NATIONAL BOARD FOR TECHNICAL EDUCATION

Plot B, Bida Road, P. M. B. 2239, Kaduna

NATIONAL VOCATIONAL CERTIFICATE

IN

PRINTING TECHNOLOGY

CURRICULUM AND COURSE SPECIFICATIONS

JANUARY 2009

PROGRAMME STRUCTURE AND NOMENCLATURE

The programme which will lead to the attainment of the National Vocational Certificate (NVC) in Printing Technology will employ modular curricula. The programme shall have a cogent and flexible structure and content that will equip the trainee with a unit of acquired skills.

INDUSTRIAL EXPERIENCE

The students will be required to be attached to relevant organizations for a period of three months in each part for supervised and graded industrial work attachment to enable them have the relevant experience in the profession.

METHODS OF ASSESSMENT

Assessment for the programme shall be:-

a) Based on evidence of a practical attainment as presented by the student
b) Conform with the learning outcome as stipulated in the curriculum
c) Enable the student take an assessment/examination under supervised conditions. Additional assessment and assessed by external assessors will be undertaken to ensure a justifiable judgment on quality of the desired standard expected to have been achieved.

PRACTICAL CONTENT

The NVC programme curriculum prescribes 70% practical content, 20% Theoretical studies and 10% General studies components.

GOAL AND OBJECTIVES

The National Vocational Certificate in printing Technology is designed to produce craftsmen with practical technical skills who should understand the nature and purpose of printing technology for gainful employment, and self employment

OBJECTIVES OF THE PROGRAMME

a) Equip the students with adequate training in printing technology.
b) Prepare and produce craftsmen who will be competent to handle design and printed works for the Nigerian/International public.
c) Prepare students for professional technical innovations in print production.

A product of NVC Printing Technology should be able to:-

i. Produce designs for Graphic Reproduction and Printing.
ii. Produce printed materials.
iii. Establish and manage a modest printing out fit.
iv. Identify and operate printing equipment.
v. Process, package and market printed products.

ENTRY REQUIREMENTS FOR NVC PRINTING TECHNOLOGY PROGRAMME

The minimum entry requirements for admission into the programme are as follows:-

a) J S III Certificate standard
b) Three credits including English Language or English Literature and any two credits in History, Social studies, technical Drawing or Fine Arts.
c) Unemployed persons with basic education.
d) Any other person interested in acquiring skills in the printing profession at the Vocational level as a means attaining of life long learning (LLL).

2.0 Curriculum

The curriculum of NVC programme consists of four main components. These are:-

i. General studies
ii. Foundation studies
iii. Professional Courses
iv. Students Industrial Work Experience (SIWES)

The General Education component shall include courses in: - English Language and Communication skills Mathematics computer Appreciation etc. These are compulsory.

1.1 The General Education component shall account for not more than 10% of the total hours for the programme.

1.2 Foundation courses include courses in Technical Drawing, and introduction to printing. The number of hours may vary within the programme and may account for 10% of the total contact hours.

1.3 Professional courses are courses which give the students the theory and practical skills he or she needs to practice the field of calling at the craftsman level. These may account for 80% of the total contact/hours.

2.1 Curriculum Structure

The structure of the NVC programme consists of Nine terms of classroom, practical and workshop activities in the Institution.

TABLE OF CONTENT

General information

Curriculum Table

General Studies

English Language and communication

Computer Appreciation

Computer Graphic and Typography

Entrepreneurship

Introduction to Printing

Computer Appreciation

Industrial Safety

Digital Imaging Techniques

Materials Technology

Machine Printing

Print Finishing and Book binding

SIWES

List of Participants

- List of Physical Facilities
- List of workshop, Studio Equipment Required.

NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

PART I

FIRST TERM				SECOND TERM				THIRD TERM
COURES TITLE	**L**	**P**	**CH**	**COURSE TITLE**	**L**	**P**	**CH**	**COURES TITLE**
English Lang. & comm. Skills	2	-	2	English Lang. & comm. Skills	2	-	2	
Mathematics	2	-	2	Mathematics	2	-	2	
Entrepreneurship I	2	-	2	Entrepreneurship II	2	-	2	
Introduction to Environmental Protection	2	-	2	Computer Appreciation II	1	4	5	**SIWES (3 Months)**
Computer Appreciation I	4	6	10	Print production processes I	2	4	6	
Introduction to Basic Law	2	-	2	Print Science/materials	2	3	5	
Introduction to printing	2	1	3	Print Finishing I	2	4	6	
Computer Graphics Appreciation	4	6	10	Book binding	2	4	6	
Industrial safety	1	1	2	Desktop publishing	2	4	6	
Basic Design	1	3	4	Printing Law	2	-	2	
	22	**17**	**39**		**19**	**23**	**42**	

PART II

FIRST TERM				SECOND TERM				THIRD TERM
COURES TITLE	**L**	**P**	**CH**	**COURSE TITLE**	**L**	**P**	**CH**	**COURES TITLE**
English Lang. & Comm. Skills	2	-	2	English Lang. & Comm. Skills	2	-	2	
Mathematics	2	-	2	Mathematics	2	-	2	
Entrepreneurship IV	2	-	2	Entrepreneurship IV	2	-	2	
Graphic Design	2	3	6	Desktop publishing II	5	10	16	**SIWES (3 Months)**
Digital pre-press	1	4	6	Print Finishing/Book binding	**2**	5	7	
Print production processes II	2	5	7					
Desktop publishing I	1	4	6					
Costing Estimating	2	3	5					
Print Finishing/Book Binding	2	5	7					
	16	**24**	**43**		**14**	**15**	**29**	

FINAL

FIRST TERM				SECOND TERM				THIRD TERM
COURES TITLE	**L**	**P**	**CH**	**COURSE TITLE**	**L**	**P**	**CH**	**COURES TITLE**
English Lang. & comm. Skills	2	-	2	English Lang. & comm. Skills	2	-	2	
Mathematics	2	-	2	Proof Reading and Editing	1	2	3	
Entrepreneurship V	2	-	2	Entrepreneurship VI	2	-	2	**SIWES (3 Months)**
Quality Control	1	3	4	Desktop publishing IV	4	7	11	
Desktop publishing III	4	6	10	Project work			20	
Project work			20					
	11	**9**	**40**		**9**	**9**	**38**	

NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY (NVC)

PART I

1ST TERM

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: ENVIRONMENTAL PROTECTON

DURATION: 180 HOURS

GOAL: This module is designed to enable the trainee become aware of developments in environmental protection in the profession.

GENERAL OBJECTIVES:

On completion of this module, the trainee is expected to:

1. Understand the role and impact of technological practices on the environment.

2. Understand the role of government agencies, other pressure groups, and the private sector in managing the environment.

3. Understand the practice of recycling processes and its impact on the environment.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: ENVIRONMENTAL PROTECTION			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee become aware of developments in environmental protection in the profession.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the role and impact of technological practices on the environment.			**General Objective:** 1.0 Understand the role and impact of technological practices on the environment.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define environmental protection. 1.2 Explain the impact of economic activities on the environment. 1.3 Explain the various waste materials generated by the printing industry e.g. Ink, Chemicals, Paper, Machine parts board, metals, Plastic. 1.4 Differentiate between bio-degradable and non-biodegradable materials and their effect on the environment. 1.5 Explain the impact of the printing industry on the environment e.g. impact on trees and vegetation, food production, chemical production of ink etc.	⬍ Explain what is meant by impacted on the environmental protection. ⬍ Discuss how technological has impacted on the environment ⬍ Describe in detail the various wastes generated by the printing industry ⬍ Explain the differences between bio-degradable and non bio-degradable products ⬍ Discuss the impact of the printing industry on the environment. ⬍ Explain the convert in process of wood	Books Internet Journals Ink cleaning Fluid, paper Boards, wood Metal machine Parts plastics Paper Chemical wood Plastics etc.	1.1 Students to observe items from the printing. 1.2 Identify biodegradable and non-biodegradable materials.	⬍ Display various types of waste items. ⬍ Assemble assorted materials to explain biodegradable and non-biodegradable waste materials	Offcuts empty ink cans Empty toner cartridges etc.

		and plant materials to paper. ❖ Explain the impact of forestation and deforestation, t on food production and ozone layer depletion				
	General Objective: 2.0 Understand the role of government, agencies and other pressure groups and private sector in managing the environment.			**General Objective:** 2.0 Understand the role of government, agencies and other pressure groups and private sector in managing the environment.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 State the role of Government in environmental regulations. 2.2 Explain the role of agencies like Federal and State Environmental Protection Agency (FEPA/SEPA) non governmental private agencies sector initiatives and corporate service responsibility (CSR) in managing the environment	❖ Explain the role of government at Federal, State and Local Government on environmental issues and safety. ❖ Discuss the role and contribution of all these organisations.	Journal and news papers. Internet Books etc. Books Journals Magazines FEPA/SEPA Act.			
	General Objective: 3.0 Understand the practice of recycling processes and its impact on the environment.			**General Objective:** 3.0 Understand the practice of recycling processes and its impact on the environment.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Define recycling	❖ Explain the	Recycle	Excursion to a recycling plant	❖ Demonstrate the	Liquid waste

	3.2 Compare various methods of waste disposal e.g. incineration, land fill, Etc. 3.3 Explain the recycling process and the recycle symbol on products recycling processes of paper to other materials etc. 3.4 Explain the proper procedure of handling different types of waste materials	recycling process ⬍ Explain the various methods of disposal of materials ⬍ Explain the separation and collation of materials into separate homogenous entities, and their reuse ⬍ Describe how to handle different types of waste.	symbol Plastic Paper, ink Plates, metals Wood etc. Recycled paper Newsprint Plastics etc. Recycle symbol		handling of different types of wastes (liquid and solid)	solid waste protection gear

PROGRAMME: NATIONAL VOCATION CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: COMPUTER APPRECIATION 1

DURATION:

GOAL: This module is designed to enable the trainee become familiar with the computer as a tool whose use is integrated into printing processes.

