



Level 5 Diploma in Graphic Design (991) 177 Credits






Unit: AutoCAD	Guided Learning Hours: 300
Exam Paper No.: 6	Number of Credits: 30
Prerequisites: Keystroking ability. Knowledge of Windows Operating System and basic Mathematics is required to learn the AutoCAD.	Corequisites: A pass or better in Diploma in eCommerce & Web Design or Diploma in Information Technology or equivalence.
<p>Aim: This unit requires basic computer skills. Learners must know how to use the keyboard and mouse and how to work in the Windows environment, including file creation/deletion; directory commands and navigation; data entry and manipulation; and program execution. This unit is designed for users new to AutoCAD. Learners will learn to create basic 2D and 3D drawings while discovering the essential core topics for working with the commands and interface in AutoCAD. Learners will create, modify, annotate and output simple drawings. The unit provides a fun, hands-on introduction to drafting and using AutoCAD for individuals with no CAD background who are considering taking a profession in Graphic Design. Learners will then continue with more sophisticated techniques, delving deeper into command options. The unit takes the learners beyond the basic skills of using commands to the more intermediate aspects of creating, manipulating and controlling the objects used to create the basic drawings covered in the introductory lessons. The unit meets the industry professional skills by covering commands and enhancements in the latest release of AutoCAD. The tutorials are hands-on, designed so users can acquire those concepts needed to update and enhance their AutoCAD skills. Exercises cover the application of AutoCAD in a variety of industries. Learners learn to create and edit 2D and 3D drawings using the latest release of AutoCAD. This comprehensive and highly structured unit covers: viewing and creating accurate drawings, editing existing drawings, managing object properties, creating and inserting blocks, applying dimensions, annotations, and hatch patterns, as well as plotting techniques and creating drawing templates. Emphasis is on the specifics of the tools in the software along with the necessary concepts and techniques that allow users to be productive, regardless of their drafting discipline.</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"> Tour of AutoCAD's interface and the tools used to create basic shapes. The graphical elements of AutoCAD interface, the basic menus, characteristics of AutoCAD data and CAD graphic element in the coordinates. 	<p>Assessment Criteria:</p> <ol style="list-style-type: none"> Describe model space Explain AutoCAD's tools Analyse leveraging dockable palettes Demonstrate how to monitor the Status bar Describe the anatomy of a command Demonstrate how to customise AutoCAD's preferences Outline accessing help Demonstrate how to save a workspace Demonstrate opening an AutoCAD drawing Describe mouse functions Describe zooming, panning, and regenning Examine working in a multiple-document environment Demonstrate how to save your work Analyse saving time with templates Demonstrate opening, viewing, and saving drawings

<p>3. Geometry creation; mesh generation for a simple geometry using AutoCAD and geometry primitives for creating common shapes.</p>	<p>3.1 Describe how to construct lines 3.2 Demonstrate how to lock angles with the Ortho and Polar modes 3.3 Identify and practice drawing circles 3.4 Demonstrate how to activate the Heads-Up Display 3.5 Create drawing unit representations outlining how objects created are measured in drawing units 3.6 Define a unit of measure 3.7 Demonstrate how to construct geometry using architectural measurements 3.8 Explain how to work with metric units</p>
<p>4. The differences between 3D object snaps and 2D object snaps; variety of snap types available from the Snaps dialog used to activate different snap types.</p>	<p>4.1 Describe the Cartesian coordinate system 4.2 Demonstrate how to lock to geometry using object snaps 4.3 Explain automating object snap selection 4.4 Analyse using temporary tracking to find points in space 4.5 Demonstrate how to maintaining accuracy with object snaps</p>
<p>5. Drawing rectangles, polygons, an ellipse using specialised drawing commands and how all of the AutoCAD Draw commands work.</p>	<p>5.1 Demonstrate how to draw rectangles 5.2 Demonstrate how to draw polygons 5.3 Demonstrate how to create an ellipse 5.4 Outline organising with hatch patterns 5.5 Make primary modifications and demonstrating how the CHANGE PROPERTIES (Chprop) command allows modifications 5.6 Explain how to make geometric changes using the property changer 5.7 Demonstrate how to move and copy elements 5.8 Demonstrate how to rotate elements 5.9 Demonstrate how to trim and extend geometry 5.10 Demonstrate how to create offsets 5.11 Demonstrate how to erase elements 5.12 Describe undoing and redoing actions</p>
<p>6. How subsequent views cause AutoCAD to load their geometry as needed; how the Load or Reload Linetypes dialogue box appears and displays data.</p>	<p>6.1 Demonstrate how to select objects using windows 6.2 Explain adding and removing from selections 6.3 Demonstrate how to use keyboard shortcuts 6.4 Demonstrate how to select with a single click all connected geometry.</p>
<p>7. The purpose of the Refine tool and how to use Rectangular Array command to copy and move our objects in rectangular paths</p>	<p>7.1 Demonstrate how to create fillets 7.2 Demonstrate how to create chamfers 7.3 Demonstrate how to copy objects into a rotated pattern 7.4 Demonstrate how to copy objects into a rectangular pattern 7.5 Demonstrate how to stretch elements 7.6 Demonstrate how to create mirrored</p>

