



NATIONAL BOARD FOR TECHNICAL EDUCATION

NATIONAL DIPLOMA (ND) PROGRAMME

IN

PHOTOGRAPHY

CURRICULUM AND COURSE SPECIFICATION

JUNE 2013

PLOT 'B' BIDA ROAD, P.M.B. 2239 KADUNA.

FOREWORD

Nigeria must strive to improve productivity throughout all sectors of the economy if she is to compete favourably in an era of rapid economic and technological change. This requires not only capital investment, but also a workforce that is knowledgeable and has the flexibility to acquire new skills for new jobs as the structures of the economy and occupations change. This flexibility and productivity of workforce is critically dependent on availability of skilled workers especially technicians and artisans. The level of competence of a country's skilled workforce determines the quality and efficiency of product development, production, and maintenance, as well as the efficiency of supervision and training of workers with lesser skills. Such lower level skill finds application in the modern technology sector, in agriculture, and in small and medium enterprises of the informal sector, both rural and urban.

Consequently, the development of sound basis in technical and vocational education (TVE) is central to the nation's desire of becoming industrialized and self-reliant. However, present realities in Nigeria indicate that it will take more than a mere refocusing of technical education in its present format to make it more relevant and effective. It has already been established that for Nigeria to advance technologically there is the need to revive the curriculum at all levels of the education sector – TVE inclusive. This is because studies have revealed the widening gap between programmes offered in technical colleges and polytechnics and the actual openings available in the employment market. In most key sectors of the economy, manpower shortages persist and the country remains over-dependent on the skills of expatriates. Regular curriculum review followed by appropriate staff development and the expansion of the knowledge base for information and communication technology are therefore vital ingredients in reversing this unwholesome situation.

A major concern that faces vocational education is the fact that the curricula for Technical Colleges were developed around 1985 and have not undergone any major review since then. Those for the Polytechnic sector are not different. There is therefore a general consensus on the need for their updating and revision to meet the current and future needs of Nigeria. In addition to the traditional functional skills, there is need for emphasis to be given to the new generic competencies such as entrepreneurship and Information and Communication Technology (ICT).

Pursuant to the need to address the major challenges outlined above, a Project Document and Plan of Action in "Support for Revitalising Technical and Vocational Education in Nigeria – Phase I" were signed by UNESCO and the Federal Government of

Nigeria on 15th December, 2000. The main objectives of this Project amongst others include review of existing curricula and development of new ones, training of TVE staff and the introduction of ICT education in polytechnics and technical colleges.

This set of revised curricula for polytechnics and technical colleges was produced as the first major activity of this strategic collaboration. The Federal Ministry of Education is indebted to UNESCO for supporting not only this project but also many others in the Federal Ministry of Education. It is our hope that the implementation of these curricula will enhance appropriate skills acquisition and thus increase the pace of the nation's technological development.

Prof. Ruqayyatu Ahmed Rufa'i
HONOURABLE MINISTER OF EDUCATION

GENERAL INFORMATION

NATIONAL DIPLOMA (ND) IN PHOTOGRAPHY

1.0 PHILOSOPHY OF THE PHOTOGRAPHY PROGRAMME

The Photography Programme is designed to reflect a FUNCTIONAL philosophy of education. While seeking to achieve academic excellence and promote the furtherance of knowledge, the Photography programme also seeks to aid "... the acquisition of appropriate skills, abilities and competences, both mental and physical as equipment for the individual to live in and contribute to the development of his society.."

The programme is therefore committed to the production of qualified and competent technicians who will be able to face the challenges concomitant with the aspiration of the country to be technologically developed and the Technicians to be self-reliant after graduation.

2.0 GOALS AND OBJECTIVES OF THE PROGRAMME

The programme aims at producing photographers for the society, industries, organizations and commercial concerns. The diplomate should be able to:

- Assist effectively in running photographic practice;
- Analyse and solve simple problems related to photography;
- Maintain, select and operate both analog and digital tools and equipment used in the profession;
- Carry out photographic studio installation and maintenance;
- Apply management principles in organising supervisory groups and in the arrangement of sequence of activities.
- Display basic entrepreneur skills.
- Apply adequate Information Technology (IT) skills.

3.0 MINIMUM ENTRY REQUIREMENTS

Candidates for admission into the programme should have a minimum of:

(i) Senior Secondary School Certificate (SSSC) with at least pass in English Language and credit passes in five subjects in at most two sittings which must include, Mathematics, Physics, Chemistry, and two other subjects from

- Fine art
- English language
- Agricultural science
- Further mathematics
- Economics
- Statistics
- Technical drawing,

(ii) GCE 'O' Level or its equivalent (Teachers Grade II or West African School Certificate) with at least a pass in English Language and credit passes in five relevant subjects as specified in (i) above.

(iii) National Technical Certificate (NTC) with five credit passes in mathematics, integrated physical science, English Language and in the art and design trade areas.