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:

1. Enumerate the uses of and types of computers
2. Understand computer hardware and software
3. Know the keyboard
4. Navigate the windows environment (xp and vista)
5. Use a word processing package e.g. MS Word

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: COMPUTER APPRECIATION 1			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL This module is designed to enable the trainee become familiar with the computer as a tool whose use is integrated into printing processes.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Enumerate the uses of and types of computers			**General Objective:** 1.0 Enumerate the uses of and types of computers		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define a computer 1.2 Explain the uses of computers in government, schools, business. 1.3 Explain the differences between super computers, mainframes, servers, workstation, desktops, laptops, handheld	State what a computer is. Explain the uses to which computers are put. Discuss different types of computers and their uses.	Pictures of different types computers.	1.1 Students to observe difference in size and specification in different types of computers.	Display pictures of different computers.	A PC or laptop or pictures of computers of different configuration s.
	General Objective: 2.0 Understand computer hardware and software			**General Objective:** 2.0 0 Understand computer hardware and software		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Identify the various parts of a computer and storage devices. 2.2 Explain the differences between hardware and software – the Operating system and Applications as 2 types of software. 2.3 Discuss Safety issues for computers and for users	Point out the main part of a computer. Describe what is software and hardware with examples. Emphasis on the computer as an electrical device and its protection from virus and spillage.	A picture of different computers parts or a disassembled computer or a stimulator PC.	1.1 Identify different computer parts- CPU, RAM, storage devices, power and mother board. 1.2 Differentiate between hardware and the CD/DVD containing software.	Show student the components of a PC: CPU, monitor, keyboard, mouse and other peripherals. Emphasis the need to take all safety precautions while working with computers and to protect them against virus and similar attacks.	A picture of different computers parts or a disassembled computer or a stimulator PC. Demonstrate safe handling of computer with emphasis on avoiding shock

	General Objective: 3.0 Know the keyboard			**General Objective:** 3.0 Know the keyboard		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Introduce the concept of input and output devices as peripheral devices in computers e.g scanner, printer 3.2 Explain how the mouse and keyboard act as input devices 3.3 Show the function keys, letter keys, other keys	Discuss input and output devices and idea of peripheral devices. Explain using the mouse and keyboard. Explain the different part of the keyboard.	A computer running windows operating system.	3.1 Identify different peripheral devices in the computer lab. Make input using the mouse and keyboard. Use different parts of the keyboard.	Show different types of peripheral devices. Show use of mouse to make choices and use of keyboard.	A computer running windows operating system.
	General Objective: 4.0 Navigate the windows environment (xp and vista)			**General Objective:** 4.0 Navigate the windows environment (xp and vista)		
	4.1 Identify the XP/Vista windows desktop and log-in IDs, Off switch etc. 4.2 Explain the parts of the task bar, start menu, quick lunch bar, trash can etc 4.3 Explain the Uses of the windows explorer and creation of folders	Explain the items on the desktop and their uses. Discuss the parts of the task bar, start menu, quick launch bar, trash can etc	A computer.	4.1 Use the explorer to create folders.	Show students how to navigate and create folders using the windows explorer.	
	General Objective: 5.0 Use a word processing package e.g. MS Word			**General Objective:** 5.0 Use a word processing package e.g. MS Word		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	5.1 Explain the launch of word and the word interface. 5.2 Creating a first document and using the insert, backspace and delete keys to modify text.	Launch word and explain interface. Create document, create text and modify it. Format text. Cut, copy and paste	A computer running windows operating system.	5.1 Use word to create text, modify it; format it; spell check and print it.	Show how student can use word to create text, modify it; format it; spell check and print it	A computer running windows operating system.

	5.3 Formatting text by menu, by key combination and icon :bold, italic and underline. 5.4 Explain cut, copy, paste, AutoText, spell check and printing of text document.	text. Use auto text to correct spelling and do spell check. Print document.				

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: BASIC LAW

DURATION:

GOAL: This module is designed to provide the trainees with the basic principles of law and the Nigerian constitution.

GENERAL OBJECTIVES:

On completion of this module the trainee should be able to:

1. Know the sources of Nigerian Law
2. Understand how status are interpreted
3. Understand elements of law of contract
4. Know the law courts in Nigeria.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: BASIC LAW			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL:. This module is designed to provide the trainees with the basic principles of law and the Nigerian constitution.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Know the sources of Nigerian Law			**General Objective:** 1.0 Know the sources of Nigerian Law		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Describe the sources of Nigerian law.	❖ Explain the sources of Nigerian law. ❖ State the origin of law from the people's custom.	Board Marker Projector.			
	General Objective: 2.0 Understand how status are interpreted			**General Objective:** 2.0 Understand how status are interpreted		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Describe how status are interpreted.	❖ Explain how judges interpret the laws passed by the house of Assembly.				
	General Objective: 3.0 Understand elements of law of contract			**General Objective:** 3.0 Understand elements of law of contract		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Define the law of contract. 3.2 Explain the principles governing a contract of agreement as offer acceptance consideration etc. 3.3 Explain what is meant by legal contract illegal, enforceable, unenforceable voidable	❖ Explain contracts, offer, acceptance consideration. ❖ Describe the principles governing the terms of a contract. ❖ Describe the principles of legal, illegal, enforceable	Law books Journals Internet Students hand out etc.			

	contracts etc. 3.4 Explain the legal implication of contracts e.g. intention to be legally bond etc. 3.5 Explain the role of person and entities in the contract of agreement 3.6 Explain the role of the courts in law of content	voidable contracts etc. ❖ Describe the legality of contracts. ❖ Describe the role of persons and their responsibilities in a contract. ❖ Describe how contract are enforced and the role of the courts in the process.	Law books Journals Internet Students hand out etc. Law books Journals Internet Students hand out etc.			
	General Objective: 4.0 Know the law courts in Nigeria.			**General Objective:** 4.0 Know the law courts in Nigeria.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	4.1 Identify the law courts in Nigeria 4.2 Explain the hierarchy of the courts. 4.3 Explain the functions of the various courts. 4.4 Explain the various tribunals outside the regular courts.	❖ Describe the various courts that exist in Nigeria ❖ Describe the hierarchy of the courts. ❖ Identify the functions of the various courts ❖ Describe the various tribunals outside the regular courts.				

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: INTRODUCTION TO PRINTING

DURATION: 180 Hours

GOAL: This module is designed to give the trainees basic information on printing and the printing industry.

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:-

1. Understand the early history of printing.
2. Understand the evolution of the printing industry
3. Understand modern trends and development in the printing industry.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: INTRODUCTION TO PRINTING			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to give background information on printing and the printing industry.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the early history of printing.			**General Objective:** 1.0 Understand the early history of printing.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define printing. 1.2 Explain the invention of the moveable type. 1.3 Explain the impact that printing had on civilization a) Religions. b) Social impacts	⬍ Explain the historical development of printing ⬍ Discuss the religions and social impact printing had on society.	Internet Books Journals etc.			
	General Objective: 2.0 Understand the different stages in the evolution of printing.			**General Objective:** 2.0 Understand the different stages in the evolution of printing.		
	2.1 Discuss the early stage of printing (11th – 12th Century). 2.2 Discuss the invention of typographic printing (Johanes Gutenberg) 2.3 Explain the invention of the printing press a) Flat bed press b) Rotary printing press 2.4 Explain the introduction of modern printing techniques. c) Offset lithography. d) Gravure etc.	⬍ Explain the early stage of printing. ⬍ Explain the invention of the metallic moveable type. ⬍ Explain the invention of the two types of presses. ⬍ Discuss the modern printing techniques.	Internet Books Journals etc.			

	General Objective: 3.0 Understand modern trends and development in the printing industry.			**General Objective:** 3.0 Understand modern trends and development in the printing industry.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Explain the developments in modern printing techniques. e.g Digital printing 3.2 Explain current trends in the printing industry e.g. large format, direct imaging etc.	❖ Discuss developments in digital printing, etc	Internet Books Journals etc. Sample of large format and Direct imaging products.			

