



Level 6 Advanced Diploma in Graphic Design (992) 153 Credits



Unit: Advanced AutoCAD	Guided Learning Hours: 300
Exam Paper No.: 5	Number of Credits: 30
Prerequisites: Excellent keystroking ability.	Corequisites: A pass or better in Diploma in Graphic Design or equivalence.
<p>Aim: This unit introduces advanced CAD applications, including attribute and attribute extraction, external reference files, solid modelling, surface rendering and animation. Upon successful completion of this unit, learners would be able to use a CAD software package to develop animations consisting of 3D models with rendered surfaces. The Advanced AutoCAD unit prepare learners to work as a CAD manager. Completion of this unit gives a thorough understanding of AutoCAD functions such as customizing AutoCAD. Learners will be better able to increase the productivity of AutoCAD operators in an organisation office by gaining proficiency in these advanced AutoCAD functions. This hands-on unit teaches AutoCAD's advanced features and commands that are not covered in the AutoCAD at Diploma level. It is designed to help learners to work as starter AutoCAD Operators and become more productive. Topics include file extensions, profiles, search paths, system variables, command aliases, script files, dynamic input, grips, dynamic blocks, layer states, layer filters, layer groups, attributes, tables, data extraction, workspaces, customizing toolbars, customizing pull-down menus, macros, dashboard panels, tool palettes, fields, advanced text, annotation, templates, and advance layouts. Learners will be able to produce advanced application of construction architectural drawings using the power of 2D and 3D computer-aided drafting (CAD) as the medium for drafting. Advanced 2D/3D detail views, electrical, mechanical, and plumbing. Learners will be practice 3D drawings including floor plans, plot plans, elevations, perspectives, landscape, and detail views, utilizing several working drawings interfacing with a multi-pen plotter.</p>	
Required Materials: Recommended Learning Resources.	Supplementary Materials: Lecture notes and tutor extra reading recommendations.
<p>Special Requirements: This is a hands-on unit, hence practical use of computers is essential. Requires intensive lab work outside of class time.</p>	
<p>Intended Learning Outcomes:</p> <ol style="list-style-type: none"> How the linetype scale factor allow users to change the relative lengths of dashes and spaces between dashes and dots linetypes per drawing unit. How direct distance entry allow showing angles and enter distances. Controlling the appearance of objects by setting and changing object properties. How AutoCAD helps in determining all 	<p>Assessment Criteria:</p> <ol style="list-style-type: none"> 1.1 Explain the concept of layers 1.2 Demonstrate how to use the dimension command 1.3 Describe the text command 1.4 Examine and define linear dimensions 1.5 Demonstrate how to use radius dimension tool 1.6 Define aligned dimension 1.7 Demonstrate how to place diameter dimension on a circle entity 1.8 Describe the scale command 1.9 Describe associate, nonassociative and exploded 2.1 Define Direct Distance Entry 2.2 Outline how Direct Distance Entry works 2.3 Demonstrate how to use Direct Distance Entry 2.4 Describe polar tracking 2.5 Outline how to use object snap tracking 3.1 Describe object properties 3.2 Be able to extract object attributes 3.3 Explain how to work with layers 4.1 Explain requirements to draw a flow

of a project's requirements when it begins.	4.2	plan
	4.3	Demonstrate how to produce steps to draw a flow plan
		Set DDUNITS and Architectural units
5. How AutoCAD remembers the last view changes, using the ZP aliases.	5.1	Examine and identify zoom all command
	5.2	Define the zoom centre command
	5.3	Describe the dynamic zoom effect
	5.4	Analyse zoom extent problems
	5.5	Explain zoom previous option
	5.6	Explain how to use the zoom scale command
	5.7	Describe the zoom window command
	5.8	Distinguish zoom realtime vs pan realtime
	5.9	Compare and contrast zoom and pan commands
6. Formatting text in AutoCAD; changing font of dimensions in Autocad and changing the text size.	6.1	Explain the process of formatting text
	6.2	Demonstrate how to create new Textstyles
	6.3	Explain AutoCAD font types
7. AutoCAD's working environment model space which users work with objects in a drawing and paper space environments.	7.1	Define a layout
	7.2	Explain AutoCAD sheet tabs
	7.3	Define paper space
	7.4	Analyse how to scale in model space
	7.5	Analyse how to rotate in model space
	7.6	Describe how to switch between paper space and model space
8. Understand basics of creating objects in AutoCAD.	8.1	Define absolute coordinate
	8.2	Use fillet , circle-ttr and trim commands
	8.3	Create lines and arcs
	8.4	Use offset command
	8.5	Demonstrate linetype, array (rectangle and polar) commands
	8.6	Use chamfer and mirror commands
Methods of Evaluation: A 3-hour essay written paper with 5 questions, each carrying 20 marks. Candidates are required to answer all questions. Candidates also undertake project/coursework in Advanced AutoCAD with a weighting of 100%.		

Recommended Learning Resources: Advanced AutoCAD

Text Books	<ul style="list-style-type: none"> • Exercise Workbook for Advanced AutoCAD by Cheryl Shrock. ISBN-10: 0831131977 • AutoCAD: Advanced Techniques by Craig Sharp & Walter Hamm. ISBN-10: 0880224363 • Advanced AutoCAD: Release 12 by Robert M. Thomas. ISBN-10: 0782111874
Study Manuals 	BCE produced study packs
CD ROM 	Power-point slides
Software 	AutoCAD