(iv) Pass at NBTE recognized Pre-National Diploma entry requirement in English Language and five credits in the relevant subjects listed in (i) above.

4.0 DURATION

The duration of the programme is a minimum of two academic sessions consisting of four semesters of 18 weeks each and a maximum of four academic sessions consisting of eight semesters.

5.0 CURRICULUM

5.1 The curriculum of ND programme consists of four main components. These are:

- i. General studies/education
- ii. Foundation courses
- iii. Professional courses
- iv. Supervised Industrial Work Experience Scheme (SIWES)

5.2 The General Education component shall include courses in:

- i. Art and Humanities - English Language, Communication, History.
- ii. Social Studies - Citizenship Education, Political Science, Geography, Entrepreneurship, Philosophy and Sociology are compulsory.
- iii. Physical and Health Education - One semester credit only.

5.3 The General Education component shall account for not more than 15% of the total contact hours for the programme.

5.4 Foundation courses include courses in Economics, Mathematics, Pure Sciences, Technical Drawing, etc. The number of hours for the Programme may account for about 10-15% of the total contact hours.

5.5. Professional courses are core courses of the programme which give the student the theory and professional skills he needs to practice his field of calling at the technician/technologist level. These may account for between 60-70% of the contact hours.

5.6. Student Industrial Work Experience Scheme (SIWES) shall be taken during the long vacation following the end of the second semester of the first year. See details of SIWES at section 11.0

5.7. Personal Logbook: The students to maintain a personal Logbook to record all the daily and weekly summary of all the practical activities for all the semesters.

6.0 CURRICULUM STRUCTURE

The structure of the National Diploma programme consists of four semesters of classroom, laboratory and workshop activities in the college, and a semester (3-4 months) of student Industrial Work Experience Scheme (SIWES). Each semester shall be of 18 weeks duration made up as follows:

- a. 15 contact weeks of teaching, i.e. recitation, practical exercise, quizzes, test, etc, and
- b. 3 weeks for examinations and registration. SIWES shall take place at the end of the second semester of the first year.

7.0 ACCREDITATION

The Diploma programme shall be accredited by the National Board for Technical Education before the diplomates can be awarded the National Diploma certificates. Details about the process of accrediting a programme for the award of the National Diploma are available from the Executive Secretary, National Board for Technical Education, Plot "B", Bida Road, P.M.B. 2239, Kaduna, Nigeria.

8.0 AWARD OF NATIONAL DIPLOMA

Conditions for the award of National Diploma include the following:

- a. Satisfactory performance in all prescribed course work which may include class work, tests, quizzes, workshop practice, laboratory work which should amount to a minimum of between 72 and 80 semester credit units.
- b. Supervised industrial work experience for four months.
- c. Satisfactory performance at all semester examinations.
- d. Satisfactory completion of final year project work. Normally, continuous assessment contributes 30% while semester examinations are weighted 70% to make a total of 100%. The industrial training is rated on the basis of pass or fail.

National Diploma should be awarded in four classes:

- (i) Distinction - CGPA of 3.50 and above
- (ii) Upper Credit - CGPA of 3.0 - 3.49
- (iii) Lower Credit - CGPA of 2.50 - 2.99
- (iv) Pass - CGPA of 2.00 - 2.49.

9.0 GUIDANCE NOTES FOR TEACHERS

9.1 The new curriculum is drawn in unit courses. This is in keeping with the provisions of the National Policy on Education which stress the need to introduce the semester credit units which will enable a student who so wish to transfer the units already completed in an institution similar standard from which he/she is transferring.

9.2 In designing the units, the principle of the modular system by product has been adopted, thus making each of the professional modules, when completed provides the student with technician operative skills, which can be used for employment purposes, self – employment and otherwise.

9.3 As the success of the credit unit system depends on the articulation of programmes between the institutions and industry, the curriculum content has been written in behavioural objectives, so that it is clear to all the expected performance of the student who successfully

completed some of the courses or the diplomates of the programme. There is a slight departure in the presentation of the performance based curriculum which requires the conditions under which the performance are expected to be carried out and the criteria for the acceptable levels of performance. It is a deliberate attempt to further involve the staff of the department teaching the programme to write their own curriculum stating the conditions existing in their institution under which performance can take place and to follow that with the criteria for determining an acceptance level of performance.

Departmental submission on the final curriculum may be vetted by the Academic Board of the institution. Our aim is to continue to see to it that a solid internal evaluation system exists in each institution for ensuring minimum standard and quality of education in the programmes offered throughout the Polytechnic system.

9.4 The teaching of the theory and practical work should, as much as possible, be integrated. Practical exercises, especially those in professional courses and laboratory work should not be taught in isolation from the theory. For each course, there should be a balance of theory to practical in the ratio of 50:50 or 60:40 or the reverse.

10.0 LOGBOOK

A personal Log-book to be kept by the students shall contain all the day-to-day, weekly summary, and semester summary of all the practical activities from day one to the end of the programme. This is to be checked and endorsed by the lecturers concerned at the end of every week.

