

Quantity Surveying - National Diploma (ND)

Computer Courses

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Introduction to Computing

PROGRAMME: WORD PROCESSING			
Course: Introduction to Computing		Course Code: ICT 101	Contact Hours: 0-0-3
<p>Course Objectives: To give the students the skill needed to appreciate the use of computers and us specialist software Packages in a competent manner, within their own engineering specialty. The learning methodology should be student centered, with the student using various available packages in order to be competent when using them. The use of student workbooks or guided learning materials is recommended.</p>			
<p>Key Objectives: The outcome from the learning process should be that the student would be able to do the following.</p>			
Week	Specific Learning Outcome	Teachers	Resource
1	a. Define what is meant by a computer. b. Know the history of computer development (briefly). c. State the uses of computers and understand the impact of the PC on computer technology. d. Differentiate between hardware and software. e. Understand the input-process-output algorithm (hardware). <ul style="list-style-type: none"> i. Central processor ii. Input mechanisms iii. Output mechanisms 	<ul style="list-style-type: none"> • Define what is meant by a Computer. • Teach the history of Computers developments. (Briefly). • Teach the uses of computers and the impact of PC on the society: home, office, banks etc. 	<ul style="list-style-type: none"> • Maximum of 4 students to 1 computer. • Maximum of 4 computers to a printer except when a Network is in use. • 1 Ream of A4 papers to 10 students. • 4 Ink cartridge per printer per semester.
2	a. Know how data is stored <ul style="list-style-type: none"> i. RAM ii. ROM iii. Fixed discs iv. Removable discs a. Understand the concept of an operating system <ul style="list-style-type: none"> i. PC-DOS/MS-DOS ii. Windows iii. Linux iv. Unix 	<ul style="list-style-type: none"> • Explain the need for data storage. Dismantle a computer system and show the students the RAM card, the Hard Disk and the Processors. • Explain the concept of an operating system. 	

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3	a. Access computers correctly through Windows operating system. <ul style="list-style-type: none"> i. Open/Close a window ii. Program Manager iii. Button bars/scroll bars/menu bars iv. Moving from one window to another 	<ul style="list-style-type: none"> • Discuss the advantage of the Windows Operating System. • Explain the windows menu and tools. Each student must be given an opportunity to start a computer, open/close the window operating system, understand the program manager and move around in the windows environment.	
4	a. Understand file management and how to manage files. <ul style="list-style-type: none"> i. Creating a file and folder. ii. Manipulating files (moving, copying, saving, deleting). iii. Print manager. 	<ul style="list-style-type: none"> • Explain the process of creating a file, manipulating the file and use of the print manager. 	
	a. Understand the concept of a software package. <ul style="list-style-type: none"> i. MS Office ii. Lotus Smartsuite iii. MS Encarta 	<ul style="list-style-type: none"> • Load MS Office with the students and explain the various packages that make up MS Office. Load MS. • Encarta and discuss its use with the students. 	
5 - 6	a. Demonstrate ability in the competent use of a word-processing package such as MS Word (or equivalent standard). <ul style="list-style-type: none"> i. Entering text ii. Formatting text (boldening, font size, italicizing). iii. Creating and Saving text files iv. Editing and moving text v. Importing objects 	<ul style="list-style-type: none"> • Demonstrate the installation of MS Words. • Identify the different features of the software. • Ask students to type a short document and save it. • Ask students to edit a document and carry out a spelling check. • Demonstrate the use of tables. 	

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5 - 6	<ul style="list-style-type: none"> vi. Spelling and Grammar Checking. vii. Creating and manipulating tables, text boxes, equations. viii. Printing 		
7-9	<p>a. Demonstrate ability in the competent use of a graphics package such as Corel Draw (or equivalent standard).</p> <ul style="list-style-type: none"> i. Drawing tools ii. Text as graphics iii. Creating and saving image files iv. Editing and moving images v. Importing and exporting graphics vi. Windows 'Clipboard' facility vii. Creating and manipulating images (re-sizing etc). viii. Image file standard (JPEG, PCX, GIF etc) ix. Printing 	<ul style="list-style-type: none"> • Load Corel Draw. • Explain features of the soft wares. • Demonstrate the creating and saving of images. • Edit the images saved. • Export the graphics to other packages. • Demonstrate the manipulation (re-sizing) of images. 	
10-11	<p>a. Demonstrate ability in the competent use of a spreadsheet package such as MS Excel (or equivalent standard).</p> <ul style="list-style-type: none"> i. Setting up the worksheet ii. Entering data 	<ul style="list-style-type: none"> • Load MS Excel. • Explain features of the software. • Create a worksheet and edit it. • Demonstrate how to format a workshop. 	

