validating HTML Forms
. **Class assignment:** i-finance Webpage (Services Pull-down Menu)
Lab assignment: Lakme Webpage (Services Pull-down Menu)

Lecture 10. Finalizing the Site: Exploring Browser Compatibility, Performing the Browser Compatibility, Check Testing a Web Page in a Specific Web Browser Version, Managing Links, Fixing Broken Links, Updating Links, Working with Site Management, Setting the Cloaking Option, Setting the check in and check out Option, Setting the Design Notes Option, Adding Design Notes, Working with Site Reports, Generating Site Reports, Saving a Site Report.
Class assignment: i-finance Website
Lab assignment: Lakme Website

Faculty Reference Manual
Flash (21 Hours)

Lecture 1: Introduction to flash & Drawing Tools: Creating a new Flash file, Exploring interfaces, Application bar, Stage and work Area, Tools panel, Properties panel, Library panel, Timeline, motion editor panel, Working with workspace, setting the stage, Saving the flash file, Using a Flash Template, Closing the Flash file, Opening an existing flash file. Exploring Drawing modes in flash, working with drawing tools in flash, Using the pen tool, Text tool, line tool, Rectangle tool, pencil tool, Brush tool, Deco tool, Bone tool, paint bucket tool, eyedropper tool, Eraser tool, using color in flash. Creating Gradients and opacity.
Class assignment: Twinkle Toys Club Interface - Logo
Lab assignment: Haptoninn Hotel Welcome Interface - Logo

Lecture 2: working with Objects and Text
Selecting Objects in Flash, Using Selection Tool, Using Lasso Tool, Moving an Object ,Copying an Object, Deleting an Object, Editing Objects, Reshaping Shape and Outline of an Object, Optimizing the Curves, Expanding and Contracting the Fills, Softening the Edges of an Object Converting Lines into Fills, Group and Ungroup the Objects, Breaking Apart a Group and an Object Transforming Objects, Transforming an Object Freely, Distorting an Object, Modifying an Object with Envelope Modifier, Sealing an Object, Rotating and Skewing an Object, Flipping an Object Restoring a Transformed Object, Working with Text in Flash, Creating a Static Text Field, Creating a Dynamic Text Field, Creating an Input Text Field, Editing Text Field, Scrolling the Text Breaking Apart the Text.
Class assignment: Twinkle Toys Club Page 1
Lab assignment: Haptoninn Hotel Page 1

Lecture 3: Working with Timeline: Working with Frames and Keyframes, Inserting Frames on the TIMELINE, Converting a Keyframes into a Frame, Selecting Frames on timeline, Copying and Pasting a Frame or Frame sequence, Deleting a Frame or Frame Sequence, Changing the Length of a Frame Sequence, Working with Layers and Layer Folders Creating a Layer, Locking and Unlocking a Layer, Hiding a Layer, Creating a Layer Folder, Renaming a Layer or a Layer Folder, Copying and Pasting a Layer's Content, Deleting a Layer.
Class assignment: Twinkle Toys Club Slide Show
Lab assignment: Haptoninn Hotel Slide Show

Lecture 4: Creating Animation
Tweened Animation, Type of animation in flash (motion tweens, classic tweens, shape tweens, frame-by-frame animation, inverse kinematics), Creating Motion Tweens, setting the Property of a Tweening Object with properties Panel, Adding an Additional Tween to an Existing Tween Layer
Class assignment: Twinkle Toys Club
Lab assignment: Haptoninn Hotel

Lecture 5: Creating motion path
The Motion Path of a Motion, Editing the motion path of a motion tween, Changing the position of a Tweened Object, Changing the Location of a Motion path on the stage, Deleting a motion path from a Tween, Motion presets in Flash, previewing a motion preset, Applying a motion preset, saving a Tween as a custom motion preset, Creating a preview for a custom preset, Deleting motion preset,
Class assignment: Twinkle Toys Club
Lab assignment: Haptoninn Hotel

Lecture 6: Type of animation in flash
Understanding classic tween, creating a classic tween, creating classic tween motion along a path, Frame-by-frame Animation, Creating Frame-by-frame Animations, Using Onion Skinning, Shape Tweening Flash, Creating a Shape Tween, Shape Hints in Flash, Using Shape Hints to Control Changes, Understanding Mask Layers, Creating a Mask Layer
Class assignment: Twinkle Toys Club
Lab assignment: Haptoninn Hotel

Lecture 7: Working with Sound and video
Importing sounds and adding Sound to the timeline, adding Sound to a Button, Editing Sounds, working with Video in Flash, Importing and converting video file.
Class assignment: Haptoninn Hotel Welcome Animation
Lab assignment: Twinkle Toys Club Showreel

Lecture 8: Using Symbols, Instances, and the Library
Exploring the Types of Symbols, Creating Symbols, Creating Symbols from Existing Objects, Creating New Symbols, Concerting an Animation to a Movie Clip Symbol, Duplicating a Symbol, Modifying Symbols, Editing in the Symbol editing

Faculty Reference Manual
Flash (21 Hours)

Mode, Edit in Place, Editing a New Window, working with Instances, Inserting Instances, About the LIBRARY Panel in Flash, using the Common Libraries of Flash, Creating Your Own Library, Using Symbols from Other Flash File.
Class assignment: Twinkle Toys Club Gallery Page
Lab assignment: Haptoninn Hotel Gallery Page

Lecture 9: Working with Advanced Animation
Understanding Bones, Adding Bones to Symbols, Adding Bones to Shapes, Animating an Armature, Animating an Armature in the Timeline, Animating an Armature in Runtime, Converting an Armature into a Movie Clip or Graphic Symbol, Exploring 3D Animation, Using 3D Rotation Tool, Using 3D Translation Tool.
Class assignment: Twinkle Toys Club Animation
Lab assignment: Haptoninn Hotel Banner Design

Lecture 10, 11, 12 and 13: Working with Action Script 2.0.
About Action Script, Action Script Versions, Working with Action Script, Action Panel Overview Displaying the actions Panel, Script Pane, Panel Menu, Actions Toolbox, Script Navigator, Resizing the Actions Toolbox or Script Pane, About the Script Assist Mode, Adding Action Script to Frames, Using Action Script with Buttons, Using Action Script with a Movie Clip, Creating Animated Masks with Movie Clips, Dragging Movie CIips, variables, go to scripts, instances name, writing scripts on timeline, symbols and instances, using array variables, game design concepts, movieclips controls, buttons, page navigation styles, creating pull down menus
Class assignment: Hamptoninn Hotel Website Navigation
Lab assignment: Kids Land Website Navigation

Lecture 14: Publishing and Exporting the Flash Files
Understanding Publishing, Working with Publish Settings, Working with Publish Profiles, Exporting SWF Files from Flash File, Understanding Export File Formats, Exporting the Flash Files.
Class assignment: Creating Downloader for Hamptoninn Hotel
Lab assignment: Creating Downloader for Twinkle Hotel

Faculty Reference Manual
Drawing, Color & Anatomy Study (9 Hours)

Lecture 1: Use of stationary for sketching and drawing, Drawing Points, Lines (Straight, Parallel) & Curves , Perspective Drawing **,** Rules of Perspective Drawing
Class Assignment: Drawing Points, Lines (Straight, Parallel) & Curves
Lab Assignment: Drawing Points, Lines (Straight, Parallel) & Curves

Lecture 2: One Point Perspective Drawing & Two Point Perspective Drawing
Class Assignment: One Point Perspective Drawing & Two Point Perspective Drawing
Lab Assignment: One Point Perspective Drawing & Two Point Perspective Drawing