11.0 GUIDELINES ON SIWES PROGRAMMES

For the smooth operation of the SIWES, the following guidelines shall apply:

11.1 Responsibility for placement of students.

a. Institutions offering the National Diploma programme shall arrange to place the students in industry. By April 30 of each year, six copies of the master-list showing where each student has been placed shall be submitted to the Executive Secretary, National Board Technical Education, which shall, in turn, authenticate the list and forward it to the Industrial Training Fund, Jos;

b. The placement officer should discuss and agree with industry on the following:

(a) A task inventory of what the students should be expected to experience during the period of attachment. It may be wise to adopt the one already approved for each field.

(b) The industry-based supervisor of the students during the period. It should be noted that the final grading of the students during the period of attachment should be weighted more on the evaluation by his industry-based supervisor.

11.2 Evaluation of students during SIWES. In the evaluation of the student, cognizance should be taken of the following items:

1. Punctuality;
2. Attendance;
3. General Attitude to work;
4. Respect for Authority;
5. Interest in the field/technical area;
6. Technical competence of the student as a potential technician in his field.

11.3 Grading of SIWES: To ensure uniformity of grading scales, the institution should ensure that the uniform grading of students' work which has been agreed to by all polytechnics is adopted.

11.4 The Institution-Based Supervisor: The institution-based supervisor should initial the log-book during each visit. This will enable him to check are being met and to assist students having any problems regarding the specific assignments given to them by their industry-based supervisor.

11.5 Frequency of Visit: Institution should ensure that students placed on attachment are visited within one month of their placement. Other visits shall be arranged so that:

- 1) there is another visit weeks after the first visit; and
- 2) a final visit in the last month of the attachment.

11.6 Stipend for Students in SIWES: The rate of stipend payable shall be determined from time-to-time by the Federal Government after due consultation with the Federal Ministry of Education, the Industrial Training Fund and the National Board for Technical Education.

11.7. SIWES as a component of the curriculum: The completion of SIWES is important in the final determination of whether the student is successful in the programme or not. Failure in the SIWES is an indication that the student has not shown sufficient interest in the field or has no potential to become a skilled technician in his field. The SIWES should be graded on a fail or pass basis. Where a student has satisfied all other requirements but failed SIWES, he may only be allowed to repeat another four months' SIWES at his own expense.

12.0 FINAL YEAR PROJECT

Final year students in this programme are expected to carry out a project work. This could be on individual basis or group work. The project should, as much as possible incorporates basic element of design, drawing and complete fabrication of a marketable item or something that can be put to use. Project reports should be well presented and should be properly supervised.

The departments should make their own arrangement of schedules for project work

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CURRICULUM TABLE NATIONAL DIPLOMA IN PHOTOGRAPHY

ND1 FIRST SEMESTER

COURSE CODE	COURSE TITLE	LECTURE	TUTORIAL	PRACTICALS/ LABORATORY	CREDIT UNIT	PRE-REQUISITE
GNS 101	USEOF ENGLISH	2	-	-	2	SSCE/GCE 'O' LEVEL
COM 101	INTRODUCTION TO COMPUTER	2	-	1	3	
GNS 111	CITIZENSHIP EDUCATION	2	-	-	2	
PHG 111	INTRODUCTION TO PHOTOGRAPHY	1	-	1	2	
PHG 112	THE CAMERA	1	-	2	3	
PHG 113	BASIC DESIGN I	1	-	2	3	
PHG 114	INTRO TO PHOTOGRAPHIC PHYSICS	1	-	1	2	
PHG 115	INTRO. TOPHOTOGRAPHIC CHEMISTRY	1	-	-	1	
LIB 111	USE OF LIBRARY	1	-	-	1	
	TOTAL	12	-	7	19	

ND 1 SECOND SEMESTER

COURSE CODE	COURSE TITLE	LECTURE	TUTORIAL	PRACTICALS/ LABORATORY	CREDIT UNIT	PRE-REQUISITE
GNS 102	COMMUNICATION IN ENGLISH I	2	-	-	2	SSCE/GCE 'O' LEVEL
EED 126	INTRODUCTION TO ENTREPRENEURSHIP	2	-	-	2	-
PHG 121	INTRO. TO DIGITAL PHOTOGRAPHY	1	-	1	2	PHG 111
PHG 122	BASIC DESIGN II	1	-	2	3	PHG 113
PHG 123	FILM CHARACTERISTICS	1	-	1	2	-
PHG 124	PHOTOSHOP I	1	-	1	2	-
PHG 125	EXPOSURE IN PHOTOGRAPHY	1	-	2	3	PHG 112
PHG 126	CAMERA HANDLING & COMPOSITION	1	-	1	2	PHG 112
PHG 127	PHOTOGRAPHIC PHYSICS	1	-	1	2	PHG 114
PHG 128	PHOTOGRAPHIC CHEMISTRY	1	-	1	2	PHG 115
SWS 101	SIWES	-	-	2	2	-