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: COMPUTER Graphics APPRECIATION

DURATION: 180 Hours

GOAL: This module is designed to enable the trainee use the computer for design purpose

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:-

1. Identify computer hardware.
2. Understand the software used in graphic design and publishing.
3. Understand basic operations in relevant software and build foundation software skills.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: COMPUTER Graphics APPRECIATION			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee use the computer for design purpose						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Identify computer hardware.			**General Objective:** 1.0 Identify computer hardware.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define what a computer is. 1.2 Identify the various parts of a computer. 1.3 Identify various input and output devices used in computer graphics and publishing.	❖ Describe a computer system ❖ Describe the various parts of a computer. ❖ Enumerate the input and output devices used in graphics and publishing e.g. cameras, scanners, flash, printers etc.	Computer system Computer system Computer system. Scanner Digital camera Printers etc.			
	General Objective: 2.0 Understand the software used in graphic Design and publishing			**General Objective:** 2.0 Understand the software used in graphic Design and publishing		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Define Software 2.2 Identify different types of software used in Graphic Design and publishing.	❖ Explain the term software. ❖ Enumerate different types of software packages used in graphics and publishing.	CD'S of - Corel draw - print shop - M S paint - Adobe in design - M S Publisher, micro media fire works			

			etc			
	General Objective: 3.0 Understand basic operations in relevant software			**General Objective:** 3.0 Understand basic operations in relevant software		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Explain how to boot a computer. 3.1 Explain how to launch an application from the start button on the start bar. 3.3 State the uses of the following: i. Title bar ii. Menu bar iii. Property bar iv. Status bar v. Colour palette. 3.4 State the uses of tools in the toolbox of Graphic packages e.g. i. Pick tool ii. Shape " iii. Zoom " iv. Freehand " v. Rectangle & ellipse " vi. Fill " vii. Text " viii. Outline " etc	⬍ Discuss the booting process of a computer ⬍ Describe how to launch a programme ⬍ Discuss the importance of these bars and their uses. ⬍ Explain the uses of the various tools	Computer system Computer Graphic Software e.g. Corel draw, Photoshop, page maker etc. Computer system Computer system	3.1 Explain how to boot a computer. 3.2 Explain how to launch an application from the computer. 3.3 Explain the significance of these bars. 3.4 Explain the importance of these tools in a Graphic Design package.	⬍ Demonstrate how to boot a computer ⬍ Demonstrate how to launch a Graphic application in the computer ⬍ Engage trainees in identifying the different bars and their uses. ⬍ Demonstrate how to employ these tools in computer Graphic Design	Computer system Computer system Computer Graphics & DTP software Computer system Graphics and DTP software

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING.

MODULE: INDUSTRIAL SAFETY

DURATION: 180 HOURS.

GOAL: This module is to enable the trainee imbibe safety awareness in the work place

GENERAL OBJECTIVES:

On completion of this course, the trainee should be able to:-

1. Understand the principles of industrial safety in the work environment
2. Understand the role of government and other agencies in industrial safety management
3. Understand safety processes and procedures

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: INDUSTRIAL SAFETY			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is to enable the trainee imbibe safety awareness in the work place						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the principles of industrial safety in the work environment			**General Objective:** 1.0 Understand the principles of industrial safety in the work environment		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define industrial safety 1.2 Explain the different activities in the work place that enhance or threaten industrial safety. 1.3 List the various components in the printing industry that could constitute threats to safety e.g. chemicals electricity sharp objects etc.					
	General Objective: 2.0 Understand the role of government and other agencies in industrial safety management.			**General Objective:** 2.0 Understand the role of government and other agencies in industrial safety management		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Explain the various legislations governing industrial safety e.g. factory act etc. 2.2 Discuss the role of pressure groups and the private sector in industrial safety awareness. 2.3 Explain the remedies					

	available to persons injured in industrial accidents e.g. work mens compensation Act 2.4 Explain the implication of unsafe working habits					
	General Objective: 3.0 Understand safety processes and procedures			**General Objective:** 3.0 Understand safety processes and procedures		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Explain the classification of materials, equipment object etc. in terms of the hazards produced 3.2 Explain process and method of avoiding accidents 3.3 Explain the various methods of handling equipment, materials etc. in the work place. 3.4 Explain the use of safety materials e.g. gloves, proper clothing lighting, insulation etc. 3.5 Define first aid treatment of accident victims and methods of rescue 3.6 Explain the role of individual in safety management					

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: BASIC DESIGN

DURATION: 180 Hours

GOAL: This module is designed to give the trainee basic knowledge in Graphic Design.

GENERAL OGBJECTIVES:

On completion of this module the trainee should be able to:-

1. Understand the elements of design.
2. Understand the principles of design
3. Understand positive and negative spaces in design

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: BASIC DESIGN			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to give the trainee basic knowledge in Graphic Design**.**						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the elements of design.			**General Objective:** 1.0 Understand the elements of design.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define elements of design 1.2 Enumerate the elements of design. 1.3 Explain the properties of colour. 1.4 Explain the colour wheel - Primary colours - Secondary colours - Tertiary colours - Complimentary colours	❖ Explain what is meant by elements of design. ❖ Discuss the elements of design viz - line - shape - colour - texture - space ❖ Discuss the properties of colour - Tone - Hue - Intensity ❖ Demonstrate how to mix colours	Sample of designs Internet Textbooks Internet Textbooks Colour chat Poster colour Cardboard Brushes	1.1 Use the elements of design to create composition. 1.2 Use poster colour to produce the colour wheel and other exercise in colour mixing and combination.	Guide trainee in producing composition Guide trainee in the exercise.	Diagram Textbooks Internet Pencil Paper Poster colour Brushes Poster colour Brushes

	General Objective: 2.0 Understand the principles of design.			**General Objective:** 2.0 Understand the principles of design.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Define the principles of design. 2.2 Enumerate the principles of design. 2.3 Explain what is meant by thumbnail sketches	❖ Explain the principles of design. ❖ List and discuss the principles of design viz - Balance - Proportion - Contrast - Rhythm - Unity ❖ Discuss why it is important to produce thumbnail sketches	Design samples Internet Textbooks. Design samples Internet Textbooks. Sketch book. Drawing materials and other related media	2.1 Use both the elements and principles of design to create compositions. 2.2 Use pencil to prepare thumbnail sketches.	❖ Guide trainee in executing the compositions ❖ Guide trainees in the exercise	Poster colours Card board Brushes etc.
	General Objective: 3.0 Understand positive and negative spaces in design.			**General Objective:** 3.0 Understand positive and negative spaces in design.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.3 Explain what is meant by positive and negative spaces in deign. 3.3 Experiment using available media to produce a design using positive and negative spaces.					

NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY (NVC)

PART I

2ND TERM

PROGRAMME: NATIONAL VOCATION CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: COMPUTER APPRECIATION II

DURATION:

GOAL: This module is designed to impart to the trainee the skills needed to create spreadsheet, power point and PDF documents.

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:

1. Know how to use a spreadsheet package e.g MS Excel
2. Know how to use a Presentation package e.g MS Powerpoint
3. Know how to create a Portable Document Format (PDF) file

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: COMPUTER APPRECIATION 2			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to impart to the trainee the skills needed to create spreadsheet, power point and PDF documents						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Know how to use a spreadsheet package e.g MS Excel			**General Objective:** 1.0 Know how to use a spreadsheet package e.g MS Excel		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Explain launch Excel and the excel interface. 1.2 Create a spreadsheet, enter data using the formula bar , name box and save it. 1.3 Enter text and edit cells. 1.4 Perform mathematical calculations in Excel	Launch Excel and explain its interface. Open a new blank workbook, enter data and save it. Enter text and edit. Perform mathematical calculations e.g List of printing materials	A computer system MS excel.	1.1 Launch excel, identify parts of the interface. 1.2 Create a blank document and add data. 1.3 Enter text and edit it. Create a shopping list or salary voucher and perform various mathematical calculations on them.	Show the interface of Excel. Show how to add data and text to a workbook, save it and open it. Create a mini-project of printing materials list or salary voucher – add, multiply and subtract different columns, to show mathematical functions.	A computer MS. Excel
	General Objective: 2.0 Know how to use a Presentation package e.g MS PowerPoint			**General Objective:** 2.0 Know how to use a Presentation package e.g MS PowerPoint		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Explain launch power point and its interface. 2.2 Create a presentation using an auto content wizard and save it 2.3 Create a presentation using a design template. 2.4 Create a presentation using a	Launch power point and explain its interface. Using auto content wizard to create a presentation. Select one template from many, to make a second presentation. presentation using a	A computer MS Power point.	2.1 Launch power point, identify parts of an interface. 2.2 Create a presentation using three methods: wizard, design template and blank slide.	Show interface of power point. Guide students to create a presentation using three methods: wizard, design template and blank slide.	A computer MS Power point.

	blank slide	blank slide.				
	General Objective: 3.0 Know how to create a Portable Document Format (PDF) file			**General Objective:** 3.0 Know how to create a Portable Document Format (PDF) file		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Explain launch Acrobat Reader and its interface. 3.2 Discuss the importance of PDF for cross platform sharing of document and soft proofing.. 3.3 Explain use of Acrobat Professional or free PrimoPDF for creating PDF from other documents. 3.4 Explain the process of PDF editing.	Explain the Acrobat reader interface. Enumerate the various ways PDF is used eg for soft proofing. Explain use of PDF professional or PrimoPDF to create new PDF documents. Discuss the editing of PDF documents.	A computer Acrobat Professional and Acrobat Reader. Primo PDF	3.1 Launch Acrobat and explain its interface. 3.2 Explain the multiple uses of PDF, especially for proofing. 3.3 Use PDF Professional to create PDF from word and excel documents. 3.4 Edit existing PDFs.	Guide the launch of Acrobat PDF and show interface. Show printed PDF and word version of the same document – on the screen. Guide trainees on the creation of PDF and its editing.	A computer Acrobat Professional and Acrobat Reader.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: PRINT PRODUCTION PROCESSES I

DURATION:

GOAL: This module is designed to give the trainee basic knowledge on print production processes.