Lecture 3: : Color ,Color Theory drawing basic human anatomy structure , drawing object bounding boxes and deformations and drawing still life
Class Assignment: Still life
Lab Assignment: Still Life & Basic Outline of Human Body

Lecture 4: Studying Human Anatomy, Basic Sketching of Human Body Parts
Class Assignment: Hand Sketches
Lab Assignment: Sketching Hand, Leg, Eyes, Ears, Face

Lecture 5: Adding mass to anatomy to create body and pose, Draw Character's front & side pose in T-pose.
Class Assignment: Human Body Pose
Lab Assignment: Human Body Poses

Lecture 6: drawing Animal Anatomy
Class Assignment: Animal Sketch
Lab Assignment: Animal Sketches

Faculty Reference Manual
Digital / Matte Painting using Photoshop(9 hours)

Lecture 1: Introduction of Digital Painting & Matte Painting, use of Digital Painting & Matte Painting in Production, Selection Tool, Saving Selection, Separation of Layers, and Grouping of Layers
Class Assignment: Assignment 1
Lab Assignment: Assignment 2

Lecture 2: Feather tool, Dodge tool, burn tool, Sponge tool, Blur Tool, Sharpen tool, Smudge Tool, Clone Stamp tool, Pattern Stamp Tool,
Class Assignment: Assignment **3**
Lab Assignment: Assignment 4

Lecture 3: Spot Healing Brush Tool, Healing Brush Tool, Patch tool, Red Eye Tool, Dodge tool, burn tool, Sponge tool, Blur Tool, Sharpen tool, Smudge Tool.
Class Assignment: Assignment 5
Lab Assignment: Assignment 6

Lecture 4: Chroma keying, Wire removal, Use of blending modes of Layers, Use of Adjustment Layers, Use of Filters
Class Assignment: Assignment 7
Lab Assignment: Assignment 8

Lecture 5: Color correction, Collage Making Restoring & Retouching Techniques Digital matte painting
Class Assignment: Assignment 9
Lab Assignment: Assignment 10

Lecture 6: Exporting Photoshop file to Compositing & Animation Software like Nuke, Maya, 3D Max , After Effects
Class Assignment: Assignment 11
Lab Assignment: Assignment 12

Faculty Reference Manual
Storyboard & Animatic Design using Flash (6 Hours)

Lecture 1:
Story telling using storyboards, storyboard design concepts, pre-production & production, making thumbnail sketches, making final artwork, translating story into script, script into scene, scene into shots of movie, scanning and color correcting artwork, arranging artwork into sequence to maintain script slow.
Class Assignment: Story to shots of 'Snail Circus'
Lab Assignment: Story to shots 'Double Trouble'

Lecture 2:
Concept of storytelling using storyboard and animatic, FPS and duration of story, voiceover and synchronizing sound with story, Working with Frames and Keyframes, Inserting Frames on the TIMELINE, Converting a Keyframes into a Frame, Selecting Frames on timeline, Copying and Pasting a Frame or Frame sequence, Deleting a Frame or Frame Sequence, Changing the Length of a Frame Sequence, Working with Layers and Layer Folders Creating a Layer, Locking and Unlocking a Layer, Hiding a Layer, Creating a Layer Folder, Renaming a Layer or a Layer Folder, Copying and Pasting a Layer's Content, Deleting a Layer.
Class Assignment: Animatic of 'Snail Circus'
Lab Assignment: Animatic of 'Double Trouble'

Lecture 3:
Importing Storyboard & Sound on timeline, using keyframe animation using timeline, converting scanned artwork into graphics symbols, using zoom in/out effect, panning graphics symbols from left to right, right to left, top to bottom, bottom to top, breaking graphic symbols in to part for moving elements in shots and scene.
Class Assignment: Animatic of 'Snail Circus'
Lab Assignment: Animatic of 'Double Trouble'

Lecture 4:
Video concepts, video file formats and size, video compressions (codec's), Duration of animatic (it should match almost to overall duration of storytelling), project planning, briefing on work distribution using based on the skill set of the development team using animatic. Making development schedule,
Class Assignment: Final compilation of animatic 'Snail Circus'
Lab Assignment: Final compilation of animatic 'Double Trouble'

Faculty Reference Manual
3ds Max (60 Hours)

Lecture 1 & 2: introduction to 3d, max interface, menus, toolbars, viewports, command panel, lower interface bar controls, quad menus, accessing help, perspective views, navigation gizmos, Viewport with scrolling mouse, viewport navigation, view menu, viewport background, max scene file, setting preferences. Creating primitives objects, standard primitives, extended primitives, modifying object, AEC objects
Class Assignment: Assignment 1
Lab Assignment: Assignment 2

Lecture 3 & 4: selecting objects, object properties, hiding and freezing objects, using layers, scene explore, translating, rotating and scaling objects, transformation tools, pivot points, align command, grids, snap options, cloning, mirroring, spacing cloned, clone and align tool, arrays of object, grouping objects, understanding parent, child, and root relationship, building links between object, displaying links and hierarchies
Class Assignment: Assignment 3
Lab Assignment: Assignment 4

Lecture 5: modeling basics with sub objects and helpers, model types, understanding normal's, working with sub objects, modeling with soft selection and helpers, introducing modifiers, using modifiers stack, modifier types
Class Assignment: Assignment 5
Lab Assignment: Assignment 6

Lecture 6: drawing 2d shapes, editing splines, using spline modifiers
Class Assignment: Assignment 7
Lab Assignment: Assignment 8

Lecture 7: polygon modeling, understanding poly objects, editable poly objects, converting objects, and mesh object, edit poly modifiers, selection rollout, geometry rollout, vertex, edge, border polygon and element subject, surface properties.
Class Assignment: Assignment 9
Lab Assignment: Assignment 10

Lecture 8: introduction to materials, material color, opacity and transparency, reflection and refraction, shininess and specular highlights, other properties, materials editors, material and map browser and navigator, standard materials, shading types, accessing extended parameters, Introduction to Rendering
Class Assignment: Assignment 11
Lab Assignment: Assignment 12

Lecture 9 & 10: creating compound materials, blend, composite, double sided, multi-subject material, morphed materials, shell, shellec, top/bottom, multiple materials with materials IDs, materials modifiers, vertex colors.
Class Assignment: Assignment 13
Lab Assignment: Assignment 14

Lecture 11: adding materials with maps, understanding maps, 2d maps, 3d maps, and compositors map, color modifiers Maps, misc. maps, using Photoshop for creating textures, scanning textures surfaces
Class Assignment: Assignment 15
Lab Assignment: Assignment 16

Lecture 12: camera views, creating camera, aiming camera, lens setting, field of view, camera types, environment range, clipping planes, camera correction modifiers, multi-pass camera effects, depth of field, motion blur effect.
Class Assignment: Assignment 17
Lab Assignment: Assignment 18

Lecture 13 & 14: light and lighting techniques, understanding basic of lighting natural and artificial lights, default lights, ambient light, standard lights, photometric lights, positioning lights, view scene from lights, altering lights, sunlight and day light, volume lights
Class Assignment: Assignment 19
Lab Assignment: Assignment 20

Lecture 15 & 16: animation and rendering basics, using time controls, working with auto key, set key, track bar, viewing and editing key values, motion panel, ghosting, preferences, animating objects, working with previews, restricting movement with constrains, assigning controllers, animation menu, motion panel, track view, position track, rotation track and scale track, render parameters, rendering preferences, rendered frame, RAM player, creating panoramic images, creating and defining rendered environment.
Class Assignment: Assignment 21
Lab Assignment: Assignment 22

Faculty Reference Manual
3ds Max (60 Hours)

