

**General Studies - National Technical Certificate (NTC) and  
Advanced National Technical Certificate (ANTC)**

**Information and Communication Technology Courses**

**INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) FOR NATIONAL TECHNICAL  
CERTIFICATE (NTC)**

S/NO	COURSE TITLE	COURSE/LEVEL	COURSE CODE	CONTACT HOURS	DISCIPLINE
1.	Introduction to Computer	Year 2 (1 <sup>st</sup> Term)	ICT 11	0/3	ALL
2.	Computer Application I (Word Processing & Presentation)	Year 2 (2 <sup>nd</sup> Term)	ICT 12	0/3	ALL
3.	Computer Application II (Spreadsheet & Data Base)	Year 2 (3 <sup>rd</sup> Term)	ICT 13	0/3	ALL
4.	AutoCAD I	Year 3 (1 <sup>st</sup> Term)	ICT 14	0/3	ALL
5.	AutoCAD II	Year 3 (2 <sup>nd</sup> Term)	ICT 15	0/3	ALL

**ADVANCED NATIONAL TECHNICAL CERTIFICATE (NTC)**

**ICT 20**

S/NO	COURSE TITLE	COURSE/LEVEL	COURSE CODE	CONTACT HOURS	DISCIPLINE
1.	Computer Aided Design & Drafting I (CADD I)	1 <sup>st</sup> Term	ICT 21	0/3	ALL
2.	Computer Aided Design & Drafting II (CADD II)	2 <sup>nd</sup> Term	ICT 22	0/3	ALL

NATIONAL BOARD FOR TECHNICAL EDUCATION, KADUNA

PROGRAMME: Information, Communications and Technology (ICT)			
Course: Introduction to Computing		Course Code: ICT 11	Contact Hours: 0/0/3; Practical Simultaneously
Course Specification: Theoretical/Practical.			
Week	General Objective: Introduces students to Information and Communication Technology		
	Specific Learning Objectives	Teachers	Resource
1	<p>Define what is meant by a computer.</p> <p>Know the history of computer development (briefly)</p> <p>State the uses of computers and understand the impact of the PC on computer technology.</p> <p>Differentiate between hardware and software</p> <p>Understand the input-process-output algorithm (hardware)</p> <ul style="list-style-type: none"> <li>• Central processor</li> <li>• Input mechanisms</li> <li>• Output mechanisms</li> </ul>	<p>* Define what is meant by a Computer?</p> <ul style="list-style-type: none"> <li>• Teach the history of Computers developments. (Briefly)</li> <li>• Teach the uses of computers and the impact of PC on the society: home office, Banks etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Maximum of 4 students to 1 computer</li> <li>- Maximum of 4 computers to a printer except when a Network is in use.</li> <li>- 1 Ream of A4 papers to 10 students.</li> <li>- 4 Ink cartridges per printer per semester.</li> </ul>
2	<p>Know how data is stored</p> <ul style="list-style-type: none"> <li>• RAM</li> <li>• ROM</li> <li>• Fixed discs</li> <li>• Removable discs</li> </ul>	<p>Explain the need for data storage. Dismantle a computer system and show the students the RAM card, the Hard Disk and the Processors.</p> <p>Explain the concept of an operating system.</p>	
3	<p>Understand the concept of an operating system</p> <ul style="list-style-type: none"> <li>• PC-DOS/MS-DOS</li> <li>• Windows</li> <li>• Linux</li> <li>• Unix</li> </ul>		

<b>PROGRAMME: Information, Communications and Technology (ICT)</b>		
<b>Course: Introduction to Computing</b>	<b>Course Code: ICT 11</b>	<b>Contact Hours: 0/0/3; Practical Simultaneously</b>
<b>Course Specification: Theoretical/Practical.</b>		
4	<p>Access computers correctly through Windows operating system.</p> <ul style="list-style-type: none"> <li>• Open/Close a window</li> <li>• Program Manager</li> <li>• Button bars/scroll bars/menu bars</li> <li>• Moving from one window to another</li> </ul>	<p>Discuss the advantage of the Windows Operating System.</p> <p>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.</p>
5-6	<ul style="list-style-type: none"> <li>• Understand file management and how to manage files</li> <li>• Creating a file and folder</li> <li>• Manipulating files (moving, copying, saving, deleting)</li> <li>• Print manager</li> </ul>	<p>Explain the process of creating a file, manipulating the file and use of the print manager.</p>
7-9	<p>Understand the concept of a software package</p> <ul style="list-style-type: none"> <li>• MS Office</li> <li>• Lotus Smartsuite</li> <li>• MS Encarta</li> </ul>	<p>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.</p>