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:-

1. Understand the basics of letter press printing.
2. Understand the basics of offset lithographic printing.
3. Understand the basics of screen printing.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: PRINT PRODUCTION PROCESSES I			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to give the trainee basic knowledge on print production processes.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the basics of letter press printing			**General Objective:** 1.0 Understand the basics of letter press printing		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Explain relief printing. 1.2 Explain the anatomy of type e.g. - Stem - arm - ascender - descender - serif etc. 1.3 Explain what is meant by a) typographic font b) type family c) type classification 1.4 Explain what is meant by a) Pica b) point c) word spacing d) line spacing e) upper case f) italics 1.5 Explain the following terms - justification - flush, left - centering etc.	❖ State the characteristics of relief printing. ❖ Discuss the anatomy of type ❖ Discuss the various aspects of typography ❖ Discuss all of these concepts with examples ❖ Describe with the aid of samples these concepts	Sample of relief types Diagram Sample of type Samples of various types Family and fonts Charts Diagrams Sample types Pica rule Samples of various texts with different justifications Computer system			

	General Objective: 2.0 Understand the basics of offset lithography.			**General Objective:** 2.0 Understand the basics of offset lithography.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 State the principle upon which lithography is based. 2.2 Explain offset lithography. 2.3 Explain how to generate laser/negatives for the principles of plate making. 2.4 Describe the plate maker and explain the principle upon which it works 2.5 Explain how to process, and expose, and process lithographic plates and preserve it	Explain this principle i.e. the non mixture of water and oil. Describe the process of image offset on a blanket. Describe how the process camera works. Describe to produce a laser positive using the computer. Explain how the plate maker works Discuss the process of developing an exposed plate and preserving it	Water Oil or ink Text books Offset printing machine Blanket Process camera Computer system Laser Film Printer Plate maker Negatives Positives Plates (Positive and negative) Plate maker Developer Plates Preserving gum (Gum Arabic)	2.1 Demonstrate how to generate positives laser with computer and film negatives using process camera 2.2 Identify the different parts of a plate maker and explain how it works. 2.3 Demonstrate how to develop process, and preserve printing plates.	⬍ Guide trainees on how to use these equipment to generate positives and negatives. ⬍ Guide trainees on how to operate the plate maker to expose plates. ⬍ Guide trainees on how to develop and preserve printing plates	Computer system Process camera Laser Film Printer Plate maker Plates Negatives Positives Plates Developer Preserving gum

	General Objective: 3.0 Understand the basics of screen printing.			**General Objective:** 3.0 Understand the basics of screen printing.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Describe the screen printing process. 3.2 List the different methods used in preparing the screen mesh for printing. 3.3 List the equipment required for screen printing	Explain how the screen printing process works. Describe how to prepare the screen for printing using different methods. Enumerate the equipment required for screen printing.	Screen. Squeegee. Screen. Squeegee. Screen. printing ink. Retarder Screen. Squeegee. Printing frame. Light box. Cutting knives. Drying rack.			

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: PRINTING SCIENCE AND MATERIALS I

DURATION: 180 Hours

GOAL: This module is designed to enable the student develop an understanding of the scientific principles and control materials used in the printing and Graphic communication Industries.

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:-

1. Know the composition and properties of paper and board
2. Know the importance of the measurement and control of P^H and the conductivity of paper
3. Know the composition and properties of printing ink.
4. Know the composition and properties of adhesives.
5. Know the importance of measurement and control of relative humidity and temperature.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: PRINTING SCIENCE AND MATERIALS I			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the student develop an understanding of the scientific principles and control materials used in the printing and Graphic communication Industries.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Know the constituents and properties of paper and board			**General Objective:** 1.0 Know the continents and properties of paper and board		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Identify the process of paper manufacture. 1.2 Identify types of paper in use; bond, bank, news print, Bristol board etc. 1.3 Describe the properties and printability characteristics 1.4 Measure the physical characteristics of paper e.g. gloss, strength calliper porosity, whiteness and absorbency 1.5 Identify the factors that influence the drying of ink on substrate. 1.6 Describe the principles of recycled paper 1.7 Outline the importance of grain direction	❖ Explain how paper is manufactured. ❖ Explain paper characteristics and how they are achieved. ❖ Describe the main properties if ink and recycled paper. ❖ Explain the importance of grain direction	Internet, book and supporting notes. While board video and paper making equipment Printability Tester			

	1.8 Demonstrate the measurement of dimensional instability					
	General Objective: 2.0 Know the importance of the measurement and control of PH and the conductivity of paper.			**General Objective:** 2.0 Know the importance of the measurement and control of PH and the conductivity of paper.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Identify the PH scale. 2.2 Explain the measurement techniques for PH control. 2.3 Identify the principles of conductivity of paper	⬍ Explain the PH scale and its measurement techniques. ⬍ Explain the conductivity principle and its measurement techniques	Conductivity Meter and PH meter	2.1 Demonstrate the measurement techniques for conductivity control.		
	General Objective: 3.0 Know the constituents and properties of printing ink			**General Objective:** 3.0 Know the constituents and properties of printing ink		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Identify the principles of ink manufacture. 3.2 Identify the constituents of printing inks. 3.3 Outline the characteristics of printing ink composition. 3.4 Describe the optical and physical characteristics of printing inks 3.1 Identify the ink drying systems e.g. Oxidation, absorption, penetration, evaporation, etc.	⬍ Explain the main characteristics of printing ink constituents. ⬍ Demonstrate the main methods of ink drying. ⬍ Explain the ink drying systems and the importance of measuring viscosity	Ink testing equipment Viscometer Tack meter			

	3.2 Identify ink drying system – wtravislet, infrared, heat set 3.3 Demonstrate the importance of the measurement of viscosity and tack also thinning agents					
General Objective: 4.0 Know the constituents and properties of adhesives.				**General Objective:** 4.0 Know the constituents and properties of adhesives.		
Specific Learning Outcome	**Teachers Activities**	**Learning Resources**		**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
4.1 Describe the principles of adhesives in print finishing and book binding. 4.2 Outline the type of adhesives used in book binding and print finishing. 4.3 Describe the classes and properties of adhesives.	⬍ Explain the properties and constituents of adhesives. ⬍ Demonstrate the classes and properties of adhesives	White board ink testing equipment viscometer				
General Objective: 5.0 Identify the importance of measurement and control of relative humidity and temperature.				**General Objective:** 5.0 Identify the importance of measurement and control of relative humidity and temperature.		
Specific Learning Outcome	**Teachers Activities**	**Learning Resources**		**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
5.1 Identify the requirements for control of relative humidity in the printing industry. 5.2 Demonstrate the methods of measurement of relative humidity. 5.3 Identify the requirements for temperature control of the printing environment	⬍ Explain the importance of the measurement of relative humidity and temperature ⬍ Demonstrate the methods of measuring temperature and humidity.	Hydrometer Thermometer				

5.4 Demonstrate the relationship between relative humidity and temperature					

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING

MODULE: PRINT FINISHING

DURATION: 180 HOURS

GOAL: This module is designed to enable the trainee carry out all print finishing operations

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:-

1. Know how to use print finishing equipment and accessories.
2. Understand and be able to execute warehouse routine
3. Use print finishing equipment and accessories in all operations.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: PRINT FINISHING			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee carry out all print finishing operations						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Know how to use print finishing equipment and accessories.			**General Objective:** 1.0 Know how to use print finishing equipment and accessories.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 List equipment and accessories used in print finishing operations e.g. sewing frame, backing machine, line press, bone folder, etc. 1.2 Explain the difference between bench and machine operations. 1.3 Explain common l terms used in print finishing operations e.g. gluing up signatures, guarding, staggered stitching, etc.					
	General Objective: 2.0 Understand and be able to execute warehouse routines.			**General Objective:** 2.0 Understand and be able to execute warehouse routines.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 State and identify the application of various book binding materials, e.g. leather, buckram, PVAC, coated paper, gold-foil, etc.			2.1 Take inventory of materials in the warehouse. 2.2 Classify paper according to their sizes, substance,		

	2.2 Explain stock receipt and issue procedures in the warehouse			texture and colour.		
	General Objective: 3.0 Use print finishing equipment and accessories.			**General Objective:** 3.0 Use print finishing equipment and accessories.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Describe methods of bundling and storage 3.2 Explain the procedures of imposition as it affects print finishing. 3.3 Differentiate between trimmed and edge-out/bled-off job.			3.1 Perform folding operations using bone folder. 3.2 Gather correctly sections comprising a book with the aid of signatures and collating marks. 3.3 Collate correctly sections of a book. 3.4 Select suitable wire gauges for carrying out various stitching operations using manual and power operated machines e.g. side stitching, saddle stitching, etc. 3.5 Select suitable threads and needles for hand and machine sewing. 3.6 Carry out gluing-up operations (tipping, mounting, padding,		

				perfect binding, etc) using appropriate tools. 3.7 Carry out rounding and backing operations. 3.8 Use hand guillotine for print finishing operations. 3.9 Carry out different types of binding operations. e. g. Quarter binding, half-binding, full binding, spiral binding, book edge decoration, spring-ling and colouring.		

