



LONDON CAPITAL COMPUTER COLLEGE

Diploma in Graphic Design (991) – AutoCAD

Prerequisites: Keystroking ability. Knowledge of Windows terminology and mouse techniques.	Corequisites: A pass or better in Diploma in eCommerce & Web Design, Information Technology or equivalence.
<p>Aim: This course requires basic computer skills. Candidates 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 course is designed for users new to AutoCAD. Candidates will learn to create basic 2D drawings while discovering the essential core topics for working with the commands and interface in AutoCAD. Candidates will create, modify, annotate and output simple drawings. This course provides a fun, hands-on introduction to drafting and AutoCAD for individuals with no CAD background who are considering taking a profession in Graphic Design. Candidates will then continue with more sophisticated techniques, delving deeper into command options. The course takes the candidates 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 course meets the industry professional skills by covering commands and enhancements in the latest release of AutoCAD. The lectures 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. Candidates learn to create and edit 2D drawings using the latest release of AutoCAD. This comprehensive and highly structured course 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.
Special Requirements: This is a hands-on course, hence practical use of computers is essential. Requires intensive lab work outside of class time.	
<p>Intended Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Demonstrate tour of AutoCAD's interface and the tools used to create basic shapes. 2. Describe the graphical elements of AutoCAD interface and explains the basic menus. Demonstrate opening, viewing, and saving drawings. 	<p>Assessment Criteria:</p> <ol style="list-style-type: none"> 1.1 Describe model space 1.2 Explore AutoCAD's tools 1.3 Analyse leveraging dockable palettes 1.4 Be able to monitor the Status bar 1.5 Describe the anatomy of a command 1.6 Be able to customise AutoCAD's preferences 1.7 Outline accessing help 1.8 Be able to save a workspace 2.1 Explore opening an AutoCAD drawing 2.2 Describe mouse functions 2.3 Describe zooming, panning, and regenning 2.4 Explore working in a multiple-document environment 2.5 Be able to save your work

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<p>3. Illustrate geometry creation and mesh generation for a simple geometry using AutoCAD.</p>	<p>2.6 Analyse saving time with templates</p> <p>3.1 Explore how to construct lines</p> <p>3.2 Be able to lock angles with the Ortho and Polar modes</p> <p>3.3 Practice drawing circles</p> <p>3.4 Be able to activate the Heads-Up Display</p>
<p>4. Demonstrate on drawing unit representations and outline how objects created are measured in drawing units.</p>	<p>4.1 Define a unit of measure</p> <p>4.2 Be able to construct geometry using architectural measurements</p> <p>4.3 Be able to work with metric units</p>
<p>5. Describe the differences between 3D object snaps and 2D object snaps. Demonstrate how to maintaining accuracy with object snaps</p>	<p>5.1 Describe the Cartesian coordinate system</p> <p>5.2 Be able to lock to geometry using object snaps</p> <p>5.3 Outline automating object snap selection</p> <p>5.4 Analyse using temporary tracking to find points in space</p>
<p>6. Demonstrate drawing rectangles, polygons, an ellipse using specialised drawing commands.</p>	<p>6.1 Be able to draw rectangles</p> <p>6.2 Be able to draw polygons</p> <p>6.3 Be able to create an ellipse</p> <p>6.4 Outline organising with hatch patterns</p>
<p>7. Describe how to make primary modifications and demonstrate how the CHANGE PROPERTIES (Chprop) command allows modifications.</p>	<p>7.1 Analyse how to make geometric changes using the property changer</p> <p>7.2 Be able to move and copy elements</p> <p>7.3 Be able to rotate elements</p> <p>7.4 Be able to trim and extend geometry</p> <p>7.5 Be able to create offsets</p> <p>7.6 Be able to erase elements</p> <p>7.7 Explore undoing and redoing actions</p>
<p>8. Describe how subsequent views cause AutoCAD to load their geometry as needed. Demonstrate how to select with a single click all connected geometry.</p>	<p>8.1 Be able to select objects using windows</p> <p>8.2 Analyse adding and removing from selections</p> <p>8.3 Be able to use keyboard shortcuts</p>
<p>9. Describe the purpose of the Refine tool demonstrate how to use Rectangular Array command to copy and move our objects in rectangular paths</p>	<p>9.1 Be able to create fillets</p> <p>9.2 Be able to create chamfers</p> <p>9.3 Be able to copy objects into a rotated pattern</p> <p>9.4 Be able to copy objects into a rectangular pattern</p> <p>9.5 Be able to stretch elements</p> <p>9.6 Be able to create mirrored copies</p> <p>9.7 Explore how to scale elements</p> <p>9.8 Analyse leveraging grips</p> <p>9.9 Analyse exploding elements</p> <p>9.10 Be able to join elements together</p> <p>9.11 Be able to edit hatch patterns</p>
<p>10. Demonstrate how layers are used in our AutoCAD drawings to organize and control the properties of objects.</p>	<p>10.1 Describe layers</p> <p>10.2 Be able to create and adjust layers</p> <p>10.3 Outline using layers to organize a drawing</p> <p>10.4 Analyse changing popular settings using the layer control</p> <p>10.5 Describe the BYLAYER property</p>