Lecture 17: advanced modeling, referencing external object with XRef, materials XRefs, merging modifiers, using proxies, controllers XRefs, asset tracking,
Class Assignment: Assignment 23
Lab Assignment: Assignment 24

Lecture 18: schematic view, graph editors, schematic view interface, working with hierarchies, connecting nodes, copying modifiers and materials between nodes, assigning controller and wiring parameters, working with grid and background, using list views.
Class Assignment: Assignment 25
Lab Assignment: Assignment 26

Lecture 19, 20 & 21: deformations, painting deformations, accessing brush presets, controlling deformation directions, limiting deformations, relax and revert modifiers, edit mesh modifiers, edit poly modifiers, edit geometry with cap holes, delete mesh, extrude modifiers, face extrude modifiers, optimize modifier, multires modifier, smooth, symmetry, tessellate modifiers, edit normals, normal, STL check modifiers, subdivision surface, mesh smooth, turbo smooth, HSDS modifiers.
Class Assignment: Assignment 27
Lab Assignment: Assignment 28

Lecture 22, 23 & 24: working with compound objects, morphing keys, conform objects, shape merge objects, mesher object, blob mesh object, scatter objects, connect object, loft object using shape, path, surface parameters, skin parameters, loft deformations with scale, twist, teeter, bevel, fit, pro Boolean and pro cutter objects.
Class Assignment: Assignment 29
Lab Assignment: Assignment 30

Lecture 25 & 26: Patch modeling, patch grids, editing patches, modifiers for patch objects, editable path editing vertices, handles, edges, patch and elements, patch select modifiers, edit path modifiers
Class Assignment: Assignment 31
Lab Assignment: Assignment 32

Lecture 27 & 28: NURBS, nurbs curves, nurbs surfaces, cobbering to nurbs object, editing nurbs, surface and curve approximation, nurbs creation toolbox, lofting nurbs surface, creating UV loft surface, creating 1 rail & 2 rail sweep surface, nurbs modifiers.
Class Assignment: Assignment 33
Lab Assignment: Assignment 34

Lecture 29 & 30: Adding and styling Hair, understanding hair, working with hair, growing hair, setting hair, styling hair, style interface, hair preset, hair instances, rendering hair, understanding cloth, creating cloth, garment maker, creating cloth from geometry, clothing 3D model
Class Assignment: Assignment 35
Lab Assignment: Assignment 36

Lecture 31, 32 & 33: Using specialized materials, matte. Shadow materials, Ink 'n' paint, using architectural materials, direct shader, mental ray materials and shades, arch & design materials, Pro materials, car paint materials, bump and displacement materials, subsurface scattering materials
Class Assignment: Assignment 37
Lab Assignment: Assignment 38

Lecture 34, 35 & 36: unwrapping UVs and Pelt Mapping, UVW modifiers, add and clean modifiers, map scaler camera map modifier, using unwarpe UVW modifiers, edit UVWs interface, relaxing modifier, quick planner, mapping multiple objects, using spline mapping, using pelt mapping, selection seams, positioning the projection gizmo, stretching the pelt mapping, rendering UVs templates.
Class Assignment: Assignment 39
Lab Assignment: Assignment 40

Lecture 37: creating baked materials, using channels, map channel info and select channel modifier, rendering to texture, general setting, selecting object to bake, output setting, automatic mapping settings, creating normal maps, using projection modifiers.
Class Assignment: Assignment 41
Lab Assignment: Assignment 42

Lecture 38: creating partcials and particale flow, creating particle system, spray and snow particle, super spray particles, blizzard particle, pcloud, particle age map, mblur map, controlling particle flow.
Class Assignment: Assignment 43
Lab Assignment: Assignment 44

Faculty Reference Manual
3ds Max (60 Hours)

Lecture 39: using space warps, creating and binding space warps, force space warps, deflector space warps, geometric / deformable space warps, modifier based space warps, combining particle with space warps.
Class Assignment: Assignment 45
Lab Assignment: Assignment 46

Lecture 40: Rendering setting and output formats
Class Assignment: Assignment 47
Lab Assignment: Assignment 48

Faculty Reference Manual
Character Studio (15 Hours)

Lecture 1: Introduction: Character Studio Basics, Biped Basics, Linking and Hierarchies, Creating a Walk Cycle, Posing the Biped
Class Assignment: Biped Structure for Boy
Lab Assignment: Biped Structure for Girl

Lecture 2: Biped Parameters: Setting Biped Parameters, Fitting the Biped to the Mesh, Nonhuman Bipeds, Skinning, Associating the Mesh, Working with the Test Animation, Correcting Skin Problems
Class Assignment: Biped Structure for Dinosaurs
Lab Assignment: Biped Structure for Girl

Lecture 3 & 4: Footstep Animation: Basic Footsteps, Gaits, Editing Footstep Placement, Footstep Sequences, Footstep Timing, Displaying Footstep Keys, Changing Footstep Timing, Animating Feet and Legs, Advanced Footsteps, Manual Footstep Placement, Advanced Footstep Timing, Accelerating Gravity, Balance Factor, Converting to Freeform
Class Assignment: Biped Structure for Boy
Lab Assignment: Biped Structure for Girl

Lecture 5: Freeform Animation: Animating with Freeform, Using Freeform Mode, Exploring Forward and Inverse Kinematics, Animating the IK Settings, More Freeform Tools, Freeform Between Footsteps, Converting Freeform to Footsteps
Class Assignment: Biped Structure for Boy
Lab Assignment: Biped Structure for Girl

Lecture 6: Body Animation: Body Animation, Working with Keys, Adding or Changing Keys, Copying and Pasting Postures, Working with Layers, Using Apply Increment, Arms and Hands,
Class Assignment: Biped Structure for Boy
Lab Assignment: Biped Structure for Girl

Lecture 7: Linking Objects to Biped: Linking Objects to the Biped, Pinning the Hands to Objects, Making a Hand or Foot Follow another Object, Animating OSO Settings, and Bulges
Class Assignment: Biped Structure for Boy
Lab Assignment: Biped Structure for Girl

Lecture 8: Combining Motions: Motion Mixer and Motion Flow, Comparing Motion Mixer and Motion Flow, Motion Files, Motion Mixer, Mixdowns, Motion Flow, Looping Animations
Class Assignment: Biped Skating Animation
Lab Assignment: Biped Skies Animation

Lecture 9 & 10: Crowds: Basic Crowds, Crowds Overview, Crowd Setup, Changing Multiple Delegates, Behavior Weights, Simulation Troubleshooting Tips, Linking Objects to Delegates, Complex Crowds, Cognitive Controllers, Circular Transitions, The MAXScript Listener, Animation States, Biped Crowds, Working with Random Scripts, Transition Probabilities, Using Motion Flow with Crowds
Class Assignment: Biped Skating Animation
Lab Assignment: Biped Skies Animation

Faculty Reference Manual
Mudbox Studio (18 Hours)

Lecture 1:
Introduction of Digital Painting & Sculpting, User Interface, Starting Point(Basic Head, Bull, Car, Cube, Human Body, Plane, Reptile, Sphere, T-Rex, Tree Stamp, UV View, Image Browser, Mudbox Community, Navigation 3D View, Treys & Properties, Objects list, Send to Maya, Export Screen to PSD, Re-Import for PSD, Flatten to UV Space, Unflatten from UV Space.
Class Assignment: Assignment 1
Lab Assignment: Assignment 2

Lecture 2:
Importing Custom Geometry Installing FBX Plugin , Importing Custom Geometry, Subdivision Surfaces, Working with Geometry (Selecting, Moving, Freezing & Locking Geometry),Smooth Shade, Flat Lighting, Wireframe, Lighting, Show Both Sides, Gird, Meshes, Curves, Gradient Background.
Class Assignment: Assignment 3
Lab Assignment: Assignment 4

