Sukkur IBA University
Executive Development Center

DETAIL OF COURSE CONTENTS
AUTOCAD
3-Months Course

Books

S.No	Book Name	Author/s Name	Publisher Name & Edition
1.	AutoCAD® Essentials	Munir M. Hamad	Jones and Bartlett Publishers
2.	Engineering Drawing ,Plane and Solid Geometry	N.D.Bhatt and V.M. Panchal	
3.	Using AutoCAD 2010	Ralph Grabowski	Autodesk
4.	Mastering, AutoCAD 2010 and AutoCAD LT 2010	George Omura	Autodesk

DIGITAL & WEB RESOURCES:

- http://www.wisc-online.com/Objects/ViewObject.aspx?ID=ENG19204
- http://www.we-r-here.com/cad/tutorials/level_1/1-1.htm
- http://www.slideshare.net/hareeshang/projection-of-points
- http://www.engineeringdrawing.org/2012/09/straight-lines-problem-4-8/

COURSE DESCRIPTION:

Engineers and scientest use drawings to communicate technical information without ambiguity to executives, fabricators, customers, and each other. As with most things drawing has a well-defined set of standards by which technical drawings are produced. This course introduces the language of engineering drawing using computer aided design (CAD) software. While AutoCAD is important topic within this course, this course teaches more than just how to use CAD software. It teaches projections, dimensions, and other foundations of engineering drawing through sketching, a critical skill for engineers. The course also gives the opportunity to apply this new knowledge to creative engineering design projects.

1	Introduction to AutoCAD	To become familiar with AutoCAD environment To understand the coordinate system in AutoCAD Installation of autocad To work with Polar and Cartesian coordinate system To work with Relative and Absolute Coordinates
2	AutoCAD Basic Drawing	To be familiar with basic drawings such as: Line, rectangle, polygon, circle, arc, donut, pline and ellipse.
3	Objects Modification Commands and Tools	Uses of autocad commands, Perform AutoCAD 2D Fundamentals MOVE, ROTATE, MIRROR, OFFSET, FILLET & CHAMFER, ERASE, TRIM, SCALE, EXPLODE, PEDIT and EXTEND commands.
4	Drawing with precision in AutoCAD	Grid, DSettings, Snap, Ortho, Polar, Osnap, Otrack, Ray and xline, Zoom, Pan
5	Orthographic Projections of a Point, 3D Objects	Orthographic projections Four quadrants of two planes Projection of points, First angle Projection , Third angle projection
6	3D Drawings	Create 3D Interface/Drawings Recognise the steps of executing Pull down menus Identify options 3D Modelling Pull down menus Identify Viewports (-VPORTS command) Apply the technique to track the cursor
7	3D Drawings	Draw 3D Orbit, Navigations and Model Introduction Develop familiarity with 3D Orbit Define 3D orbit with the command Select different visual aids e.g. Compass, Grid and UCS Icon. Discover other navigational modes including but not limited to Walk, Fly, Swivel, and Adjust Distance Perform 3D dimensional navigation Operate 3D Objects
8	3D solids	Produce 2D Solid and 3D Faces Draw Edges Draw basic 3D surfaces Comprehend complex 3D surface

9	3D solids	Develop Solids Create Solids Edit 3D Objects Develop 3D Solid composites
10	3D solids	Modify Solid Faces Modify Solid Faces Edit Solids Create shell or a hollow thin wall with a specified thickness from 3D solid object
11	3D solids	Navigate Sections and Merge Flat Objects from 3D Model Navigate Section Object Merge Flat Objects Use the intersection of plane and solids to create a region using "Section" command
12	Renderings	Customize Rendering, Materials and Lights Execute Rendering Apply/Configure material Apply Lights