<b>PROGRAMME: Information, Communications and Technology (ICT)</b>		
<b>Course: Introduction to Computing</b>	<b>Course Code: ICT 11</b>	<b>Contact Hours: 0/0/3; Practical Simultaneously</b>
<b>Course Specification: Theoretical/Practical.</b>		
10-12	<p>Use the Internet to retrieve information.</p> <ul style="list-style-type: none"> <li>• World Wide Web (WWW)</li> <li>• Download information</li> <li>• Paste retrieved information into an appropriate application</li> <li>• Use e-mail to send and receive messages.</li> <li>• National and international e-mail</li> </ul> <p>E-mail attachments (sending &amp; receiving)</p>	

**PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY FOR ENGINEERING STUDENTS**

Course: Computer Applications I	Course Code: 12	Contact Hours: 0/0/3 Teaching practical simultaneously
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**Course Specification: Theoretical/Practical Content**

WEEK	General Objective: Introduces students to Computer Applications using Word Processing and Graphics Package.		
	Special Learning Objective:	Teachers Activities	Resources
1	1. Create a document 1.1 Start a new document 1.2 Type a short line 1.3 End a paragraph 1.4 Create a blank line 1.5 Save a Document	- Bring up word processing package. - Identify the different parts of the desktops. - Ask students to type short lines, paragraphs and save their documents. - Bring up a saved document.	LCD. Projector and screen Computer System Magic Board/Slides.
2	2. Edit a document 2.1 Open a document and move around. 2.2 Correct typing errors using arrow and delete keys. 2.3 Correct documents using copy, cut and paste facilities	- Ask students to make deliberate error. - Ask the students to correct the errors in their document. - Change the text font and align the text in the document.	

<b>PROGRAMME: Information, Communications and Technology (ICT)</b>			
<b>Course: Introduction to Computing</b>		<b>Course Code: ICT 11</b>	<b>Contact Hours: 0/0/3; Practical Simultaneously</b>
<b>Course Specification: Theoretical/Practical.</b>			
3-4	<p>3. Format a Text and Paragraphs</p> <p>3.1 Modify the Text Font.</p> <p>3.2 Align the text in the document.</p> <p>3.3 Indent paragraphs and modify line spacing</p> <p>3.4 Set and modify tabs.</p> <p>3.5 Insert numbers and bullets.</p> <p>3.6 Insert breaks (page, column, text and section breaks)</p> <p>3.7 Insert Headers and footers.</p> <p>3.8 Use language tools ((auto correct, auto text, spelling and grammar, thesaurus, find and replace.</p>	<ul style="list-style-type: none"> <li>- Change line spacing.</li> <li>- Ask students to change the space, align their documents and use different line spacing illustrate numbers and bulleting page, column, text and section breaking.</li> <li>- Put headers and footers and headers.</li> <li>- Assist the students in the use of language tools.</li> </ul>	
5-7	<p>4. Use advance features.</p> <p>4.1 Split and arrange windows</p> <p>4.2 Create multiple columns documents</p> <p>4.3 Save and protect documents</p> <p>4.4 Print documents with various print options</p> <p>4.5 Work with tables (create modify, format and add calculations</p> <p>4.6 Merge documents (create the main document with the same source, merge the documents.</p>	<ul style="list-style-type: none"> <li>- Demonstrate splitting and arrange windows.</li> <li>- Assist the students to make simple column examples.</li> <li>- Ask the students to print the document with various print options.</li> <li>- Demonstrate the use of table.</li> </ul>	