Lecture 3:
Use of Curves –Create Curve- Circle, French curve, Square, Straight Line, New Curves, End Curves, Close Curves, Stroke of Curves, Duplicate Curves. Layers –Sculpt Subdivision Layers, Properties –Size, Strength, Mirror, Invert Function, Stamp Image, Stamp Spacing, Steady Stroke
Class Assignment: Assignment 5
Lab Assignment: Assignment 6

Lecture 4:
Sculpting Tools – Sculpt, Smooth, Grab, Pinch, Flatten, Foamy, Spray, Repeat, Imprint, Wax, Scrape, Fill, Knife, Smear, Bulge, Amplify, Mask & Erase. Use Sculpting Tool with Falloff & Falloff Properties. Adding, Deleting & Renaming New Tool, Changing Order of Tools.
Class Assignment: Assignment 7
Lab Assignment: Assignment 8

Lecture 5:
Sculpting Tools - Sculpt, Smooth, Grab, Pinch, Flatten, Foamy, Spray, Repeat, Imprint, Wax, Scrape, Fill, Knife, Smear, Bulge, Amplify, Mask & Erase Using Stamp & Stencil Trey Properties
Class Assignment: Assignment 9
Lab Assignment: Assignment 10

Lecture 6:
Paint Layers- Size, Save As, Channels(Diffuse, Specular, Gloss, Incandescent, Bump Map, Normal Map, Reflection Mask , Paint Tools – Paint Brush, Projection, Eyedropper, Airbrush, Pencil, Paint Erase, Clone & Dry Brush.
Class Assignment: Assignment 11
Lab Assignment: Assignment **1**2

Lecture 7:
Paint Tools - Blur, Dodge, Burn, Contrast, Sponge, Hue, Hue Shift & Invert with Stamp & Stencil.
Class Assignment: Assignment 13
Lab Assignment: Assignment 14

Lecture 8 & 9:
Pose Tools – Create Joint, Pose, Weights, Removing Weight, Move Pivot & Viewport Filters -Tonemapper, Depth of Field, Ambient Occlusion, Screen Distance, Normal Map, Non – Photorealistic & Camera Bookmarks.
Class Assignment: Assignment 15
Lab Assignment: Assignment 16

Lecture 10:
Material Presets – Add New Material Presets, Delete Presets & Rename Presets & Lighting Presets – Add New Lighting Presets, Delete Presets & Rename Presets.
Class Assignment: Assignment 17
Lab Assignment: Assignment 18

Faculty Reference Manual
Introduction to Production Pipeline & Film Making (3 Hours)

Lecture 1: Overview of film making, production stage, pre-production, production and post-production, CG Workflow, and Core Concepts, Pre-production: script, storyboard design, conceptual art Production, Post-production: rendering, compositing, audio & video editing.
Class assignment: Explain production pipeline workflow
Lab assignment: Find out the article on post production of any movie

Lecture 2: CG workflow: modeling, character modeling, architectural and environment modeling, props modeling, texturing, animation, lighting. core concepts of vector & raster images, alpha channels, chroma keys, 2K & 4K images, image sequences and file formats, color depth, 8,16,32bit and floating image color depth, HDRI images, color channels, file formats, movie files, resolution, aspect ration, frame rate
Class assignment: Explain file formats for video editing and composting
Lab assignment: Find out the file formats for video editing and composting

Faculty Reference Manual
Character Design & Clay Modeling (6 Hours)

Lecture 1 & 2: Introduction of Designing Cartoon Character, Thing to keep in mind during Designing Character
Class assignment: Designing Character of Simpsons
Lab assignment: Designing Character of any of student Choice

Lecture 3 & 4: Introduction & Use of Clay & Clay Tool, creating Cartoon Character with the help of character
Class assignment: : Creating Character of Simpsons with clay
Lab assignment: Creating Character of Student choice with clay (Same that they Sketch)

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Faculty Reference Manual
3D Animation & Visual Effects using Maya (78 Hours)

Lecture: 1 concept of Maya & UI
Define 3d animation pipeline. Start storyboarding and character/BG designing on paper; start with Project setting, save file in mb/ma format, import and export file format. Creation node, shape node, shader node, transform node. Outliner, attribute editor, Hotbox, self and viewport Move/scale/rotate/universal manipulator tool
Class assignment: Short Story Storyboard Start
Lab assignment: Short Story Storyboard Finish

Lecture: 2 polygon primitives
Geometry type-POLYGON/NURBS SURFACE/SUBDIVS, box, sphere, cylinder, torus, cube, cone, plane, Helix Align, snap tool, make live, center pivot, and Duplicate (Array), group, and parent/Un parent. Wireframe/ shaders mode, Interactive creation Types of polygon components: vertices, face, edge, UV.
Class assignment: Kitchen Wall & Platform Modeling Start
Lab assignment: Kitchen Wall & Platform Modeling Finish

Lecture: 3 and 4 polygon modeling
Using polygon primitives and align, snap tool, make live, center pivot, and Duplicate (Array), group, and parent/Un parent. Assignments: House
Class assignment: Horse Modeling Start
Lab assignment: Horse Modeling Finish

Lecture: 5 & 6 polygon modeling (Head)
Import blueprints in viewport and start face modeling with box primitives. **Using tools:** split polygon tool, cut face tool, Insert edge tool, offset Insert edge tool, add division, poke face, wedge face, merge/merge to center, collapse(edge/vertex tool),chamfer vertex, slide edge tool, snapping tool.
Class assignment: Character Head Start
Lab assignment: Character Head Finish

Lecture: 7 & 8 polygon modeling (Body)
Start body modeling with box. **Using tools:** split polygon tool, cut face tool, Insert edge tool, offset Insert edge tool, add division, poke face, wedge face, merge/merge to center, collapse(edge/vertex tool),chamfer vertex, slide edge tool, snapping tool.
Class assignment: Character Body Start
Lab assignment: Character Body Finish

Lecture: 9 polygon modeling (Leg & foot)
Start body modeling with box. **Using tools:** split polygon tool, cut face tool, Insert edge tool, offset Insert edge tool, add division, poke face, wedge face, merge/merge to center, collapse (edge/vertex tool),chamfer vertex, slide edge tool, snapping tool.
Class assignment: Character Leg & Foot Start
Lab assignment: Character Leg & Foot Start

Lecture: 10 NURBS Primitives-modeling AXE
Using EP and CV curve and NURBS primitives for axe modeling **Using tools:** Attach/detach, open and close curve, modify curves, loft, curve fillet, Rebuilt curve, boundary, Birail.
Class assignment: AXE Modeling Start
Lab assignment: AXE Modeling Finish

Lecture: 11 and 12 NURBS Modeling-Rat
Using EP and CV curve, **Using tools:** Attach/detach, open and close curve, modify curves, loft, curve fillet, Rebuilt curve, boundary, Birail.
Class assignment: Modeling Rat Start
Lab assignment: Modeling Rat Finish

Lecture: 13 subdivision surface-Toaster
Create box Subdivision primitives, **Using tools:** Full/partial crease edge/vertex, sculpt Geometry tools. Using subdivision component for giving shape
Class assignment: Modeling Toaster Start
Lab assignment: Modeling Toaster Start

Faculty Reference Manual
3D Animation & Visual Effects using Maya (78 Hours)

Lecture: 14 Materials-Basic shaders
Shaders type: Anistropic, Blinn, Lambort, phong, Layered, Ramp, surface, Background shader. maps-2d texture and 3d texture, volumetric and Displacement, Introduction to Rendering
Class assignment: Fruit Basket
Lab assignment: Cheese Cube