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: BOOK BINDING

DURATION: 180 Hours

GOAL: This module is designed to enable the trainee acquire the necessary skills in the binding of books.

GENERAL OBJECTIVES:

On completion of this module the trainee should be able to:-

1. Understand the purpose books binding.
2. Know the procedure involved in Book Binding

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: BOOK BINDING			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee acquire the necessary skills in the binding of books.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the purpose and relevance binding.			**General Objective:** 1.0 Understand the purpose and relevance binding.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Explain the need for binding. 1.2 Enumerate the simple binding methods – stitching, spiral binding. 1.3 Explain packaging of finished print jobs 1.4 Explain the process of rimming	❖ Discuss the rimming process. ❖ Explain the process of packaging printed jobs for delivery. ❖ Discuss the needs and why print jobs need binding ❖ Discuss simple processes of binding – stitching spiral binding	Spiral binding machine Wire body machine Paper, cartons labels Riming machine. Wire	1.1 Introduce the trainee to the rimming machine 1.2 Explain and show trainees the process of packaging. 1.3 Introduce the trainee to different parts of the spiral binding machine	❖ Guide the trainees on the operation of the machine ❖ Guide the trainees on packaging and wrapping process ❖ Guide the trainee in operation of the machine	Rimming machine. Wire

	General Objective: 2.0 Know the procedure involved in Book Binding			**General Objective:** 2.0 Know the procedure involved in Book Binding		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Define Book Binding 2.2 List the steps involved in Book binding 2.3 Explain the various method employed in Book binding. 2.4 Identify Book binding materials	❖ Describe the steps involved in Binding a book. ❖ Enumerate the method employed in Book binding. ❖ Describe the materials used in Book binding e.g. glines, etc.	Sample of books to various stages e.g. half bound quarter bound etc. Samples of books bound using various method e.g. Hard cover publisher etc. Sample of glnes, straw board, binding cloth etc.	2.1 Demonstrate the various steps involved in binding a book 2.2 Assigning student to bind books using various methods e.g. letter press binding, publisher binding etc. 2.3 Use different types of glnes to bind book.		

PROGRAMME: NATIONAL VOATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: PRINTING LAW

DURATION: 180 Hours

GOAL: This module is designed to enable the trainees understand the legal matters as it affect, the printing industry

General Objectives:

On completion of this module, the trainee should be able to:

1. Understand the professional and ethical standard with regards to legal printing matters.

2. Understand the law of contract in printing.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: INTRODUCTION TO PRINTING LAW			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainees understand the legal implications in printing						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the professional and ethical standard with regards to legal printing matters.			**General Objective**: 1.0 Understand the professional and ethical standard with regards to legal printing matters.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define legal terms in printing 1.2 Explain various types of print document and level of vunaralability 1.3 Explain the place of proper briefing/documentation from clients upon receipt of order.	◆ Explain to the students copy right piracy etc. ◆ Compare high security and restricted documents e.g. Bank note, cheque, Bond certificates, Exercise Books ◆ Show the reason for the need for receipt of valid letter of communising	provide Act or gazette setting up show samples of Banknotes and non security documents			
	General Objective: 2.0 Understand the law of contract in printing.			**General Objective**: 2.0 Understand the law of contract in printing.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Explain the term CONTRACT as related to printing and printers 2.2 Discuss performance Bond as a condition for award of contract. 2.3 Explain role of third party in Contract processing.					

	Liability clauses in case of non performance on a contract agreement.					

NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY (NVC)

PART II

1ST TERM

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: GRAPHIC DESIGN

DURATION:

GOAL: This module is designed to equip students with the necessary skills needed in graphic design

GENERAL OBJECTIVES:

On completion of this module, students should be able to:-

1. Know how to produce designs for various purposes.
2. Know various types of layout techniques.
3. Understand visual communication

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: GRAPHIC DESIGN			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to equip students with the necessary skills needed in graphics design and typography.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Know how to produce a design for various purposes			**General Objective:** 1.0 Know how to produce a design for various purposes		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Illustrate how to apply colour on art works	⬍ Explain how to produce graphic design art work for reproduction. ⬍ Explain how to apply colour on art works.	Books and AV aids	1.1 Produce graphic design for reproduction. 1.2 Carry out colour separation	⬍ Demonstrate to students how to make simple design. ⬍ Guide students on how to carry out colour separation	Original art works in their colours.
	General Objective: 2.0 Know various types of layout Techniques.			**General Objective: :** 2.0 Know various types of layout Techniques.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Define layout techniques. 2.2 List out types of layout techniques. 2.3 Appraise their uses at every stage of planning.	⬍ Explain different layout techniques.	Books and AV aids	2.1 Identify types of layout e.g. rough sketches, final layout for poster, packaging etc. 2.2 Distinguish the type of materials used in different layout techniques.	⬍ Guide the students on different layout techniques. ⬍ Demonstrate sketching to final art work	Example of sketches and final art works Books and AV aids
	General Objective: 3.0 Understand visual communication			**General Objective:** 3.0 Understand visual communication		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Define visual communication 3.2 Differentiate between	⬍ Explain what is meant by visual communication ⬍ Discuss the merit	Poster Logos Letter heads etc.	3.1 Execute design project in poster, handbills, letterheads etc.	Guide trainees in the execution of project	PC software

	visual and non-visual communication. 3.3 Explain how information is conveyed in different paper formats.	and demerits of both forms of communication ❖ Describe how information is conveyed in paper formats	Poster audio devices Video devices Posters Bill boards Book cover etc.			

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: DIGITAL PRE-PRESS

DURATION:

GOAL: This module is designed to enable the trainee develop an understanding of digital Pre-Press processes.

GENERAL OBJECTIVES:

On completion of this module the trainee should be able to:-

1. Know the principles of using digital pre press equipment
2. Know the principles of a computer to technologies in pre press.
3. Know the differences between digital pre press products.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: DIGITAL PRE-PRESS			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee develop an understanding of digital Pre-Press processes						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Know the principles of using digital pre press equipment			**General Objective:** 1.0 Know the principles of using digital pre press equipment		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define digital pre press 1.2 Describe the physical characteristics of digital pre press equipment. 1.3 Explain the procedure of operating digital pre press equipment. 1.3 Describe the processes of using digital pre press equipment	❖ Explain the functions of digital Pre-Press equipment	Books Computer packages. Negative film Positive film	1.1 Identify digital pre press equipment 1.2 Demonstrate the operational stages of digital pre press equipment 1.3 Operate digital pre press equipment.	❖ Show the students how to operate digital pre press equipment.	Types of white boards. Image settler. Tools and equipment in the plate making room.
	General Objective: 2.0 Know the principles of a computer to technologies in pre press.			**General Objective:** 2.0 Know the principles of a computer to technologies in pre press.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define computer 2 technologies 1.2 Explain the basic principles of computer 2 technologies. 1.3 List computer 2 technologies applied in digital pre press e.g. computer to film, computer to plates and computer to press	❖ Describe the principles of computer 2 technologies in pre press	Software packages used in computer 2 technologies			

	General Objective: 3.0 Know the differences between digital pre press products			**General Objective:** 3.0 Know the differences between digital pre press products		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 List digital pre press products. 3.2 Explain digital pre press products. 3.3 Differentiate between digital pre press products	⬍ Describe to students the digital pre press products and their functions press	PC and digital pre press documents			

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: PRINT PRODUCTION PROCESSES II

DURATION:

GOAL: This module is designed to provide the trainee with a hands on knowledge on how to operate various equipment used in print production.