<b>PROGRAMME: Information, Communications and Technology (ICT)</b>			
<b>Course: Introduction to Computing</b>		<b>Course Code: ICT 11</b>	<b>Contact Hours: 0/0/3; Practical Simultaneously</b>
<b>Course Specification: Theoretical/Practical.</b>			
<b>General Objective: Use a specific presentation package (e.g. Corel Draw)</b>			
<b>WEEK</b>	<b>Specific Learning Outcome</b>	<b>Teachers Activities</b>	<b>Resources</b>
8	5. Create a presentation slide 5.1 Create a blank presentation 5.2 Work with different layout 5.3 Create presentation using auto content wizard. 5.4 Design templates	- Use a Computer system to create a presentation slide and project the procedure through LCD onto a screen - Give examples of Normal, outline, slide and slide sorter views.	LCD. Projector and screen Computer system Magic board
9-10	6. Use different views of a slide 6.1 Work with different views of slide (Normal, outline slide and slide sorter views). 6.2 Work with slide master 6.3 Format test on the slide 6.4 View the slide master	- Use questions and answers to differentiate among the views - Add objects and print slides - Ask students to print slides from their own machines.	
11-12	7. Create the final presentation. 7.1 Modify the visual impacts of slide by adding objects. 7.2 Make handout and notes 7.3 Print slides 7.4 Put final touches to the presentation by doing the following: (a) Set slide timing (b) Save presentation. (c) Set the transition. (d) Set the animation (e) Set the rehearse time (f) Run the presentation.	- Demonstrates settings of time, transitions animations - Ask students to run the presentation on their own machines - Teacher should ask students to make a presentation from a paper.	

PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY FOR ENGINEERS			
COURSE: COMPUTER APPLICATIONS II		Course Code: ICT 13	Contact Hours: 0/0/3
Course Specification			
Week	General Objective: To transfer hands-on skills on the application of spreadsheet and database application for engineering work.		
	Specific Learning Objective:	Teachers Activities	Resources
1	<b>1.0 Demonstrate ability in the competent use of a Spreadsheet package such as MS Excel</b> 1.1 Create Work-books and worksheets 1.2 Open a worksheet 1.3 Recognize the worksheet component 1.2 Enter and edit text 1.3 Select multiple cells 1.4 Save worksheet	- Load a spreadsheet package - Explain features in the Desktop - Ask students to enter text - Illustrate editing	LCD Projector and Screen, Computer Systems with spreadsheet package, Magic Board and Slides.
2	<b>2.0 Work with numbers</b> 2.1 Write simple formula 2.2 Apply the formula palette 2.3 Write complex formula 2.4 Fill formula 2.5 Total columns and rows 2.6 Edit formula 2.7 Apply format features to formula	- Prepare simple and complex formulas - Manipulate a formulas - Ask students to copy the formula in their worksheets and edit them	

**PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY FOR ENGINEERS**

**COURSE: COMPUTER APPLICATIONS II**

**Course Code: ICT 13**

**Contact Hours: 0/0/3**

**Course Specification**

3	<p><b>3.0 Format the worksheet</b></p> <p>3.1 Change column width and row height.</p> <p>3.2 Insert rows, columns and cells</p> <p>3.3 Delete rows, columns and cells</p> <p>3.4 Move and copy cell contents</p> <p>3.5 Transfer data between worksheet and workbook</p>	<p>- Demonstrate how to format a worksheet by changing column width and row height.</p> <p>- Insert and delete rows, columns and cells</p> <p>- Ask students to format their worksheets by inserting, deleting rows and columns.</p> <p>- Demonstrate how to transfer data between worksheet and workbooks.</p>	
	<p><b>4.0 Print the worksheet</b></p> <p>4.1 Preview the Layout</p> <p>4.2 Change page setup and sheet setting</p> <p>4.3 Set Print Options</p> <p>4.4 Review Page Breaks</p> <p>4.5 Change Print Settings</p> <p>4.6 Check Spelling</p>	<p>- Demonstrate how to preview a layout, change page setup, set print options.</p> <p>- Ask students to print their worksheet and do spell check.</p>	

PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY FOR ENGINEERS		
COURSE: COMPUTER APPLICATIONS II	Course Code: ICT 13	Contact Hours: 0/0/3
Course Specification		
	<p><b>5.0 Use Spreadsheet to Manage data</b></p> <p>5.1 Create references of different types, (cell, name)</p> <p>5.2 Use functions common to financial and statistical applications</p> <p>5.3 Sort data</p> <p>5.4 Filter data using Auto filter, custom filter</p> <p>5.5 Subtract sub-totals</p> <p>5.6 Save custom views</p> <p>5.7 Use data forms</p>	<ul style="list-style-type: none"> <li>- Solve financial and statistical problems using built-in functions.</li> <li>- Ask the students to calculate totals, filter data using Auto filter and customized filter.</li> <li>- Demonstrate advanced features of spreadsheet.</li> <li>- Assist the students to create different types of charts.</li> <li>- (pie, line, column and bar and specialty)</li> <li>- Give a project in spreadsheet applicable to students field of study.</li> </ul>
8	<p><b>6.0 Demonstrate ability in the competent use of a database packages such as MS-access (or equivalent standard)</b></p> <p>6.1 Introduce data types such as text, memo, number, date/time OLE object etc.</p> <p>6.2 Specify the field size.</p>	<ul style="list-style-type: none"> <li>- Load MS Access</li> <li>- Explain the features and working of the software.</li> <li>- Show how students academic records may be maintained on a data base.</li> </ul> <p>LCD and screen.</p>

<b>PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY FOR ENGINEERS</b>			
<b>COURSE: COMPUTER APPLICATIONS II</b>		<b>Course Code: ICT 13</b>	<b>Contact Hours: 0/0/3</b>
<b>Course Specification</b>			
9	<b>7.0 Construct the database.</b> 7.1 Adding records to structure. 7.2 Creating and saving Images. 7.3 Editing and Missing Images. 7.4 Queries modify and delete records. 7.5 Manipulating Images (Resizing etc)	- Show example with name for text salary for number etc. - Count the alpha bets in your name to determine number of spaces to allow for storage. - Determine the name invoke the structure.	Computer System with a DBMS such as Access Oracle, dBase and foxpro. Computer System with Access, oracle, Sybase dBase a foxpro.
10	8.0 Indexing and sorting. 9.0 Importing and exporting graphics. 10.0 Windows "Clipboard" facility 11.0 Image file standards (J.PEG, PCX, GIF etc)	- Use students records as example enters the records in the structure query modify and produce typical reports with the students. - Show practically how to index and sort a file in alphabetical order.	
11-12	12.0 Give an assignment on academic records.	- Give an academic records assignment to students. Request.	Computer + Printer

<b>PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY</b>			
<b>Course: AutoCAD 1</b>		<b>Course Code: ICT 14</b>	<b>Contact Hours: 0/0/3</b>
<b>Course Specification: To give students the basic skills needed to use the AutoCAD software package to produce drawings appropriate to their specialization.</b>			
<b>Theoretical Content</b>			
<b>WEEK</b>	<b>General Objective: The outcome from the learning process should be that students would be able to do the following:</b>		
	<b>Special Learning Objective:</b>	<b>Teachers Activities</b>	<b>Resources</b>
1- 12	<p>1.0 Understand the principles of operation, capabilities and system requirements of AutoCAD.</p> <p>1.1 Install the AutoCAD software correctly.</p> <p>2.0 Know how to use the keyboard and mouse to give commands in AutoCAD.</p> <p>2.1 Use the help menu to solve problems when using the package.</p> <p>3.0 Use the OSNAP facility to select options.</p> <p>3.1 Use the Layer Control to change the layers in a drawing.</p> <p>3.2 Use Cartesian and Polar co-ordinates to draw lines.</p> <p>3.3 Prepare and change the size of the drawing zone.</p> <p>4.0 Know how to save drawings on demand and also how to set-up the auto-save feature.</p>	<p>- Ask students to explain advantage and disadvantages of Computer Aided Drafting.</p> <p>- Ask students to list known CAD softwares.</p> <p>- Ask students to explain and use the different input methods.</p> <p>- Ask students to use snap points to construct lines.</p> <p>- Ask students to explain differences between Cartesian and polar co-ordinates systems.</p> <p>- Ask students to construct lines at set lengths and angles using Cartesian and Polar co-ordinates.</p> <p>- Ask the students to produce a simple drawing. Ask the students to create title blocks and write letters and numbers on drawing.</p>	<p>- Latest revision of AutoCAD software package.</p> <p>- Computers.</p>