Lecture: 15 and 16 Materials-shaders & maps
Color shaders node for maps/texture/psd file, Transparency shaders node for opacity/alpha, bumps and specular color node, Maps-2d texture: checker, Bulge, file, PSD file, movies, ocean, Ramp, water, cloth, Fractal, Noise. 3D maps: cloud, crater, Leather, Marble, Rock, snow, solid Fractal, stucco, volume noise, wood.
Class assignment: House Exterior Start
Lab assignment: House Exterior Finish

Lecture: 17 Unwrapping-Basic
Mapping (projection) Type: planar, cylindrical, spherical, Automatic mapping, UV texture editor tools
Class assignment: Kitchen Wall Start
Lab assignment: Kitchen Wall Finish

Lecture: 18 Unwrapping-Character Face
Unwrapping character face using UV Texture editor and projection Using tool: cut/sew UV edge tool, Relax, unfold, UV snapshot, flip, Border edge.
Class assignment: Character Face Start
Lab assignment: Character Face Finish

Lecture: 19 Unwrapping-clothing
Unwrapping cloths using uv Texture editor and projection. Using tool: cut/sew UV edge tool, Relax, unfold, UV snapshot, flip, Border edge.
Class assignment: Character Clothing Start
Lab assignment: Character Clothing Finish

Lecture: 20 and 21 PSD Network
Create PSD network, setting Resolution of map, create network mapping, using Photoshop for color/Transparency/bump/specular etc layers for texturing.
Class assignment: PSD Export for Texturing Start
Lab assignment: PSD Export for Texturing Finish

Lecture: 22 and 23 Lights
Light type: Ambient, point, Directional, spot, Area, Volume. Attribute editor of lights: light color, Intensity, shadow, Ray trace shadow attribute. Light linking and shadow liking.
Class assignment: Exterior Lighting
Lab assignment: Interior Lighting

Lecture: 24 Mental Ray-Light
Raytrace, Global illumination, Caustics, Final Gathering, Ambient Occlusion, Photon, Environment (image Based lighting)
Class assignment: Caustic Glass Water 1
Lab assignment: Caustic River Water 1

Lecture: 25 Mental Ray-Textures
Dgs material, dielectric material, mia_material
Class assignment: Caustic Glass Water & Kitchen Wall
Lab assignment: Caustic River Water & River Wall

Lecture: 26 & 27 Rigging-Bones & Controller
Joint tool, insert joint tool, mirror joint, joint labeling, set preferred angle. Ik handle tool, Ik spline handle tool, solvers type
Class assignment: Rat Quadra Start
Lab assignment: Rat Quadra Finish

Lecture: 28 and 29 Rigging-Binding/skinning
Bind skin, Go to bind pose, paint skin weights tool, mirror skin weights, Add influence,

Faculty Reference Manual
3D Animation & Visual Effects using Maya (78 Hours)

Create flexor, Component editor for skin weight setting.
Class assignment: Rigging Boy Start
Lab assignment: Rigging Boy Finish

Lecture: 30 camera
Camera type: Camera, camera and Aim, camera, Aim and up. Camera tools: Tumble/dolly/track/zoom. Camera animation with motion path Camera Attribute editor
Class assignment: Camera Setting for Views with Path
Lab assignment: Camera Setting for Views with Path

Lecture: 31 Animation-key frames
Auto key, Time slider, playback start/end, playback speed, Looping-once/oscillate/continuous, Playblast for Animation
Class assignment: Rat Jump Axe Animation Start
Lab assignment: Rat Jump Axe Animation Finish

Lecture: 32 Animation- Editors
Graph editor tools, Tangents type-(spline, linear, clamped, flat, plateau), pre-infinity/post-infinity type (cycle, cycle with offset, oscillate, Linear, constant)
Class assignment: Boat in River Start
Lab assignment: Boat in River Finish

Lecture: 33 Animation- walk cycles
To make walk cycle animation and create clip and pose using with Graph editor and Tax editor for walk cycle animation.
Class assignment: Layered Animation 1
Lab assignment: Layered Animation 2

Lecture: 34 Animation-Deformers
Blend shape, Lattice, wrap, cluster, soft Modification, sculpt Deformer, jiggle deformer, wire tool, Wrinkle tool, point on curve, Nonlinear-Bend, Flare, Sine, Squash, Twist, wave.
Class assignment: Jump Animation
Lab assignment: Run Animation

Lecture: 35 and 36 Animation-Constrain
Point, Aim, orient, scale, parent, Geometry, Normal, Tangent
Class assignment: Rat with barbecue coil start
Lab assignment: Rat with barbecue coil finish

Lecture: 37 Paint Effects
Using paint effect tool, make paintable, using visor as a Brush tool, Brush setting.
Class assignment: Exterior ground & background plants start
Lab assignment: Exterior ground & background plants finish

Lecture: 38 Dynamic soft & Rigid body with fields
Create Active and passive body for collision effects with constraint. **Using tools:** create active and passive rigid body, set Active key and passive key, Constraint type,(Nail/pin/Hinge/Spring/Barrier), Using fields for creating real force effects, **Using tools:** Air, Drag, Gravity, Newton, Radial, Turbulence, uniform, vortex, volume Axis, volume curve Create soft body for Bouncing or softness, **Using tools:** soft body tool, spring, and paint soft body tool.
Class assignment: Window Glass Crack Start
Lab assignment: Window Glass Crack Finish

Lecture: 39 and 40 nParticals & fields
Create partial effect like dust, rain, instance object, fire. Software and hardware Rendering.
Using tools: particle tool, create emitter, emit from object, use selected emitter, Make collide, Goal, Instancer, and sprite wizard.
Class assignment: Water Falling from Glass Start
Lab assignment: Water Falling from Glass Finish

Lecture: 41 and 42 Fluid Effects
Create fire, smoke and water effect.

Faculty Reference Manual
3D Animation & Visual Effects using Maya (78 Hours)

Using tools: 2d and 3d container, add/edit contents: emitter, emit form object, Gradients, paint Fluids tool, create ocean, wake, add ocean surface locator, add Boat Locator, Make Boats, and make motor boats. Create pond, wake, add pond surface locator, add Boat Locator, Make Boats, make motor boats.
Class assignment: Barbecue Fire
Lab assignment: House Chimney Smoke

Lecture: 43 Hair
Create Hair, scale hair tool, paint Hair Follicles, paint hair textures, Display, Create constraint, convert selection, Assign Hair system, make collide, Assign Hair constraint, Assign paint effects Brush to hair
Class assignment: Boy Hair Start
Lab assignment: Boy Hair Finish

Lecture: 44 Fur
Attach Fur Description, Edit Fur Description, paint Fur Attributes tool, offset fur direction,
Attach hair system to Fur, Detach hair system from Fur.
Class assignment: Rat Fur Start
Lab assignment: Rat Fur Finish

Lecture: 45 and 46 nCloth
Draw cloth through curve, create panel, garment, stitcher, and seam, create collision object.
Class assignment: Boy Clothing Start
Lab assignment: Boy Clothing Finish

Lecture: 47 and 48 vfx
Use particles with fluid effect, force and lighting Effects
Class assignment: Rat Running & Jump Effects Start
Lab assignment: Rat Running & Jump Effects Finish

Lecture: 49 & 50 Rendering Passes
Use renderable layer, matte opacity mode, Render layer setting.
Class assignment: Video Post Production Start
Lab assignment: Video Post Production Finish