	TOTAL	12	-	12	24	
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ND II THIRD SEMESTER

COURSE CODE	COURSE TITLE	LECTURE	TUTORIAL	PRACTICALS/ LABORATORY	CREDIT UNIT	PRE-REQUISITE
GNS 201	USE OF ENGLISH	2	-	-	2	
GNS 211	INTRODUCTION TO SOCIOLOGY	2	-	-	2	
GNS 221	INTRODUCTION TO PHE	1	-	-	1	
PHG 211	STUDIO LIGHTING	1	-	1	2	
PHG 212	DARKROOM PROCEDURE	1	-	2	3	PHG 123; 125
PHG 213	PHOTOSHOP II	1	-	1	2	PHG 124
GNS 228	RESEARCH METHODS	2	-	-	2	PHG 113
EED 216	ENTREPRENEURSHIP	2	-	-	2	EED 126
	TOTAL	12	-	4	16	

ND II FOURTH SEMESTER

COURSE CODE	COURSE TITLE	LECTURE	TUTORIAL	PRACTICALS/ LABORATORY	CREDIT UNIT	PRE-REQUISITE
GNS 202	COMMUNICATION IN ENGLISH II	2	-	-	2	GNS 102
GNS 222	ECONOMICS	2	-	-	2	
PHG 221	PHOTOSHOP III	1	-	2	3	
PHG 222	LAWS & ETHICS RELATING TO PHOTOGRAPHY	1	-	-	1	
PHG 223	PRINT FINISHING & PRESENTATION	1	-	1	2	
PHG 224	PHOTOGRAPHY BUSINESS	1	-	-	1	
PHG 225	PROJECT	-	-	4	4	
	TOTAL	8	-	7	15	

NATIONAL DIPLOMA

IN

PHOTOGRAPHY

ND I

FIRST SEMESTER

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	First
COURSE TITLE:	-	INTRODUCTION TO PHOTOGRAPHY
DURATION	-	Lecture 1 hr
UNIT:	-	1
CODE NO:	-	PHG 111
GOAL:	-	This course is designed to introduce the student to photography

GENERAL OBJECTIVES:

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

- 1.0 Understand Photography
- 2.0 Understand the importance and use of the photograph
- 3.0 Development of photography
- 4.0 Know the early photographers and their tools

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: INTRODUCTION TO PHOTOGRAPHY			COURSE CODE: PHG 111		CONTACT HOURS: 1	
GOAL: This course is designed to introduce the student to photography						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0 Understand photography						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Define Photography 1.2 Explain the importance of light Photography 1.3 State the qualities of a good photograph 1.4 State the different areas of photography. News, Documentary, Sports, Portraiture, Aerial Photography, Micro Photography, Aquatic Photography, Glamour Photography etc.	Define the term Photography.	Books, Journals, Magazine, Internet.			
General Objectives: 2.0 Understand the importance and use of Photography						
	2.1 Explain Photography and social media.	Discuss social media in relation to photographs.	Multimedia equipment, Books,			

	2.2 Explain differences between Still Photographs and motion Pictures.	Differentiate between still photography and motion pictures.	Journals, Magazines.			
3.0 General Objectives: Know the History of Photography						
	3.1 Explain the development of photography from 1526 - 1900. 3.2 Explain the changed emphasis in Photography from the First World War to 1945. 3.3 Explain the development of Photography in Nigeria.	Identify the contributors in the development of photography. Discuss the state of photography during this period.	Photographs , Books.			

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	First
COURSE TITLE:	-	The Camera
DURATION	-	Lecture 1 hr Practical: 2hrs
UNIT:	-	3
CODE NO:	-	PHG 112
GOAL:	-	This course is designed to acquaint the student with the knowledge of cameras.

GENERAL OBJECTIVES:

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

- 1.0 Understand the evolution of the camera;
- 2.0 Know types of camera and their functions
- 3.0 Know the safety procedures and maintenance of camera
- 4.0 Know how to construct a pinhole camera
- 5.0 Understand the techniques of taking pictures with various cameras.

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: INTRODUCTION TO PHOTOGRAPHY			COURSE CODE: PHG 112		CONTACT HOURS: 3	
GOAL: This course is designed to acquaint the student with the knowledge of the camera						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0 Understand the evolution of the camera						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Define Photography 1.2 Explain what is a camera 1.3 Explain the evolution of the camera from the camera obscura to digital camera.	Define Photography. Discuss the uses of camera Discuss the evolution of the camera.	Markerboard, Books, Journals, Magazine, Internet.			
General Objectives: 2.0 Know the types of cameras and their functions						
	2.1 List different types of cameras. 2.2 Identify the parts and functions of an analogue still camera. 2.3 Identify the parts and functions of a digital	Discuss different types of camera. Discuss the various parts and functions of i.analogue ii.digital cameras	Multimedia equipment, Books, Camera, Journals, Magazines.			