	10.6	Be able to restore previous layer states
	10.7	Be able to use existing geometry to set the current layer
11. Describe annotations objects and demonstrate how to use annotation tools.	11.1	Be able to create single-line text
	11.2	Be able to justify text
	11.3	Be able to control appearance using text styles
	11.4	Outline annotating with multi-line text
	11.5	Be able to edit text
	11.6	Be able to create bulleted and numbered lists
	11.7	Be able to create incorporating symbols
	11.8	Outline how to correct spelling errors
12. Describe AutoCAD dimensioning tools and demonstrate the several aspect of dimensions including placing the dimension, dimension style, and tolerances.	12.1	Be able to create general dimensions
	12.2	Be able to create continuous and baseline dimensions
	12.3	Be able to control appearance using dimension styles
	12.4	Be able to modify dimensions
	12.5	Be able to create multileaders
	12.6	Identify how to control appearance using multileader styles
	12.7	Be able to modify multileaders
13. Demonstrate how the Palette is a very easy way to manage (and create) reusable content.	13.1	Be able to insert blocks
	13.2	Be able to create blocks
	13.3	Be able to leverage blocks
	13.4	Be able to redefine blocks
	13.5	Be able to build a block library
14. Describe AutoCAD specialized tools for drafting and designing. Outline how specialized tools incorporate CAD data into other formats	14.1	Outline querying a drawing using rollover tooltips
	14.2	Analyse taking measurements using the Distance command
	14.3	Be able to modify properties using the Quick Properties tool
	14.4	Analyse automating calculations using the Quick Calculator feature
15. Demonstrate the preferred way of plotting drawings in both model space and Layout / Paper Space workspaces.	15.1	Be able to create quick plots
	15.2	Be able to select a pen table
	15.3	Be able to choose line weights
	15.4	Explore creating a layout: Choosing a paper size
	15.5	Explore creating a layout: Inserting a title block
	15.6	Explore creating a layout: Cutting viewports
	15.7	Be able to reuse layouts
	15.8	Be able to organise layouts
16. Demonstrate how to scale a drawing in AutoCAD and way of setting some types of annotation objects to the appropriate plotted size.	16.1	Outline using the Annotative property to automatically size text
	16.2	Outline using the Annotative property to automatically size dimensions
	16.3	Outline using the Annotative property to automatically size multileaders
	16.4	Be able to change the scale assigned to

<p>17. Demonstrate how to share and manipulate site data including sharing drawings online, revoking permissions granted at any time and protecting data.</p>	<p>annotations</p> <p>17.1 Outline the process of saving drawings to other formats</p> <p>17.2 Be able to plot to PDF</p> <p>17.3 Be able to plot to the Web Design format</p> <p>17.4 Be able to send drawings via email</p>
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**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>