Lecture: 51 & 52 Rendering
Render type-software, hardware, mental ray, vector, IPR rendering for lighting, Render region, Render current view, Batch Render. **Rendering setting:** Render format, single frame, multi frame Setting renderable camera, setting range, Quality setting, Ray tracing setting, motion blur setting
Class assignment: Sequential Rendering
Lab assignment: Sequential Rendering

Faculty Reference Manual
Advanced Character Animation using MotionBuilder (16.5 Hours)

Lecture 1 & 2: Introduction to MotionBuilder and UI
FBX Plug-in to import and export the scene from max and Maya, MotionBuilder workflow, Loading and Characterizing Character Models, Prepare the scene, Complete the character map, Characterize the character model
Class assignment: Layered Animation 1
Lab assignment: Layered Animation 2

Lecture 3: Creating and Customizing a Control Rig
Prepare the scene, create a Control rig, adjust the foot floor contact markers, and adjust the hand floor contact markers, Add Auxiliary pivots
Class assignment: Staircase Climb Animation 1
Lab assignment: Football Climb Animation 2

Lecture 4: Creating a Character Extension
Prepare the scene, Connect the extra limb to the character, Create a Character Extension
Class assignment: Characterization Animation 1
Lab assignment: Characterization Animation 2

Lecture 5 Creating a Walk Cycle
Prepare the scene, Create poses, Create animation with poses, Mirror poses, Play the animation,
Class assignment: Boy Walk
Lab assignment: Girl Walk

Lecture 6: Retargeting Character Animation
Prepare the scene, save the character animation, Create a scene, Load character animation, Play the animation
Class assignment: IK/FK Rig 1
Lab assignment: IK/FK Rig 2

Lecture 7: Editing Character Animation
Prepare the scene, Modify the Character Extension animation, Modify the head animation, Plot the animation, Play the resulting take
Class assignment: Constrain Animation 1
Lab assignment: Constrain Animation 2

Lecture 8: Creating a Loop
Prepare the scene, create a Character track, Create poses, Match clips, and Process the clips, Test the walk cycle
Class assignment: Assignment 1 - Skinned Animation
Lab assignment: Assignment 2 – Weighted Animation

Lecture 9: Manipulating Clips
Prepare the scene, create a turn, Blend two clips, add a clip, and Match clips
Class assignment: Assignment 1 - Layered Animation BVH to CS Files
Lab assignment: Assignment 2 - Layered Animation CS to BVH Files

Lecture 10: Importing 3ds Max Files into MotionBuilder
Preparation for importing scene from max, 3ds Max skeletons, 3ds Max Bipeds, 3ds Max Characters, Animating a 3ds Max Character in MotionBuilder, Exporting a Character and its animation back to 3ds Max
Class assignment: Assignment 1 - using ROM for Animation
Lab assignment: Assignment 2 - using ROM for Animation

Lecture 11: Importing Maya Files into MotionBuilder
Preparation for importing scene from Maya, Maya bones, Maya Characters, Animating a Maya character in MotionBuilder, Exporting a Character and its animation back to Maya
Class assignment: Assignment 1 – Quadruped Animation
Lab assignment: Assignment 2 - Quadruped Animation

Faculty Reference Manual
Camera Tracking/Matching using MatchMover (6 Hours)

Lecture 1: Tracking an Image Sequence
User Interface overview , The Toolbar , The Workspace , Working in 2D mode , Working in 3D mode , Browsing the footage, Project window , Track window , Parameters window , Actions window , Time Line window , Magnifier window , Keyboard shortcuts About matchmoving Film, video and image sequences, Cameras, Point tracks, Mattes, 3D objects, Camera computation, Loading the image sequence, Running the automatic tracker, Rendering the tracked image sequence
Class assignment: Merging 3D Element with Garden Video Start
Lab assignment: Merging Car Model with Road Clip

Lecture 2: Supervised Tracking
Introduction, Creating a point track , Editing a point track , Adding tracking points , Calibrating the camera , Creating a coordinate system
Class assignment: Car Manual Tracking Start
Lab assignment: Car Manual Tracking Finish

Lecture 3: Object Based Tracking & Motion Captured
Introduction, importing the 3D mesh, Set up the trackers and the survey points, Introduction , Synchronizing the sequences , Creating motion tracks , Finalizing your motion capture project

Class assignment: Package Tracking Start & Capturing Motion of Boy
Lab assignment: Package Tracking Finish & Capturing Motion of Girl

Lecture 4: Exporting to Maya & Max
Exporting tracked data to Maya and Max
Class assignment: Keyframes export to Maya
Lab assignment: Keyframes export to Max

Faculty Reference Manual

Introduction to Audio/Video Editing & Special Effects **(**1.5 Hours)

Lecture 1: Revision of film making, production stage, pre-production, production and post-production, CG Workflow, and Core Concepts, Pre-production: script, storyboard design, conceptual art Production, Post-production: rendering, compositing, audio & video editing. CG workflow: modeling, character modeling, architectural and environment modeling, props modeling, texturing, animation, lighting. core concepts of vector & raster images, alpha channels, chroma keys, 2K & 4K images, image sequences and file formats, color depth, 8,16,32bit and floating image color depth, HDRI images, color channels, file formats, movie files, resolution, aspect ration, frame rate, using layer based or node based compositing software, 3d compositing and 3d environment, matte painting

Class assignment: Explain VFX in production pipeline workflow, Explain example of SFX movie like (Blue, Avatar, 2010 etc.)
Lab assignment: Find out the article on VFX added in special effects movie, Make power-point presentation on special effects movie

Faculty Reference Manual

Audio Editing using ***Soundbooth*** (6 Hours)

Lecture 1: Introduction Soundbooth & Editing

Concept of sound editing, waveform, Frequency, wavelength, and amplitude, Sample rate and bit depth, spectrum, importing files, Recording audio, Choosing a mic, Proper mic technique, Recording good audio, Layered and separated files, trims, fade dB scale, Amplifying, Hard limiting, Using markers, and Contextual menu options

Classroom Assignment: Record from CD

Student Assignment: Sweep

Lecture 2: Repairing Audio

Understanding the spectral display, Removing background noise, Removing clicks, pops, and rumbles, removing common problems, Changing pitch or timing

Classroom Assignment: Techno_Bed

Student Assignment: Dance_Bed

Lecture 3: Audio Effects

Using effects, Using effects presets, Analog delay, Chorus/Flanger , Compressor , Convolution reverb , Distortion, Dynamics , EQ: Graphic , EQ: Parametric, Mastering, Phaser, Vocal Enhancer

Classroom Assignment: BigKick

Student Assignment: Drumset

Lecture 4: Creating Working with Score

Creating loops, choosing a score template, Importing video, customizing the score, exporting the finished score, Creating Flash cue points, Exporting cue points to Flash, Editing Premiere Pro audio in Soundbooth CS4, Editing After Effects audio in Soundbooth CS4

Classroom Assignment: creating background score 1

Student Assignment: creating background score 1

Faculty Reference Manual
Non-Linear Video Editing using Premiere (12 Hours)

Lecture 1: Introduction & Editing Video - Introduction, Assets to Projects, Capturing Video Footage to Projects, Capturing Video, Analog Video & Audio, Importing Premiere & Illustrator Files, Importing Adobe Photoshop Images, Viewing Clips in the Monitor Window, Monitor Window Playback Controls, Navigating Clips Using Time Displays, Using a Reference Monitor, Working with Clip Sequences, Setting In & Out Points, Working in the Trim Monitor, Working with Markers

Classroom Assignment: Basic Trim of Video Clip Corwd, Hands
Students Assignment: Fred, Invitation