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:-

1. Know paper series, sizes and grammage used in printing
2. Know how to operate the guillotine.
3. Know how to operate a letterpress printing machine
4. Know how to operate an offset printing machine.
5. Know how to print using the screen printing technique.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: PRINT PRODUCTION PROCESSES II			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to provide the trainee with a hand on knowledge on how to operate various equipment used in print production.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Know paper series and sizes			**General Objective:** 1.0 Know paper series and sizes		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Classify the different series of paper sizes used in the printing industry i.e. a) 'A' Series, used for general printing. b) 'B' Series used for poster and chart production. c) 'C' Series, used for envelopes or folders	⬍ Explain and give the numerical values of the various series as recommended by international standard organisation (ISO)	Text books Internet Charts on dimensions of the various series.			
	1.2 Differentiate between trimmed and untrimmed sizes.	⬍ State the numerical values of trimmed and untrimmed sizes of paper.	"			
	1.3 Define calliper, grammage or basis weight of paper expresses in grams per square metre (gsm)	⬍ Explain grammage as it relates to paper weight in a ream of 500 sheets	"			

	General Objective: 2.0 Know how to operate the guillotine.			**General Objective:** 2.0 Know how to operate the guillotine.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Explain the use of a guillotine and essential safety precautions 2.2 Differentiate between a manual trimmer and an automated guillotine. 2.3 Identify the various types and Parts of a guillotine. 2.4 Explain how to use the guillotine to cut paper to specification	❖ Discuss the use of a guillotine ❖ State the merits and demerits of both cutting machines. ❖ Describe the uses of the various types and parts. ❖ Describe how to jog paper and cut to specification.	Guillotine Hand trimmer Guillotine machine Guillotine machine Trimmer Guillotine Paper.	1.1 Demonstrate how to jog paper and cut or trim to specification 1.2 Demonstrate how to operate the guillotine	❖ Guide trainees on how to jog and prepare paper for cutting/trimming ❖ Guide trainees on cutting and trimming exercises	Guillotine paper
	General Objective: 3.0 Know how to operate a letter press printing machine.			**General Objective:** 3.0 Know how to operate a letter press printing machine.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Identify the various equipment and tools, used in letterpress printing. 3.2 Describe how to compose a simple print job using letterpress. 3.3 Explain how to operate a single letterpress machine to run impressions 3.4 Enumerate the merits	❖ Explain the use of these tools and equipment ❖ Explain how to compose and prepare a form for printing. ❖ Explain how to operate and run impressions ❖ Explain the advantages of letterpress	Setting stick Chase Quoins Furniture Ink Type trays Etc. Letterpress Machine	3.1 Demonstrate how to take a proof and effect corrections 3.2 Demonstrate how to operate a letterpress machine to run impressions	❖ Guide trainees on composing and proofing processes ❖ Guide trainees on how to operate a simple letterpress machnie	Setting sticks Chase Quoins Ink Etc. Letterpress Machine

	and demerits of the letterpress as a printing technique		Ink Paper etc.			Ink Paper etc.
	General Objective: 4.0 Know how to operate an offset printing machine.			**General Objective:** 4.0 Know how to operate an offset printing machine.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	4.1 Identify the various components of an offset printing machine (Gestetner, G.T.O.) multilith, kord etc). 4.2 Explain the term make reading and processes involved. 4.3 Explain term run on. 4.4 Discuss the necessity of washing up after the completion of a print run	❖ Explain the functions of the various parts. ❖ Describe this process ❖ Describe the operation that takes place in the printing process. ❖ Explain the process of washing up after a print run.	Offset printing machine. Offset printing machine. Paper Ink Offset printing Machine Plate Ink etc. Offset printing machine Blanket and roller wash	4.1 Demonstrate how to set and make ready an offset machine before printing. 4.2 Demonstrate how to prepare and the processes in make ready. 4.3 Demonstrate how to operate and print a document on an offset printing machine. 4.4 Demonstrate how to wash up the machine by removing the excess ink and rollers and cleaning with blanket/roller wash	❖ Engage trainee on machine before commencing printing. ❖ Guide the trainees on how to operate the machine to print a document ❖ Guide trainees in the washing up process	Offset printing Machine Plate Paper Offset printing machine Blanket and roller wash

	General Objective: 5.0 Know how to print using the screen printing method			**General Objective:** 5.0 Know how to print using the screen printing method		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	5.1 Explain the different methods of transferring image unto the mesh. i. manual method ii. photographic " 5.2 Explain how to print from a screen using a squeegee 5.3 State the advantages and disadvantages of the screen printing process.	⬍ Describe how to perform these operations. ⬍ Describe the process of printing with a squeegee on various substrate. ⬍ Explain the advantages and disadvantages of the screen process	Silk mesh Squeegee Stencil material Silk mesh Squeegee Ink Substrate Textbooks Chalkboard	5.1 Demonstrate how to produce a screen for reproduction for one colour print 5.2 demonstrate how to print from a silk screen	⬍ Guide trainees on how to prepare stencil and print using squeegee. ⬍ Guide the trainees to print one colour job.	Silk mesh Squeegee Ink Cloth Sticker. Silk mesh Squeegee Ink Substrate

PROGRAMME: NATIONAL VOCATION CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: DESKTOP PUBLISHING I (CORL DRAW)

DURATION:

GOAL: This module is designed to enable the trainee use the Corel Draw software.

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:

1. Know the characteristics and capabilities of CorelDraw as DTP tool.
2. Understand CorelDraw interface and related DTP terminology.
3. Know the uses of CorelDraw tools and toolboxes
4. Understand the process of creating a Corel draw document

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: DESKTOP PUBLISHING I (CORL DRAW)			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee use the Corel Draw software.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Know the characteristics and capabilities of CorelDraw as DTP tool.			**General Objective:** 1.0 Know the characteristics and capabilities of CorelDraw as DTP tool.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Explain what is DTP and CorelDraw 1.2 Describe Corel Draw as a Tool for text, image and page layout 1.3 Explain Color Object Manipulation in Corel draw	Discuss Corel draw as a DTP tool	PC Corel draw Books Sample of DTP product			
	General Objective: 2.1 Understand CorelDraw interface and related DTP terminology.			**General Objective:** 2.1 Understand CorelDraw interface and related DTP terminology.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Describe how to launch Corel Draw and identify parts of the interface 2.2 Discuss parts of the title bar, Menu bar and Tool bar etc. 2.3 Explain the Terms Workspace, Object, drawing, vector and bitmap graphic, fly out	Describe the terms listed	Samples of vector and bitmap prints			
	General Objective: 3.0 Know the uses of CorelDraw tools and toolboxes			**General Objective:** 3.0 Know the uses of CorelDraw tools and toolboxes		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Introduce the curve tool and					

	it's flyouts 3.2 Introduce the Shape edit tool and it's flyout					
	General Objective: 4.0 Understand the process of creating a Corel draw document			**General Objective:** 4.0 Understand the process of creating a Corel draw document		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	4.1 Explain how to start a New Corel draw Project(Design) from the file menu. 4.2 Explain how to use the text tool box to insert a text	Describe the usage of text tool		4.1 Use the pick tool to select the text 4.2 Select the fill tool to apply colors 4.3 Copy a and image and paste drag to a position/resize in the workspace 4.4 From the file menu click save and select the save format 4.5 Insert a new page, and make and A4 size announcement flyer. 4.6 insert two more pages: Book cover, magazine page.preview and save. 4.7 Save with a new name and delete the A4 size page save 4.8 Open a new project(Design) 4.9 Design a Book Cover Page 4.10 Insert a new page for the Book content page, import text content and highlight items using bullets	Demonstrate how to start a new Corel draw project.	

				4.11 Insert a new page for the introductory page segmenting the content with frames and insert an image. Add a drop letter to first paragraph 4.12 Insert a new page ,using the free hand tool, ellipse, rectangle tool draw a school barge. 4.13 Export project as: .CDR file, PDF and for printing (publish).		

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: COSTING AND ESTIMATING

DURATION:

GOAL: This module is designed to enable the trainee acquire the knowledge and skills necessary for assigning and determining the costs of printing projects.

GENERAL OBJECTIVES:

On completion of this module the trainee should be able to:

1. Understand the principles of costing and estimating in printing

2. Understand the costing and estimating processes in printing

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: COSTING AND ESTIMATING			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee acquire the knowledge and skills necessary for assigning and determining the costs of printing projects.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the principles of costing and estimating			**General Objective:** 1.0 Understand the principles of costing and estimating		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define b) cost. c) Estimating in printing 1.2 Explain the different components of cost including cost centres and how they are determined (price and quantity). 1.3 Explain the nature of cost elements and how they are classified into fixed, variable and mixed costs - material cost, paper cost labour etc. 1.4 Explain the relevance of cost in printing decision making process	❖ Explain what constitutes cost and estimating in printing. ❖ Define the mix of cost and its calculation ❖ Explain and introduce trainees to paper cost, materials cost, labour cost, machine cost, factory cost, etc. ❖ Introduce trainees to cost and price decision making.	Books internet, etc Job cards Time sheets			
	General Objective: 2.0 Understand the costing and estimating process in printing			**General Objective:** 2.0 Understand the costing and estimating process in printing.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Explain the process of determing materials cost, paper cost, Direct	❖ Discuss materials cost, ink cost, film, etc.	Ink plates, paper films, books, job	2.1 Prepare estimates using units of production, price schedule variations etc.	Guide trainees in preparing estimates	Price list of materials

	labour cost, overhead (burden) costs 2.2 Explain paper cut and stock sheets. 2.3 Explain variance analysis or close job report	❖ Explain optimal cut of paper and quantity of stock sheets ❖ Explain the calculation of variation and waste and its effect on cost	cards, Time sheets, book of account purchase receipt quotations. Paper (different sizes and grammages) wed types (reels) Guillotine paper, bank paper- Art paper etc. Books, waste cut paper.	2.2 Explain profitability of a mock print job.	Guide trainees in the exercise	

NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY (NVC)

PART II

2ND TERM

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: **DESKTOP PUBLISHING II** PHOTOSHOP

DURATION:

GOAL: This module is designed to enable the trainee understand the basic of Adobe Photoshop, including common tools and palettes as well as basic image manipulation

GENERAL OBJECTIVES:

On completion of this module, the trainee should be able to:

1. Understand the Photoshop environment
2. Understand and use the Photoshop Toolbox
3. Know how to use options with each tool with the option bar.
4. Know how to create images using layers