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10-11	iii. Formatting data (decimal places, alpha-numeric) iv. Creating and saving worksheets v. Creating a formula in cells vi. Importing objects vii. Exporting the worksheet viii. Creating and manipulating graphical representations of data ix. Printing		
12-13	a. Demonstrate ability in the competent use of a database package such as MS Access (or equivalent standard). i. Drawing tools ii. Text as graphics iii. Creating & saving image files iv. Editing & moving images v. Importing & exporting graphics vi. Windows 'Clipboard' facility vii. Creating & manipulating images (re-sizing etc) viii. Image file standards (JPEG, PCX, GIF etc) ix. Printing	<ul style="list-style-type: none"> • Load MS Access. • Explain the features and working of the software. • Use students record as example and enter the records in the structure query modify and produce typical report. • Show how to index and sort files in alphabetical order. 	

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14-15	a. Use the Internet to retrieve information. <ul style="list-style-type: none"> i. World Wide Web (WWW) ii. Download information iii. Paste retrieved information into an appropriate application iv. Use e-mail to send and receive messages. v. National and international e-mail vi. E-mail attachments (sending & receiving) 	<ul style="list-style-type: none"> • Show students how to look on to the Internet. • Write and send an email. • Surf the net. 	
<p>Assessment: Coursework 20%; Course test 20%; Practical 10%; Examination 50%.</p> <p>Competency: The student should be expose to understand basic computer programming.</p> <p>References: Chapra, S.C. and Canale, R.P. "Introduction to Computing for Civil Engineers", Mcgrew hil, 1994 Press, W.H., Teukolsky, S.A., Vetterling, W.T. and Fannery, B.P. "Numerical recipes". Cambridge Univ. Press, 1993.</p>			

Visual Basic Practical

PROGRAMME: Visual Basic Practical			
Course: Introduction to Programming Concepts Using Q-Basic		Course Code: ICT 102	Contact Hours 0-0-3 Practical simultaneously
Course Specification: Theoretical Content			
General Objective: To enable student to develop basic programming skills			
Week	Specific Learning Outcome:	Teachers Activities	Resources
1 - 2	1.1 Define programming 1.2 Define Algorithm Outline basic steps in developing algorithm. Write simple algorithm to solve simple problem. 1.3 Explain Flowchart Identify Flowchart symbols. Draw Flowchart of the algorithm in 1.2.2.	<ul style="list-style-type: none"> • Define program and give examples. • Give real-life example relating to the student's trade e.g. Building process, Chair making process. • Draw different Flow chart symbols and explain each. • List different programming languages. • Give the features of HLL and LLL • Give definitions of translators. 	Charts
3 - 5	2.1 Implement programming concept using BASIC. 2.2 State BASIC character set. 2.3 State BASIC variable names. 2.4 Describe variable name formation. 2.5 Form variable names. 2.6 Define identifiers. 2.6 Classify identifiers e.g. string, numeric, real etc. 3.1 Define Q-BASIC expressions 3.2 Explain arithmetic expressions 3.3 Explain relational expressions 3.4 Explain logical expressions 4.1 Q-BASIC Functions 4.2 Explain Functions 4.3 Explain in-built functions 4.4 Explain user defined functions 5.1 Q-Basic syntax. 5.2 Explain READ/ DATA Statements. 5.3 Explain INPUT Statements. 5.4 Explain REMARK Statements. 5.5 Explain PRINT Statements.	<ul style="list-style-type: none"> • List the basic character • Set e.g. Alphabets, digits, special character • Explain how variable names are formed. • Differentiate between identifiers and variable names • Give examples of arithmetic, relational and logical expressions • Give examples of in-built and user defined Functions. • Illustrate the use of the different statements with examples 	

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Course Specification: Theoretical Content			
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Week	Specific Learning Outcome:	Teachers Activities	Resources
7 – 8 9 - 10	6.1 Introduction to Q-BASIC Environment. 6.2 Explain how to enter the Q-BASIC Editor. 6.3 Explain how to key in programs. 6.4 Explain how to save Q-BASIC programs. 6.5 Explain how to debug Q-BASIC program. 7.1 Simple programs 7.2 Write Simple programs. 7.3 Run the programs. 7.4 Print program result.	<ul style="list-style-type: none"> • Get student to switch on to the Q-BASIC. • Show the student how to enter the Q-BASIC Environment. • Open the Editor. • Instruct the student to SAVE, RUN and DEBUG the program. • PRINT results. 	<ul style="list-style-type: none"> • PCs, Q-BASIC Software • Printer
11 - 12	8.1 Control Statements. 8.2 Explain Control Statements. 8.3 Explain Branching statements. 8.4 Explain IF-THEN-ELSE. 8.5 Explain FOR-NEXT.	<ul style="list-style-type: none"> • Write program to illustrate the use of IF-THEN-ELSE and FOR-NEXT. 	<ul style="list-style-type: none"> • PCs, Q-BASIC Software • Printer
13 - 15	9.1 Write simple programs using the different statement and constructs.	<ul style="list-style-type: none"> • Give the student programming projects embracing all concept that have been taught in their areas of trade. 	
<p>Assessment: Coursework 20%; Course test 20%; Practical 10%; Examination 50%.</p> <p>Competency: The student should be able to use Q basic to write programs for Quantity Survey works.</p> <p>Reference A.J. Smith “Computers and Quantity Surveyors” Macmillan</p>			