Lecture 2: Editing Techniques - The Basic Edit Workflow, Insert & Overlay Edits, Rolling & Ripple Edits, Performing 3 & 4 Point Edits, Editing Clips in the Timeline, Splitting Copying & Pasting Clips , Removing Clips & Frames, Changing Clip Duration & Speed, Exporting & Freezing Frames, Multi-camera Editing, Previewing Sequences in Program View, Working with Preview Files

Classroom Assignment: Nicole, Overhead
Students Assignment: Sophia, Raul

Lecture 3: Transitions - Introduction to Transitions, Understanding Transitions, Applying Transitions, Adjusting Transitions, Previewing Transitions, Customizing Transitions
Classroom Assignment: Blending from Frame
Students Assignment: Low

Lecture 4: Titles - Creating Titles, Title Templates, Adding Text & Shapes to Titles, Adding Logos to Titles, Adding Rolling & Crawling Text, Adding Titles to Projects
Classroom Assignment: Custom Title Main
Students Assignment: Custom Title Credits

Lecture 5 & 6: Applying Video & Audio Effects - Introduction to Effects, Animating Effects with Keyframes, Setting Key frame Interpolation, Viewing Properties in the Effect Controls Window Keying Effects, Clip Transparency & Alpha, Chrominance-based keys, Color Correction, Auto Levels/Colors & Contrast Effects
Classroom Assignment: Frame Blend
Students Assignment: Frame Blend

Lecture 7: Working with Audio - Audio Workflow, Clips/Tracks & Channels, Gain or Volume Levels, Creating Split Edits, Audio Effects to Tracks, Working with the Audio Mixer
Classroom Assignment: Import from Soundbooth & Mixing
Students Assignment: Import from Soundbooth & Mixing

Lecture 8: Exporting Movies - Export Settings & Options, Export Formats, Understanding Compression, Video Compression Tips, About Video to DVD & Blue-ray discs, exporting for the Web, Exporting to Flash
Classroom Assignment: Compile final Video - Prm Project
Students Assignment: Compile final Video - Prm Project

Faculty Reference Manual
High Definition Video Editing using Avid Xpress Pro HD (18 Hours)

Lecture 1: Mapping Your Keyboard and Interface Button to Button Reassignment, Adding a Modifier to a Mapping, Menu to Button Reassignment, Using the Tool Palette, Using the Active Palette, Customizing your Window Arrangements, Linking Settings to Toolsets, Creating Bins, Creating Folders, Using the Super Bin, Trashing Bins
Class assignment: Assignment 2
Lab assignment: Assignment 2

Lecture 2: Preparing to Capture Deck Configuration Settings, Other Deck-Related Settings, Choosing Your Source Tape, Designating Capture Drives (Scratch Disks), Drive-related Capture Settings, Choosing a Video Resolution, Choosing Audio Input, Sample Rate, Format and Bit size, Setting Your Logging Bin, Alternative to Logging and Capturing, Logging Clips, Batch Capturing Clips, Capturing with a non-controllable deck
Class assignment: Assignment 3
Lab assignment: Assignment 4

Lecture 3: Importing Media into Avid & Edit Importing Bin Items from Other Projects, Importing Video Clips, Importing Music/Sounds from CD, Importing Stills, Importing High Res: Pan and Zoom , Creating a Sequence, Loading an Existing Sequence, Setting Starting Time code, Customizing Timeline
Class assignment: Assignment 5
Lab assignment: Assignment 6

Lecture 4 & 5: Editing Basics: The Three-Point Edit Loading a Clip Into a Source Monitor, Using XDV's Play Controls, Marking & Changing In & Outs - Marking & Changing In & Outs - Selecting & Patching Tracks, Splice-In Editing, Overwrite Editing, Drag and Drop Editing, Moving Around the Timeline - Moving Around the Timeline - Using Locators, Deleting with Lift and Extract, Deleting with Lift and Extract Segment Modes, Performing Replace Edits, Performing Fit-to-Fill Edits, Performing Back-timed Edits, Forcing Edit Points with Add Edit, Using the Match Frame button, Using the Clipboard Monitor, Adding Filler, Moving Segments in the Timeline, Positioning Segments – Snap to Edit, Using Sync Locks, Locking Tracks, Segment Drag Sync Locks, Monitoring and Soloing Tracks
Class assignment: Assignment 7
Lab assignment: Assignment 8

Lecture 6 & 7: Using Trim Mode, Creating Video FX: The Basics Entering and Exiting Trim Mode, Double-Roller Trims and Trimming Methods, Performing a Single-Roller Trim, Performing a Slip Trim, Performing a Slide Trim, Trimming While Keeping Sync, About Xpress Effects: An Overview, Applying Segment Effects, Applying Transition Effects, Custom Transition Alignments, Creating a Custom Effect, Rendering Effects, Replacing or Removing Effects, Creating a Freeze Frame, Slow/Fast/Reverse/Strobe Motion, Render Effect Settings
Class assignment: Assignment 9
Lab assignment: Assignment 10

Lecture 8: Creating Video FX: Intermediate, Using Color Correction Using Quick Transition, Using Fade Effect, Applying Multiple Effects to One Clip, Collapsing Tracks into a Nest, Color Correction, Match Color, Safe Color Warnings
Class assignment: Assignment 11
Lab assignment: Assignment 12

Lecture 9: Creating Titles & Audio Editing The Title Tool: An Overview, Working with Text: The Basics, Working with Graphics: The Basics, Blending and Transparency, Working with Shadows, Saving Your Title, Changing a Title, Adding a Fill Layer, Creating Audio Rubber Bands, Creating Audio Rubber Bands Panning Audio, Panning Audio, Audio Tool Basics, Audio Punch-In Basics, Using the Audio Suite Window
Class assignment: Assignment 13
Lab assignment: Assignment 14

Lecture 12: Outputting your Project, Exporting Features Exporting Basics, Exporting Reference Movies, Batch Exporting, The Send to Feature before You Output, Color, Color Bars and Tone, Performing a Digital Cut
Class assignment: Assignment 15
Lab assignment: Assignment 16

Faculty Reference Manual
Motion Graphics using After Effects **(**15 Hours)

Lecture 1: Introduction, Document Setup & Tools
Introduction About Workspace, Choose a Workspace, Dock-Group or Float Panel ,Open and Close Panel And Windows, Working With Multiple Monitors, Save a Custom Workspace, Reset & Delete Workspace, Brighten Or Darken The Interface, Pen Panel-Viewer & Context Menu, Work With Viewers, Activate Tool { Selection, Hand, Zoom, Rotation, Orbit Camera, Pan Behind, Mask & Shape Tool, Pen Tool, Type Tool, Clone Stamp, Eraser, Puppet Tool, Controls Related To Active Tool }
Classroom Assignment: Digit Man
Students Assignment: medical zoom

Lecture 2: Compositions
Introduction To Compositions, Create A Compositions, Timeline Overview, Work With Compositing settings, Set Compositing Background Color, Work With Compositing Thumbnail Image, Zoom In Or Out Time, Set The Work Area, About nesting & Pre-composing, pre-compose Layer, Pre-render a Nested Composition, Render order & collapsing Transformations, Work With Composition-time Marker, Work With Layer-time Marker, Create a Web link-Chapter link.
Classroom Assignment: Digit Man, Text Blur
Students Assignment: medical zoom

Lecture 3 Drawing & Painting
Introduction About Project Files, Create & Open Projects, Work With Template Projects, Save & Back-up Projects, Work With The Flowchart Panel, Undo Changes, Use Adobe Bridge With After Effects, Working With Photoshop & After Effects. Using Paint Tool, Animate Paint Tool, Group & Ungroup Shapes & Shape Attributes, Creating Shape & Path, Managing & Editing Shape, Work With Stroke & Fill For Shape.
Classroom Assignment: Chinese painting
Lab Assignment: Drum Set