	camera. 2.4 Enumerate camera accessories.	Discuss camera accessories		Identify different camera accessories	Demonstrate the use of camera accessories.	Tripods, flash, lens hood, filters, light meter, lenses, cameras etc.
3.0 General Objectives: Know the safety procedures and maintenance of a camera						
	3.1 State the maintenance procedure of a camera. 3.2 State the safety procedure in camera handling.	Discuss how to take care of a camera.	Photographs Books.			
General Objectives: 4.0 Know how to construct a pin hole camera						
	4.1 List the materials used in constructing a pin hole camera. 4.2 State the function of each material in 4.1 above. 4.3 Explain the procedures of constructing a pin hole camera.	Explain the materials used in the construction of a pin hole camera. Explain the function of each material. Describe the process of constructing a pin hole camera.	Strawboard, cardboard, black tape, pin or needle, aperture plate Strawboard, cardboard, black tape, pin or needle, aperture plate	Construct a pin hole camera	Demonstrate how to construct a pin hole camera. Use it to take pictures.	Strawboard, cardboard, black tape, pin or needle, aperture plate, bromide

						paper, processing chemicals.
5.0 General Objectives: Understand the techniques of taking pictures with various cameras						
5.1 Define the following terms: aperture, shutter, shutter speed, exposure etc.	Explain the various terms.	Analogue Camera	Practicalise the use of aperture and shutter speed in taking pictures.	Demonstrate how to use aperture and shutter speed in picture taking.	Analogue Camera	
5.2 Explain the methods of controlling exposure using aperture and shutter speed.	Relate aperture to shutter speed in picture taking.	Analogue Camera				
5.3 Describe out-of-focus and in-focus shooting procedures.	Explain out-of-focus and in-focus in picture taking.					
5.4 Define depth of field in relation to lens openings of a camera.	Explain depth of field.					
5.5 Describe the role of parallax in shooting pictures.	Explain parallax in picture taking.					

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	First
COURSE TITLE:	-	Basic Design I
DURATION	-	Lecture 1hr Practicals 2hrs
CREDIT UNIT:	-	3
CODE NO:	-	PHG 113
GOAL:	-	The course is designed to acquaint the students with the elements of design

GENERAL OBJECTIVES:

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

1. Understand the meaning of design
2. Know the elements of design
3. Know how to utilize the elements of design
4. Understand perspective and distinguish different perspectives
5. Understand colour

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: BASIC DESIGN I			COURSE CODE: PHG 113		CONTACT HOURS: 3	
GOAL: The course is designed to acquaint the students with the elements of design						
COURSE SPECIFICATION: THEORETICAL CONTENT				PRACTICAL CONTENT		
General Objectives:1.0: Understand Desi						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
	1.1 Explain the meaning of Design	Define Design Explain with pictures of finished works	Picture Textbooks Whiteboards Markers Cleaners Projector			
General Objective 2.0: Know the Elements of Design						
	2.1 Explain elements of Design	Discuss the elements of design	Pictures, textbooks, white board, markers, cleaners, projector	Illustrate the Elements of Design	Demonstrate the use of elements of design	Marker Cleaner Painting Textile designs Architectural drawing etc.
	2.2 Define the following: * Line * Form * Value * Light * Colour * Shape * Texture Pattern * Space * Time * Motion		Whiteboards Markers Cleaners Projectors Textbooks			
	2.3 Explain line and its	Discuss the		Draw lines,	Ask student to	Paper,

	<p>attributes:</p> <ul style="list-style-type: none"> - Contour and outline - Direction - Movement etc 	<p>attributes of contours and outline direction etc.</p>		<p>contours, direction, movement</p>	<p>make free hand sketches of lines, contours</p>	<p>pencils, eraser, drawing boards, clippers</p>
2.4	<p>Explain shape</p>	<p>Discuss various shapes and their formation.</p>	<p>Paper, Eraser, Pencil, Projectors</p>	<p>Demonstrate the use of various shapes with diagrams</p>	<p>Ask the student to make compositions with shapes</p>	
2.5	<p>Explain form</p>	<p>Explain form as in cubes, sphere, pyramids, cylinders etc. Relate form with shapes: cubes, sphere, pyramid, cylinders</p>	<p>Paper, Eraser, Pencil, Projectors</p>	<p>Draw cubes, spheres, cylinders</p>	<p>Ask the students to draw cubes, sphere, cylinders etc.</p>	<p>Paper, pencils, eraser, drawing boards, clippers</p>
2.6	<p>Explain value in design, tonal gradation light, shade and shadows</p>	<p>Discuss various forms in design and tonal gradation</p>	<p>Pictures, textbooks, projectors</p>	<p>Demonstrate values and tones with drawing</p>	<p>Ask the students to draw still life objects showing light, values, shadows and tones</p>	<p>Paper, pencils, eraser, drawing boards, clippers, Ink, etc.</p>
2.7	<p>Explain techniques of shading hatching, cross hatching, blurring</p>	<p>Discuss techniques of shading, hatching, cross hatching, blurring etc.</p>	<p>Paper, Eraser, Pencil, Projectors</p>			
2.8	<p>Explain different forms of texture</p>	<p>Discuss different forms of texture</p>	<p>Textured materials; fabric mirrors, tree barks etc</p>	<p>Draw different textures and patterns</p>	<p>Ask the student to draw/paint patterns and texture on shapes and forms.</p>	<p>Paper, pencils, erasers, drawing boards, clippers, Ink,</p>