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: PRE-PRESS-PHOTOSHOP			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL:. This module is designed to enable the trainee understand the basic of Adobe Photoshop, including common tools and palettes as well as basic image manipulation						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the Photoshop environment			**General Objective:** 1.0 Understand the Photoshop environment		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define Photoshop as a software. 1.2 Enumerate the items on the Adobe Photoshop environment i. Manu bar. ii. Navigator iii. Tool box iv Title bar v. History vi. Layers etc.	❖ Explain the use of the Photoshop software. ❖ Explain the uses of these items as they relate to Photoshop	Computer system Photoshop software. Computer system Photoshop	1.1 Explain how to launch Photoshop	❖ Demonstrate how to launch Photoshop	Computer system Photoshop.
	General Objective: 2.0 Understand and use the Photoshop Toolbox			**General Objective:** 2.0 Understand and use the Photoshop Toolbox		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Explain the use of the tool box. 2.2 List the various tools in the tool box and their uses	❖ Discuss the importance of the tool box. ❖ Discuss how to manipulate the tools to enhance pictorial images	Computer system. Photoshop	2.1 Describe how to use the tools on a particular bit map image.	❖ Demonstrate how to use the tools in picture manipulation	
	General Objective: 3.0 Know how to use options with each tool with the option bar.			**General Objective:** 3.0 Know how to use options with each tool with the option bar.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Explain how to display the tools option bar.	❖ Describe how to adjust setting for an active tool	PC Photoshop	3.1 Explain how to set screen resolution of a bitmap image.	❖ Demonstrate how to set screen resolution	PC Photoshop

	3.2 Explain how to use the option bar in enhancing and manipulating bitmap images	⬍ Discuss how to gain quick access to palettes from the options bar palette well	PC Photoshop			
	General Objective: 4.0 Know how to create images using layers			**General Objective:** 4.0 Know how to create images using layers		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	4.1 Explain what is meant by layers in Photoshop. 4.2 Describe how to manipulate layers of images in Photoshop by using edit, paste, repositioning elements. 4.3 Explain how to combine bitmaps and text in Photoshop. 4.4 Explain how to transfer image between Photoshop and image ready	⬍ Describe the nature of these layers. ⬍ Explain how to manipulate these layers to apply effects ⬍ Describe how to combine bitmap images and text.	PC Photoshop PC Photoshop PC Photoshop PC Photoshop	4.1 Identify various layers opened in an image. 4.2 Describe how to apply effects on different layers. 4.3 Describe how to transfer bitmap images between different programmes	⬍ Guide trainees in identifying these layers ⬍ Demonstrate how to apply effect on images. ⬍ Guide trainees in how to export or import images.	PC Photoshop PC Photoshop PC Photoshop PC Photoshop

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING

MODULE: BOOK-BINDING AND PRINT FINISHING.

DURATION: 270 HOURS.

GOAL: This module is designed to enable the trainee to understand the technology and be able to execute competently bookbinding and print finishing jobs.

GENERAL OBJECTIVES:

On completion of this module the trainee should be able to:

1. Understand the materials and techniques used in print finishing
2. Understand the techniques and be able to carry out all letterpress and stationery binding.
3. carry out stationery binding operations involving spring back binding.

	General Objective: 1.0 Understand the materials and techniques used in printing finishing			**General Objective:** 1.0 Understand the materials and techniques used in printing finishing		
WEEK	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**
	1.1 List and describe the materials and equipment used in print finishing e. g. straw board, plastics leather, PVAC, die cutting machine, eye-letting machine, laminating machine, micro-weld machine. 1.2 Explain and carry out make ready procedures on diecutting machine. 1.3 Assemble finished produce (cartons, show-cards boxes) from the diecutting machine.			1.1 Interpret designer's specification and compute creased and cutting areas of a job e. g. boxes and portfolios etc. 1.2 Cut materials to specification and produce portfolios and boxes. 1.3 Set up and use the microwelding machines for jobs such as; diary covers, seminar jacket or files, lead binders. 1.4 Set up and use laminating machine for jobs such as book covers, table mats and pocket calendars, I.D. cards.		

	General Objective: 2.0 Understand the techniques and be able to carry out all letterpress and stationery binding.			**General Objective:** 2.0 Understand the techniques and be able to carry out all letterpress and stationery binding.		
WEEK	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**
	2.1 List and describe the materials and tools used in bookbinding. E. g. leather, buckram, rexine, leather cloth, foils, mull, toothagete burnisher, backing hammer, sewing frame, guillotines, stitchers, etc. 2.2 Explain the purpose of sewing two section-on in book binding.			2.1 Determine positions of grooves on spine, saw in, cord and sew. 2.2 Sate the purpose of made-end paper in book binding. 2.3 Name types of headband and state their uses e. g. single headband and double headband. 2.4 Work the headband. 2.5 Lace-in cords, cover with leather and prepare lather for hand tooling. 2.6 Paste down end sheet on the board. 2.7 Carry out elementary designing and brass type composition. 2.8 Operate competently the blocking machine. 2.9 Sew using two section on sewing method.		

	General Objective: 3.0 Carry out stationery binding operations involving spring back binding			**General Objective:** 3.0 Carry out stationery binding operations involving spring back binding		
WEEK	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**
	3.1 Distinguish kettle stitch ticketing from other reinforcement sewing methods. 3.2 Describe the process of making a spring back account book. 3.3 List types of indexing and explain their applications e. g. cut-through, one letter, double letter, and thumb.			3.1 Carry out the following spring back binding operations: a) End sheet making b) Sewing, cutting and marbling. c) Rounding and lining d) Spring back making and attachment to spine of book. e) Flange making and attachment of split board. f) Leather pairing and covering. g) Marking out cover board for punch and lace in. h) Lining inside cover with board, case in and press. i) Finishing with hand tooling. 3.2 Index with the aid of indexing machine and/or surgical knife. 3.3 Carry out routine maintenance of binding machines.		

NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY (NVC)

FINAL

1ST TERM

PROGRAMMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: QUALITY CONTROL IN PRINTING

DURATION:

GOAL: This module is designed to enable the trainee acquire the competence needed to produce quality print products.

GENERAL OBJECTIVES:

On completion of the module, the trainee should be able to:-

1. Understand the term quality of product, process or service.
2. Understand the roles of individuals and departments in establishing and maintaining quality
3. Understand a simple quality inspection task.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: QUALITY CONTROL IN PRINTING I & II			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee acquire the competence needed to produce quality print products.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the term quality of product, process or service.			**General Objective:** 1.0 Understand the term quality of product, process or service.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define quality in the printing context. 1.2 State the factors that contribute to the quality of a given product. 1.3 Enumerate the importance of properties which contribute to the quality of a given product. 1.4 Assess quality of standards for some printed products or services 1.5 Enumerate some of the processes that contribute to print quality.	❖ Explain to students the processes to be undertaken to ensure print qualify and service e.g. pre-press, production and finishing.	PC based OHP Books Samples of printed materials Handouts			
	General Objective: 2.0 Understand the roles of individuals and departments in establishing print quality			**General Objective:** 2.0 Understand the roles of individuals and departments in establishing print quality.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 State the contribution of individuals and departments in establishing and	❖ Explain to students the purpose of quality inspection	Books Journals			

	maintaining quality standard in printing documents for clients. 2.2 State the advantages of quality assurance system in printing establishment. 2.3 Enumerate the role and contributions of management in quality assurance. 2.4 Explain the purpose of quality inspection in the printing industry 2.5 State the inspection procedure for a given print product.	in a printing press or establishment.	Handouts etc.			
	General Objective: 3.0 Understand a simple quality inspection task.			**General Objective:** 3.0 Understand a simple quality inspection task.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.4 Explain the procedure for assessing quality of print product. 3.5 Describe the processes of preparing quality assurance tasks of printed materials 3.6 Enumerate the standards used in assessing quality of printed items. 3.7 Prepare a simple quality inspection report on a printed document or item	⬍ Explain the procedures of assessing quality of print products.				

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: DESK TOP PUBLISHING III – PAGE MAKER

DURATION:

GOAL: This module is designed to enable the trainee acquire proficiency in the use and operation of the page maker software.