Lecture 4: Importing & Interpreting Footage Items & Layers & Properties
Working With Imported Files, Supported Import Formats, Import Footage Items, Interpret Footage Items, Specify Alpha Channel Interpretation, Change Frame Rate, Change Pixel Aspect Ratio, Use Square-Pixel Footage For Output To D1/DV NTSC, Organize & View Items In The Project Panel, Working With Footage Items In the Footage Panel, Reveal Footage Items, Edit Footage In its Original application, Importing 3D Image Files, Preparing Still-image Files For Importing, Work With The Layer Panel, Create Layers From Footage Items, Create An Adjustment layer, Create Or Modify a Solid-color Layer, Create An Adjustment Layer, Create a Layer & New Photoshop Footage Item, Chang The Stacking Order For Selected Layer, Align Or Distributes Layer's in 2D Space, Layer Switches & Columns In The Timeline panel, Lock Or Unlock Layer, Work With Color Label, Show & Hide Layer In The Timeline Panel, Set Property Value, Work With Layer Anchor Point, Scale & Flip Layer, Apply Blending Object, Work With Layer Style, Working With 3D layer,
Classroom Assignment: Cold Walk, Drawing & Blending Video

Lab Assignment: Snow Emitter, Drawing 3D Frame on Video
Lecture 5: Introduction To Camera Raw
Intro about Camera Raw Files & Digital Negative Format, processing Images With Camera Raw, Import & Interpret Camera Raw Files, lights effects, Camera Raw dialog Box Overview, Process - Compare & Rat Multiple Image In Camera Raw, Open Images In Camera Raw, Save a Camera Raw Image In Another Format, Adjusting Color In Camera Raw, Modifying Image In Camera Raw, Camera Raw Setting, Use Null Object
Classroom Assignment: Earth Zoom
Lab Assignment: Advanced Camera Effects

Lecture 6: Animation
Basic Animation, Setting-Selecting & Deleting Key frames, Editing-Moving & Copying Key frames, Creating & Modifying Motion path, Assorted Animation Tools, Control Speed Between Key frames, Work With Speed Graph, Time-Stretching & Time-Remapping, Animating With Puppet Tools.
Classroom Assignment: Ink project, path animation
Lab Assignment: Lamp of Wish

Lecture 7 Text
Creating & Editing Text Layers, Best Practice For Creating Text & Vector Graphics For Video, Enter Paragraph Text, Resize a Text Bounding Box, Convert Point Or Paragraph Text, Change The Direction Of Text, Convert Text From Photoshop To Editable Text, Edit & Move Text In Text Layers, Using The Character Panel, Formatting Paragraph, Work with animator properties, Creating & animating Text On A Path, Examples of Text Animation.
Classroom Assignment: Floor Reflection, Titling.
Lab Assignment: Aqua 3D Text, Text Rotation, Jumpy Text.

Lecture 8: Mask, Transparency & Keying

Work With Alpha Channels - Mattes - Straight – Pre-multiplieses Channels- Keying – Mask, Create a Rectangular or Elliptical Mask Numerically, Create a Mask From a Motion Path, Exp-lain Time Re-mapping, Create a Mask From a Channel With Auto-Trace, Lock Or Unlock Mask, Control Mask Path Color, Mask Modes, Adjust Mask Feather, About Track Mattes & Traveling Mattes, Keying Overview, Use a Garbage Matte, Use a Hold-Out Matte.
Classroom Assignment: AE Tunnel Flythrough
Lab Assignment: Flip Book.

Lecture 9: Motion Tracking
Creating & Editing Text Layers, Best Practice For Creating Text & Vector Graphics For Video, Enter Paragraph Text, Resize a Text Bounding Box, Convert Point Or Paragraph Text, Change The Direction Of Text, Convert Text From Photoshop To Editable Text, Edit & Move Text In Text Layers, Using The Character Panel, Formatting Paragraph, Work with animator properties, Creating & animating Text On A Path, Examples of Text Animation.
Classroom Assignment: Night Sky
Lab Assignment: Mobile Ad, Tracking Car Head Light

Lecture 10: Views, Previews & Rendering
Preview Video & Audio, Move the Current-Time Indicator, preview Modes, Work With Snapshots,
Select a 3D View, Preview On An External Video Monitor, Show or Hide Layer Controls In The Compositing Panel, Zoom, Resolution, Viewing a Color Channel Or Alpha Channel, Adjust Exposer For Preview, Work With Safe Zone – Grids – Guides & Rulers. Exporting video and video formats
Classroom Assignment: Rendering 1
Lab Assignment: Rendering 2

Faculty Reference Manual
Digital Compositing using Nuke **(**15 Hours)

Lecture 1: Compositing Basics, Starting Nuke, Using the Toolbar, Using the Menus, Customizing Your Layout, Saving Files and File Backup, Setting Up the Project, Working with Nodes, Connection Tips, Importing Image Sequences, Navigating Inside the Windows, Working with Viewers, Reformatting Images, Using Proxies and "Down-res", Compositing Images, Colour-correcting Images, Masking Effects, To create and apply a Bezier mask, Creating Flipbook Previews, Rendering Final Output.
Classroom Assignment: Image Channels 1
Lab Assignment: Image Channels 2

Lecture 2 & 3: Compositing Basics, Starting Nuke, Using the Toolbar, Using the Menus, Customizing Your Layout, Saving Files and File Backup, Setting Up the Project, Working with Nodes, Connection Tips, Importing Image Sequences, Navigating Inside the Windows, Working with Viewers, Reformatting Images, Using Proxies and "Down-res", Compositing Images, Colour-correcting Images, Masking Effects, To create and apply a Bezier mask, Creating Flipbook Previews, Rendering Final Output.
Classroom Assignment: Image Matte 1
Lab Assignment: Image Matte 2

Lecture 4 & 5: Compositing Basics, Starting Nuke, Using the Toolbar, Using the Menus, Customizing Your Layout, Saving Files and File Backup, Setting Up the Project, Working with Nodes, Connection Tips, Importing Image Sequences, Navigating Inside the Windows, Working with Viewers, Reformatting Images, Using Proxies and "Down-res", Compositing Images, Colour-correcting Images, Masking Effects, To create and apply a Bezier mask, Creating Flipbook Previews, Rendering Final Output.
Classroom Assignment: Rotoscopy 1
Lab Assignment: Rotoscopy 1

Lecture 6 & 7: Tracking, Stabilising and Matchmoving, One-Point, Two-Point, Three-Point, Four, Open the Lecture Project File, Tracking a Single Feature, Tracking Obscured Features, Stabilising Elements, Matchmoving Elements, Keying and Mattes, Open the Project File, Keying with Primatte, Image-based Keying, Rotoscoping, Keying Video
Classroom Assignment: Car & Road with Cracks
Lab Assignment: Night Drive

Lecture 8 & 9: 3D Integration, The Basic 3D System, The 3D Viewer, The Geometry or Scene Node, The Camera Node, The Scanline Render Node, Open the Project File, Setting Up a 3D System, Making a Scene, Merging and Constraining Objects, Animating a Scene, Working with Geometry, Lighting & Surface Properties
Classroom Assignment: Interior Walkthrough 1
Lab Assignment: Walkthrough 2

Lecture 10: Multiview and Stereoscopy process
Classroom Assignment: Jungle
Lab Assignment: Mountain

Lecture 11 & 12: Rendering Node
Classroom Assignment: Rendering Video 1
Lab Assignment: Rendering Video 2