	2.9 Explain pattern	Discuss different forms of pattern	Pictures, projector			paints etc.
	General Objectives: 3.0 Know how to utilize the elements of design					
	3.1 Explain how the elements of design are used in picture composition	Discuss how the elements of design are used in picture composition	Camera, paper, pencil etc.	Make a freehand drawing of objects using elements of design Combine elements of design to form a design	Guide student in making freehand drawing of objects	Drawing paper, colour, drawing boards, pastels, etc.
	General Objectives: 4.0 Understand Perspective and distinguish different types of perspectives					
	4.1 Define perspective 4.2 Explain different types of perspectives - Linear perspective - Foreshortening - Atmospheric perspective - Isometric perspective - Vanishing point	Explain vanishing point, horizon Discuss types of perspectives	Textbooks Maker board Projector	Illustrate perspective.	Ask student to illustrate perspective	Paper, pencils, erasers, drawing boards, Ink, paint etc.
	General Objectives: 5.0 Understand colour					
	5.1 Define colour	Discuss colour.	Pictures Projector Whiteboard Colour brushes	Construct the colour wheel	Ask the student to construct the colour wheel.	Paper Pencil Colour Brushes

<p>5.2 Differentiate between colour as light and colour as pigment</p>	<p>Discuss the following terms:</p> <ul style="list-style-type: none"> - RGB - CYMK 	<p>Projector Photographs</p>	<p>Design a colour charts showing the classification of colour</p>	<p>Ask the student to design a colour chart</p>	<p>Colour Paper Brushes Palettes</p>
<p>5.3 Explain the properties of colour: Hue Colour value Intensity (Chroma/saturation)</p>	<p>Discuss the properties of colour: Hue, value, intensity (Chroma, Saturation)</p>				
<p>5.4 Explain primary Colours</p>	<p>Classify colour into Primary, Secondary colour, Tertiary colours</p>	<p>Colour wheel Chart Projector Whiteboard Makers Pigment Brushes</p>			
<p>5.5 Explain secondary Colours</p>					
<p>5.6 Explain tertiary Colours</p>					
<p>5.7 Explain colour harmony.</p> <ul style="list-style-type: none"> - Monochrome - Polychrome - Analogous 	<p>Complementary colour, Split complementary, Double split complementary colours, colour harmony etc.</p>				
<p>5.8 Explain colour Scheme</p>	<p>Discuss different colour schemes</p>				

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	First
COURSE TITLE:	-	INTRODUCTION TO PHOTOGRAPHIC PHYSICS
DURATION	-	Lecture 1 hr Practical 1hr
CREDIT UNIT:	-	2
CODE NO:	-	PHG
GOAL:	-	This course is designed to provide the student with adequate knowledge of light, image formation and their relevance in photography.

GENERAL OBJECTIVES:

On completion of this course, the student will be able to:

- 1.0 Understand the basic principle of optics
- 2.0 Understand the interaction of light with matter
- 3.0 Understand light waves
- 4.0 Know the basic Principle of image formation

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: INTRODUCTION TO PHOTOGRAPHIC PHYSICS			COURSE CODE: PHG		CONTACT HOURS: 3	
GOAL: This course is designed to provide students with adequate knowledge of light, image formation and their relevance in photography						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objective: 1.0 Understand the basic principle of optics						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Define Optics 1.2 Explain the branches of optics such as: physical optics, Geometrical optics, Quantum optics etc.	Explain Optics Discuss the branches of optics	Chalk Board, Marker Chalk, Books, Journals			
General Objective: 2.0 Understand the interaction of light with matter.						
	2.3 Define Light 2.4 Explain reflection of light by: Plain mirror, Matt Surface. 2.5 State the laws of reflection. 2.6 Explain parallax. 2.7 Explain absorption and	Define Light Explain the various terms. Demonstrate reflection of light on the surface.	Chalk Board/ Torch light Mirrors			

	<p>transmission of light.</p> <p>2.8 Define refraction of light</p> <p>2.9 Explain the effects of refraction such as deviation, dispersion, displacement etc.</p> <p>2.10 Define index of refraction.</p> <p>2.11 Explain Critical angle.</p> <p>2.12 Relate refraction index to Critical angle.</p> <p>2.13 Draw a diagram showing refraction of light by a glass prism.</p> <p>2.14 Explain the dispersion of light by a glass prism.</p> <p>2.15 Distinguish between deviation and dispersion.</p>					
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General Objectives: 3.0 Understand Light Waves						
3.1 Identify waves such as sound waves, light waves etc	Explain terms in 3.1	Chalk Board/Marker Board. Marker Cleaner/Duster. Book Journals				
3.2 Define Electromagnetic Spectrum	Illustrate the electromagnetic Chart.	Marker Board				
3.3 Explain Light Waves	Display chart for electromagnetic spectrum.					
3.4 Define terms such as wavelengths, frequency, Amplitude etc.						
3.5 State the functions and Relationship of wave lengths in Electromagnetic spectrum.						
3.6 Explain the Visible spectrum.	Discuss the visible spectrum.					
3.7 Explain a diagram showing the visible spectrum.						