	<p>5.0 Drawing 1: Produce a simple drawing</p> <ul style="list-style-type: none"> <li>• Use the Mesh system</li> <li>• Change the drawing scale</li> <li>• Draw a line using the Command Line</li> </ul> <p>6.0 Drawing 2: Produce a drawing</p> <p>7.0 Create the title block for a drawing Write letters and numbers on drawing</p> <p>7.1 Draw circles and be able to erase parts of lines or circles.</p> <p>8.0 Drawing 3: Produce a simple drawing with Corel detail in term Of title block etc.</p>	<ul style="list-style-type: none"> <li>- Ask students to produce a simple drawing, change the drawing scales.</li> <li>- Ask students to produce drawings and properly dimension them.</li> <li>- Ask students to produce a properly dimensioned drawing of a complete building project.</li> </ul>	
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<b>PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY</b>			
<b>Course: AutoCAD II</b>		<b>Course Code: ICT 15</b>	<b>Contact Hours: 0/0/3</b>
<b>Course Specification: To give students the basic skills needed to use the AutoCAD software package to produce drawings appropriate to their specialization.</b>			
<b>Theoretical Content</b>			
<b>WEEK</b>	<b>General Objective: The outcome from the learning process should be that students would be able to do the following:</b>		
	<b>Special Learning Objective:</b>	<b>Teachers Activities</b>	<b>Resources</b>
1 - 12	<p>Review AutoCAD basics.</p> <p>Select parts of a drawing in order to do further work, move, copy and rotate drawing parts.</p> <p>Drawing 1: produce a full drawing (3 view) in correct projection, from a real engineered object.</p> <p>Drawing 1: Produce a full drawing (3 view) in correct projection, from a real engineered object.</p> <p>Use the dimensioning facility correctly to include dimensions and tolerances on a drawing.</p> <p>Drawing 2: Produce a fully dimensioned drawing of a component appropriate to the specialization.</p> <p>Drawing 2: Produce a fully dimensioned drawing of a component appropriate to the specialization.</p> <p>Use the 3D facility of AutoCAD.</p> <p>Drawing 3: Produce a 3D drawing of the component drawn in drawing 2.</p>	<ul style="list-style-type: none"> <li>- Ask students to do simple 2-D drawings with a view to refreshing their memory.</li> <li>- Ask students to select part of the simple drawing and move, copy and rotate.</li> <li>- Produce a simple drawing and project out the views.</li> <li>- Let the students project the elevation, plan and sections of the drawing.</li> <li>- Ask students to fully dimension the drawings.</li> <li>- Ask students to produce various drawings appropriate to their specialization.</li> <li>- Further Drawing to improve proficiency.</li> <li>- Ask students to produce a simple 3-D drawing.</li> </ul>	<ul style="list-style-type: none"> <li>- Computers (maximum of 1:3 students).</li> <li>- Latest version of AutoCAD Software.</li> </ul>

	<p>Drawing 3: Produce a 3D drawing of the component drawn in Drawing 2.</p> <p>Assignment:</p> <p>Produce a complete drawing appropriate to the specialization.</p> <ul style="list-style-type: none"> <li>• 3 view</li> <li>• 3D drawing</li> <li>• Dimensioned</li> <li>• Layout (The block etc).</li> <li>• Scale.</li> </ul>	<p>Further 3-D drawings to produce proficiency in 3D drawing production.</p> <p>Include dimension, scales and title blocks.</p>	
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<b>PROGRAMME: Information and Communication Technology</b>			
<b>Course: Computer Aided Design and Drafting I</b>		<b>Course Code: ICT 21</b>	<b>Contact Hours: 0/0/3</b>
<b>Course Objectives: To give students the skills needed to use CADD Soft wares and in Particular Auto CADD in a Competent manner to Produce Drawings and Schedules Appropriate to their Specialty</b>			
<b>WEEK</b>	<b>General Objective 1.0: Understand the use of Computer in the Design and Drafting Process</b>		
	<b>Specific Learning Objective:</b>	<b>Teachers Activities</b>	<b>Resources</b>
1-2	<p>1.1 Know the advantages and disadvantages of computer in the design process</p> <p>1.2 Explain the links between CAD and CAM</p> <p>1.3 Understand the Principles of Operation capabilities and system requirements of Auto CADD</p> <p>1.4 Install the Auto CADD software correctly.</p>	<ul style="list-style-type: none"> <li>• Ask students to explain advantages and disadvantages of computer in the design process.</li> <li>• Ask students to explain the links between CAD and CAM</li> </ul>	<p>Complete computer sets</p> <p>1 Computer to 2 Students</p> <p>1 Large Format Printer or Plotters in a Network</p> <p>1 Digitizer to 2 Students</p>
3-4	<p>1.5 Identify the main parts of the screen of Auto CAD 14 or Later Versions</p> <p>1.6 Explain the functions of the above</p> <p>1.7 Understand and use the different input methods: Keyboards, mouse, digitizers, and scanners.</p> <p>1.8 Understand the different coordinate systems</p> <p>1.9 Demonstrate the use of the HELP Menu in solving problems when using the Package</p>	<ul style="list-style-type: none"> <li>• Ask the students to identify the main parts of the screen of Auto CAD 14</li> <li>• Ask the students to explain the function of the above.</li> <li>• Ask the students to explain and use the different input methods</li> </ul>	