	copies
	7.7 Explain how to scale elements
	7.8 Analyse leveraging grips
	7.9 Analyse exploding elements
	7.10 Demonstrate how to join elements together
	7.11 Demonstrate how to edit hatch patterns
8. Understand how layers are used in our AutoCAD drawings to organize and control the properties of objects.	8.1 Describe layers
	8.2 Demonstrate how to create and adjust layers
	8.3 Outline using layers to organize a drawing
	8.4 Analyse changing popular settings using the layer control
	8.5 Describe the BYLAYER property
	8.6 Demonstrate how to restore previous layer states
	8.7 Demonstrate how to use existing geometry to set the current layer
9. Annotations objects; and demonstrating how to use annotation tools and automating annotation scaling with annotative objects.	9.1 Demonstrate how to create single-line text
	9.2 Demonstrate how to justify text
	9.3 Demonstrate how to control appearance using text styles
	9.4 Outline annotating with multi-line text
	9.5 Demonstrate how to edit text
	9.6 Demonstrate how to create bulleted and numbered lists
	9.7 Demonstrate how to create incorporating symbols
	9.8 Identify how to correct spelling errors
10. AutoCAD dimensioning tools and the several aspect of dimensions including placing the dimension, dimension style, and tolerances.	10.1 Demonstrate how to create general dimensions
	10.2 Demonstrate how to create continuous and baseline dimensions
	10.3 Demonstrate how to control appearance using dimension styles
	10.4 Demonstrate how to modify dimensions
	10.5 Demonstrate how to create multileaders
	10.6 Identify how to control appearance using multileader styles
	10.7 Demonstrate how to modify multileaders
	10.8 Demonstrate how the Palette is a very easy way to manage (and create) reusable content; implementing CAD standards and provide convenient access to a variety of tools and content
	10.9 Demonstrate how to insert blocks
	10.10 Demonstrate how to create blocks
	10.11 Demonstrate how to leverage blocks
	10.12 Demonstrate how to redefine blocks
	10.13 Demonstrate how to build a block library
11. AutoCAD specialised tools for drafting and designing and how specialized tools incorporate CAD data into other formats.	11.1 Outline querying a drawing using rollover tooltips
	11.2 Analyse taking measurements using the Distance command

<p>12. Scaling a drawing in AutoCAD; way of setting some types of annotation objects to the appropriate plotted size; sharing and manipulating site data including sharing drawings online, revoking permissions granted at any time and protecting data.</p>	<p>11.3 Demonstrate how to modify properties using the Quick Properties tool 11.4 Analyse automating calculations using the Quick Calculator feature 11.5 Outline the preferred way of plotting drawings in both model space and Layout / Paper Space workspaces 11.6 Demonstrate how to create quick plots 11.7 Demonstrate how to select a pen table 11.8 Demonstrate how to choose line weights 11.9 Demonstrate creating a layout: Choosing a paper size 11.10 Demonstrate creating a layout: Inserting a title block 11.11 Demonstrate creating a layout: Cutting viewports 11.12 Demonstrate how to reuse layouts 11.13 Demonstrate how to organise layouts</p> <p>12.1 Outline using the Annotative property to automatically size text 12.2 Outline using the Annotative property to automatically size dimensions 12.3 Outline using the Annotative property to automatically size multileaders 12.4 Demonstrate how to change the scale assigned to annotations 12.5 Outline the process of saving drawings to other formats 12.6 Demonstrate how to plot to PDF 12.7 Demonstrate how to plot to the Web Design format 12.8 Demonstrate how to send drawings via email</p>
<p>Methods of Evaluation: A 2½-hour written examination paper with five essay questions, each carrying 20 marks. Candidates are required to answer all questions. Candidates also undertake coursework/projects in AutoCAD with a weighting of 100%.</p>	

Recommended Learning Resources: AutoCAD

<p>Text Books</p>	<ul style="list-style-type: none"> • AutoCAD Tutorials by Frede Uhrskov. ISBN-10: 8790632362 • Accessing Autocad Architecture X by Wyatt. ISBN-10: 111164831X • AutoCAD for the Built Environment: An Introduction to 2D by Carlos Jimenez-Bescos. ISBN-10: 041569759X • Mastering AutoCAD and AutoCAD LT: Autodesk Official Training Guide by George Omura. ISBN-10: 1118174070
<p>Study Manuals</p> 	<p>BCE produced study packs</p>
<p>CD ROM</p> 	<p>Power-point slides</p>
<p>Software</p> 	<p>AutoCAD</p>