General Objectives: 4.0 Know The Basic Principle of Image Formation					
	1.1 Define Image	Explain Image	Chalk Board Marker Board.		
	1.2 Explain formation of Image with the pin hole.	Discuss image formation.	Cardboard paper, Candle Books/ Journals.		
	1.3 State the Characteristics of a pin hole image.				

Assessment: Course work 40%

Examination 60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	First
COURSE TITLE:	-	INTRODUCTION TO PHOTOGRAPHIC CHEMISTRY
DURATION	-	Lecture: 1 hr
UNIT:	-	1
CODE NO:	-	PHG 115
GOAL:	-	This course is designed to acquaint the student with the effects of chemical reactions on photographic materials.

GENERAL OBJECTIVES:

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

- 1.0 Understand basic Photographic chemistry
- 2.0 Know basic organic compounds
- 3.0 Understand Redox reactions
- 4.0 Comprehend simple chemistry of glass

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: INTRODUCTION TO PHOTOGRAPHIC CHEMISTRY				COURSE CODE:	CONTACT HOURS: 1	
GOAL: This course is designed to acquaint the students with the effect of chemical reactions on photographic materials.						
COURSE SPECIFICATION:			THEORETICAL CONTENT	PRACTICAL CONTENT		
General Objectives: 1.0 Understand photographic chemistry.						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Define Chemistry 1.2 Explain Photographic Chemistry. 1.3 Identify chemical Symbols relating to photography 1.4 Explain metals and non metals 1.5 Explain reaction of metals and non metals.	Explain the field of chemistry. Discuss photographic chemistry. Discuss chemical reactions on metals and non metals.	Chalk Board, Marker Board Books, Journals Chemical chart			

General Objectives: 2.0 Know basic Organic Compound					
2.1 Define Organic compounds	Define term	Chalk Board Marker			
2.2 Name with a few examples the two major classes of organic compounds i.e. Aliphatic and Aromatic compounds	Explain the following: Organic compounds. Aliphatic and Aromatic compounds.	Board Duster Marker Cleaner Books, Journals.			
2.3 Name the functional groups and classes of organic compounds	Explain the functional groups of organic compounds.				
2.4 Identify the elements in each class of organic compounds	Discuss halogens.				
3.0 General Objectives: Understand Redox reactions					
3.1 Define chemical reaction	Explain chemical reactions.	Magnetic Board Marker			
3.2 Explain redox reactions in terms of electron gain or loss i.e. (electron transfer).	Discuss redox reaction	Books Journals			
3.3 Explain oxidation in terms of oxygen, hydrogen, electrons and changes in oxidation numbers.	Discuss oxidation and reduction processes.				
3.4 Explain reduction in terms of Oxygen, hydrogen,					

	<p>electron and changes in reduction numbers.</p> <p>3.5 Explain oxidizing agent and reducing agent.</p> <p>3.6 Explain corrosion as a process involving oxidation.</p> <p>3.7 List the main agent necessary for corrosion (e.g. water, oxygen, acid-alkalis).</p> <p>3.8 Explain methods to protect metals against corrosion</p>	<p>Discuss corrosion and corrosion agent.</p>				
4.0 General Objectives: Comprehend Simple Chemistry Of Glass						
	<p>4.1 Explain glass composition</p> <p>4.2 Explain the characteristics of glass</p> <p>4.3 Mention the uses of glass in photography</p>	<p>Discuss the composition, characteristics and uses of glass.</p>	<p>Chalk Board Marker Board.</p> <p>Books Journals.</p>			

Assessment: Continuous Assessment:

40%

Examination

:

60%

ND I

SECOND SEMESTER

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Second
COURSE TITLE:	-	INTRODUCTION TO DIGITAL PHOTOGRAPHY
DURATION	-	Lecture: 1 hr Practical: 1 hr
CREDIT UNIT:	-	2
CODE NO:	-	PHG 123
GOAL:	-	This course is designed to acquaint the student with the basic principles of digital photography.