<b>PROGRAMME: Information and Communication Technology</b>			
<b>Course: Computer Aided Design and Drafting I</b>		<b>Course Code: ICT 21</b>	<b>Contact Hours: 0/0/3</b>
<b>Course Objectives: To give students the skills needed to use CADD Soft wares and in Particular Auto CADD in a Competent manner to Produce Drawings and Schedules Appropriate to their Specialty</b>			
5-6	1.10 Use the OSNAP facility to select options 1.11 Use layer control to change the layers in a drawing 1.12 Use Cartesian and Polar coordinates to draw lines 1.13 Prepare and change the size of the drawing field 1.14 Know how to save drawings on demand and also how to set up the auto-save feature	<ul style="list-style-type: none"> <li>• Ask students to explain differences between Cartesian and polar coordinates systems.</li> <li>• Ask students to demonstrate the above options on the computer screen</li> <li>• Ask students to construct lines at set lengths and angles using above coordinate systems.</li> <li>• Ask students to use snap points to construct lines.</li> <li>• Ask students to explain the use of snap points and ortho - commands</li> </ul>	
<b>General Objective 2.0: Understand how to construct simple geometric shapes</b>			
<b>Week</b>	<b>Specific Learning Objective:</b>	<b>Teachers Activities</b>	<b>Resources</b>
7 - 8	2.1 Know how to hatch the shapes drawn and change the hatch pattern and scale 2.2 Explain how to draw circles, ellipses and arcs to given dimensions 2.3 Explain how to construct polygons and squares to given dimensions 2.4 Produce a simple drawing - Drawing 1	<ul style="list-style-type: none"> <li>• Ask the students to hatch the shapes drawn</li> <li>• Ask the students to change the hatch pattern and scale.</li> <li>• Ask the students to draw circles, ellipses and arcs to given dimensions.</li> <li>• Ask the students to construct polygons and squares to given dimensions.</li> </ul>	

<b>PROGRAMME: Information and Communication Technology</b>			
<b>Course: Computer Aided Design and Drafting I</b>		<b>Course Code: ICT 21</b>	<b>Contact Hours: 0/0/3</b>
<b>Course Objectives: To give students the skills needed to use CADD Soft wares and in Particular Auto CADD in a Competent manner to Produce Drawings and Schedules Appropriate to their Specialty</b>			
<b>General Objective 3.0: Understand the different edit boxes</b>			
<b>Week</b>	<b>Specific Learning Objective:</b>	<b>Teachers Activities</b>	<b>Resources</b>
9-10	3.1 Explain the different edit boxes, how to use them and their attributes 3.2 Explain how to select the shapes using edit boxes. 3.3 Use array command to draw both polar and rectangular arrays 3.4 Explain how to use the offset command	<ul style="list-style-type: none"> <li>• Ask students to explain the different edit boxes.</li> <li>• Ask students to use them.</li> <li>• Ask students to explain their attributes.</li> <li>• Ask students to draw both polar and rectangular arrays using array command</li> <li>• Ask students to draw using the offset command.</li> </ul>	
<b>General Objective 4.0: Understand how to use edit commands</b>			
<b>Week</b>	<b>Specific Learning Objective:</b>	<b>Teachers Activities</b>	<b>Resources</b>
11 - 12	4.1 Explain how to use edit commands 4.2 Demonstrate how to move objects accurately using both snap commands and coordinates 4.3 Demonstrate how to copy objects from one position to another accurately using snap and coordinate entry. 4.4 Demonstrate how to erase objects 4.5 Demonstrate how to trim objects 4.6 Demonstrate how to fillet and chamfer angles	<ul style="list-style-type: none"> <li>• Ask students to copy objects from one position to another accurately using snap and coordinate entry.</li> <li>• Ask students to erase objects.</li> <li>• Ask students to trim objects</li> <li>• Ask students to fillet and chamfer angles</li> </ul>	