GENERAL OBJECTIVES:

On completion of this module the trainee should be able to:

1. Understand the page maker software.
2. Create Documents with text objects and images.
3. Know the difference between place and paste and updating of linked files
4. Understand the techniques of Grouping items and arranging publication.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: DESKTOP PUBLISHING – PAGE MAKER			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee acquire proficiency in the use and operation of the page maker software.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand the page maker software.			**General Objective:** 1.0 Understand the page maker software.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define PageMaker. 1.2 Explain the uses page maker to produce document such as brochure Newsletters, letterheads etc. 1.3 Explain the taskbar and menu items, the contents and their use in page maker. 1.4 Explain the process of file creation and set up process in page maker 1.5 Explain the use of the tool box and palette e.g. pointer Rotate, line, crop, hand tool, style, colour control etc. 1.6 Explain the creation of a simple document e.g. brochure Newsletter	❖ Explain page maker. ❖ Discuss using examples of documents that can be produced using page maker. ❖ Discuss the contents of the task bar and the menu	PC, page maker PC, page maker PC, page maker			

	General Objective: 2.0 Understand the difference between place and paste and update of linked files			**General Objective:** 2.0 Understand the difference between place and paste and update of linked files		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Explain the use of the text tool. 2.2 Explain the use of the paste board in respect of text objects and images. 2.3 Explain the process of importing text and graphic documents into page maker 2.4 Explain the difference between pasting and placing of documents in page maker 2.5 Explain the process of changing text, colours sizes fonts etc. 2.6 Explain the process of documents updates using link manager 2.7 Explain the use of guides e.g. ruler, pointer tool, text box etc. 2.8 Explain the use of the rectangle tool in image and object placement. 2.9 Explain image sizing and arrangement within	⬍ Describe the text tool features and uses. ⬍ Describe the process of embedding object and text in paste board. ⬍ Describe the import process of files into page maker. ⬍ Describe the linking of files and documents. ⬍ Describe the changes process in linked documents. ⬍ Discuss the process of changing text, colour, sizes and fonts. ⬍ Describe the link between source files and destination files.	PC, page maker PC, page maker PC, page maker	2.1 Show the use of the text tool 2.2 Use the paste board to paste text and objects. 2.3 Use the file import facilities.	⬍ Demonstrate the use of the text tool ⬍ Demonstrate the use of the pasteboard	

	windows					
	General Objective: 3.0 Understand the process of grouping items			**General Objective:** 3.0 Understand the process of grouping items		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	3.1 Define object collages and represent actions 3.2 Explain the process of grouping different objects into movable entities. 3.3 Explain the process of toggling between pages of the document. 3.4 Explain the process of using grouped objects texts and images to create publications 3.5 Explain the process of storage of created files and documents 3.6 Explain the output process e.g. printing transferring etc.					

NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY (NVC)

FINAL

2ND TERM

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

MODULE: PROOF READING AND EDITING

DURATION:

GOAL: This module is designed to enable the trainee know the rudiments of proof reading and editing.

GENERAL OBJECTIVES:

On completion of this module the trainee should be able to:

1. Understand what is meant by manuscript and typescript.
2. Understand different types of copies and storage devices.
3. Understand the necessity for proofreading.
4. Know the proofreaders marks and how to apply them.
5. Understand the necessity in obtaining authors approval.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: PROOF READING AND EDITING			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainee know the rudiments of proof reading and editing.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand what is meant by manuscript and typescript.			**General Objective:** 1.0 Understand what is meant by manuscript and typescript.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Define what is meant by a manuscript. 1.2 Distinguish between a good and a bad manuscript. 1.3 Define what is meant by a typescript. 1.4 Distinguish between a good and a bad typescript.	❖ Explain what is meant by a manuscript.				
	General Objective: 2.0 Understand different types of copies and storage devices.			**General Objective:** 2.0 Understand different types of copies and storage devices.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	2.1 Identify types of copies used in printing i. Hard copy. ii. Soft copy 2.2 Identify storage electronic devices used in saving soft copies - CDs - Flash drive - Internet etc.	❖ Describe the two types of copies. ❖ Discuss the merits and demerits of these storage devices	Sample of hard copy Sample of soft copy Computer system. Storage devices DVD, CD, Flash Zip etc	1.1 Explain the uses and nature of the various storage devices for soft copies.	❖ Demonstrate how to access the documents in the various storage devices.	Computer system Storage devices.
	General Objective: 3.0 Understand the necessity for proofreading.			**General Objective:** 3.0 Understand the necessity for proofreading.		

WEEK	Specific Learning Outcome	Teachers Activities	Learning Resources	Specific Learning Outcome	Teachers Activities	Learning Resources
	3.1 Define proofreading. 3.2 Explain the importance of proofreading. 3.3 Explain what is meant by gallery proofs.	⬍ Explain what is meant by proofreading ⬍ Discuss the importance of proofreading ⬍ Discuss the origin of gallery proofs.	Manuscript Typescript Proof material			
	General Objective: 4.0 Know the proofreaders marks and how to apply them.			**General Objective:** 4.0 Know the proofreaders marks and how to apply them.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	4.1 List the proofreaders marks and symbols. 4.2 Explain the use of each of the marks and what they stand for. 4.3 Explain how to edit a material electronically using the computer – spell checker, grammar etc.	⬍ Describe each of these marks and symbols ⬍ Discuss the uses of these marks ⬍ Discuss how to edit a text material using the computer	Document containing proofreaders marks " Computer system Soft copy of text material	4.1 Discuss how to apply the proofreaders marks to edit a textual material. 4.2 Discuss how to edit electronically a given text material.	⬍ Guide the trainees in proofreading exercise. ⬍ Demonstrate how to use the computer to edit a text material	Text material Computer system.
	General Objective: 5.0 Understand the necessity in obtaining authors approval.			**General Objective:** 5.0 Understand the necessity in obtaining authors approval.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	5.1 Explain what is meant by author's approval. 5.2 Explain the legal implication of not obtaining author's approval before printing a document.	⬍ Discuss what is meant by author's approval ⬍ Discuss the legal implication of not obtaining author's approval	Printing law. Printing law Contract agreement.			

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOOGY

MODULE: **DESKTOP PUBLISHING IV** INDESIGN (DTP4)

GOAL: This module is designed to enable the trainees use Adobe Indesign to produce designs for print.

GENERAL OBJECTIVE:

On completion of this module, the trainee will:

1. Understand Adobe Indesign basics
2. Understand Indesign plugins
3. Know how to use Indesign templates.

PROGRAMME: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY						
COURSE: ADOBE INDESIGN (DTP4)			**COURSE CODE**:		**CONTACT HOURS**:	
GOAL: This module is designed to enable the trainees use Adobe Indesign to produce designs for print.						
COURSE SPECIFICATION: **Theoretical Contents**:				**Practical Contents**:		
	General Objective: 1.0 Understand Adobe Indesign basics			**General Objective:** 1.0 Understand Adobe Indesign basics		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.4 Explain how to access Indesign to prepare page set up. 1.5 Insert page numbers on master page in Adobe Indesign. 1.6 Explain pix manipulation Indesign. 1.7 Move Adobe Indesign files to other application. 1.8 Explain Alpha channels what is known as Indesign.	❖ Discuss how to access and set up a page with Indesign. ❖ Describe how to insert page numbers on an Indesign master page. ❖ Discuss how to move Indesign files to other applications. ❖ Explain what is meant by Alpha channels	Computer system. Indesign software Package and Hand book Relevant application package and hand book Computer system Indesign package and hand book internet	1.1 Demonstrate how to access Indesign to set up a page. 1.2 Insert page number on master page in Indesign. 1.3 Demonstrate how to manipulate in Indesign. 1.4 Show students how to move Indesign files to other locations 1.5 Practice the use of Alpha channels in Indesign.		
	General Objective: 2.0 Understand Indesign plugins			**General Objective:** 2.0 Understand Indesign plugins		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Identify basic tools in Indesign. 1.2 Describe character style sheets in Indesign. 1.3 Explain how to use color	❖ Discuss the basic tools used in Indesign. ❖ Describe what is known as character style sheets in	Same as above with books, internet. Same as above	1.1 Demonstrate how use basic tools in Indesign. 1.2 Use character styles in Indesign and students practice.		

	palette in Indesign. 1.4 Explain what is meant by Embedded clipping path in Indesign	Indesign. ⬍ Describe how to use Indesign color palette. ⬍ Discuss the method of embedded clipping path in Indesign	Same as above	1.3 Demonstrate how to use color palette in Indesign 1.4 Demonstrate embedding clipping path in Indesign.		
	General Objective: 3.0 Understand how use templates in Indesign.			**General Objective:** 3.0 Understand how use templates in Indesign.		
WEEK	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**
	1.1 Describe what is meant by document area in Indesign template. 1.2 Describe eye dropper and how to establish a measure in Indesign. 1.3 Describe what is a Gradient and shaping frame tools Indesign	⬍ Explain document area in Indesign templates. ⬍ Describe what is meant by eye dropper in Indesign. ⬍ Describe frames and shaping tools in Indesign		1.1 Demonstrate how to use document area in Indesign template. 1.2 Apply the use of frames and shaping tools in Indesign.		

NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

LIST OF EQUIPMENT

S/NO	ITEM	QUANTITY REQUIRED
1.	Computer system and accessories	15 Set
2.	Light table	2 N0
3.	Fire Extinguishers	5N0
4.	Sand bucket	4 N0
5.	Safety gear (Aprons, rubber gloves, goggles etc)	20 N0
6.	First Aid box	1 N0
7.	Refuse bin	2 N0
8.	Waste disposal bags	As required
9.	Laser Printers	1 N0
10.	Colour Printers	1 N0
11.	Digital Camera	1N0
12.	Scanners	1N0
13.	Plate maker (Print down frame)	1N0
14.	Plate developing bay	1 N0
15.	Tape dispenser	2 N0
16.	Stripping Knife	10 N0
17.	Offset printing machine	1 N0
18.	Guillotine	1 N0
19.	Stitching machine	1 N0
20.	Software (Adobe Photoshop, Indesign, Page Maker, Windows, Corel Draw etc.)	

CRITIQUE TEAM LIST: NATIONAL VOCATIONAL CERTIFICATE IN PRINTING TECHNOLOGY

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