<b>PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)</b>			
<b>Course: Computer Aided Design and Drafting II</b>		<b>Course Code: ICT 22</b>	<b>Contact Hours: 1/0/3</b>
<b>Course Objectives: To give students the skills needed to use CADD Soft wares and in Particular Auto CADD in a Competent manner to Produce Drawings and Schedules Appropriate to their Specialty</b>			
<b>WEEK</b>	<b>General Objective 1.0: Understand the use of Computer in the Design and Drafting Process</b>		
	<b>Specific Learning Objective:</b>	<b>Teachers Activities</b>	<b>Resources</b>
1	<b>1.0 Revise AutoCAD basics</b>		
2-4	<b>2.0 Understand how to create layers</b> 2.1 Demonstrate how to create layers. 2.2 Demonstrate how to change colour of layers. 2.3 Demonstrate how to change the line types of a layer 2.4 Demonstrate how to move objects from one layer to another 2.5 Demonstrate how to switch layers on and off 2.6 Understand the use of layers and how they help in the construction and understanding of a drawing	<ul style="list-style-type: none"> <li>• Ask students to create layers</li> <li>• Ask students to change colour of layers</li> <li>• Ask students to change the line type of a layer</li> <li>• Ask students to move objects from one layer to another.</li> <li>• Ask students to switch layers on and off</li> <li>• Ask students to use layers to construct drawings.</li> </ul>	Complete computer sets 1 Computer to 2 Students 1 Large Format Printer or Plotters in a Network 1 Digitizer to 2 Students
5	<b>3.0 Explain how to create linear and aligned dimensions.</b> 3.1 Understand how to create angular dimensions 3.2 Demonstrate how to add to tolerances to dimensions 3.3 Demonstrate how to create leader lines. 3.4 Demonstrate how to add single line and multiple line texts to drawings 3.5 Demonstrate how to edit dimensions and text	<ul style="list-style-type: none"> <li>• Ask the students to identify the main parts of the screen of Auto CAD 14</li> <li>• Ask the students to explain the function of the above.</li> <li>• Ask the students to explain and use the different input methods</li> </ul>	

<b>PROGRAMME: INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)</b>			
<b>Course: Computer Aided Design and Drafting II</b>		<b>Course Code: ICT 22</b>	<b>Contact Hours: 1/0/3</b>
<b>Course Objectives: To give students the skills needed to use CADD Soft wares and in Particular Auto CADD in a Competent manner to Produce Drawings and Schedules Appropriate to their Specialty</b>			
6-7	<b>4.0 DRAWING EXERCISE - 2</b> 4.1 Create the title block for a drawing 4.2 Write letters and numbers on drawings 4.3 Draw circles and be able to erase parts of lines or circles		
8-9	<b>5.0 DRAWING EXERCISE - 3</b> 5.1 Produce a simple drawing with correct details in terms of title block etc 5.2 Select parts of a drawing in order to do further work. Move, Copy and Rotate drawing parts	<ul style="list-style-type: none"> <li>• Let each student carry out his/her own drawings</li> <li>• Grade each student's drawing</li> </ul>	
10-11	<b>6.0 DRAWING EXERCISE - 4</b> 6.1 Produce a full drawing with title blocks from a real engineered object. 6.2 Show all the views	<ul style="list-style-type: none"> <li>• Ask each student to carry out his/her own drawing</li> </ul>	
11-12	<b>7.0 DRAWING EXERCISE - 5</b> 7.1 Produce a fully dimensioned drawing of a component appropriate to the engineering specialty of the department	<ul style="list-style-type: none"> <li>• Ask each student to carry out a drawing that is specific to his/her department.</li> </ul>	