GENERAL OBJECTIVES:

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

- 5 Understand the basic principles of digital photography
- 6 Know the elements of digital photography
- 7 Understand the concepts and characteristics of digital image
- 8 Know the basic digital photography workflow
- 9 Understand the concept of image processing and manipulation in digital photography

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: INTRODUCTION TO DIGITAL PHOTOGRAPHY			COURSE CODE: PHG 123		CONTACT HOURS: 3	
GOAL: This course is designed to acquaint the students with the basic principles of digital photography.						
COURSE SPECIFICATION: THEORETICAL CONTENT				PRACTICAL CONTENT		
General Objective: 1.0 Understand the basic principle of digital photography						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Define digital photography 1.2 Compare and contrast digital and analogue photography 1.3 Explain how images are capture in digital photography	Explain digital photography. Discuss differences and similarities between digital and analogue photography Describe how digital photographic images are created.	Chalk Board, Marker Board Books, Journals Chemical chart			
General Objective: 2.0 Know the elements of digital photography						
	2.1 Discuss the following terms - Digital image - Digital sensors (CCD, CMOS) and pixels	Define the terms in 2.1	Whiteboard Markers Books Journals			
General Objectives: 3.0 Understanding the concepts and Characteristics of Digital image						

	<p>3.1 Define digital image</p> <p>3.2 List the following features of a digital image a. Resolution b. Colour depth c. File formats d. File size</p> <p>3.3 Explain each features listed in the 3.2 above</p> <p>3.4 Discuss the differences in each items listed in 3.4 for monitor and web display, and printer output.</p>	<p>Explain the term on 3.1</p> <p>Discuss various terms listed in 3.2</p> <p>Explain differences of each listed features when digital image is created for the monitor, web, printing and storage.</p>	<p>Whiteboard Marker Books Journals</p>			
General Objectives: 4.0 Know the basic digital photography workflow.						
	<p>4.1 Explain the meaning of digital photography Workflow</p> <p>4.2 Identify the following stages of digital photography workflow</p> <ul style="list-style-type: none"> • Capturing • Transfer • Image processing • Outputting/Distribution/storing/sharing <p>4.3 Explain each stage listed</p>	<p>Discuss each step listed in 4.1</p> <p>Give assignment on each stage of the workflow</p>	<p>Digital Cameras Scanners Computers (with appropriate image editors) Printers Internet facility DVD/memo ry card etc.</p>	<p>Identify the various hardware and software used in each stage of the workflow</p> <p>Practicalise each stage of the workflow</p>	<p>Illustrate the workflow as listed</p> <p>Display the various hardware and software required in each stage</p> <p>Demonstrate the correct</p>	<p>Digital Cameras Scanners Computers (with appropriate photo editing software e.g photoscape, photoshop etc) Printers Internet</p>

	in 4.2				application of various hardware and software used in each of the workflow.	facility DVD/memory cards etc.
General Objectives: 5.0 Understanding the concept of image processing and manipulation in digital photography						
	5.1 Explain what is meant by digital darkroom	Define the term digital darkroom	Digital darkroom			
	5.2 Describe the setup and workspace of a typical digital darkroom	Discuss a typical layout of a digital darkroom	Scanner			
	5.3 Explain digital darkroom operations and activities	Discuss various operations and activities common in a digital darkroom.	Computers (with appropriate image editors)			
	5.4 Describe hardware specifications suitable for digital darkroom operations.	List and relate the following items to digital darkroom operations: Computer platforms (Macs and Windows OS)	Printers			
	5.5 Identify software for digital darkroom operations	Speed Memory, performance for digital image processing system	Internet facility			
	5.6 Explain in term digital Image/post processing.	Monitor resolution for a digital darkroom system	DVD/memory cards etc.			

		Image editing software.				
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Assessment: Course work 40%

Examination 60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Second
COURSE TITLE:	-	Basic Design II
CREDIT UNIT:	-	2
CONTACT HOURS	-	Theory: 2 Practical: 3
CODE NO:	-	PHG 122
GOAL:	-	This course is designed to acquaint the student with the principle of design.

GENERAL OBJECTIVES:

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

1. Understand the principles of design in two dimensional form
2. Understand Three Dimensional design
3. Know Design and Technology

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: Basic Design II				COURSE CODE: PHG	CONTACT HOURS: 2 – 0 – 3	
GOAL: The course is designed to acquaint the students with the principle of design						
COURSE SPECIFICATION: THEORETICAL CONTENT				PRACTICAL CONTENT		
General Objectives:1.0: Understand the principle of design in two dimensional design						
Week	Specific Learning Outcomes	Teacher’s Activities	Resources	Specific Learning Outcomes	Teacher’s activities	Resources
	1.1 Explain design and technology 1.3 Explain how technology affects the visual image 1.4 Explain the principle of design in two dimensional form 1.5 Differentiate between the principles of design and the elements of design 1.6 Explain the term “Balance” in design.	Discuss design as it relates to technology Discuss how technology affects the visual image	Whiteboard, books, journals, projector, graphic tablet Picture/drawings, pins, board, textbooks, journals, whiteboard, markers, projector, printer. Pictures, geometrical forms, while board	Study the patterns and colour in nature. Use drawing to examine objects closely show differences among colours, shapes, textures and other qualities of objects in their artwork.	Guide students to	Pictures, paper,

	<p>1.7 Explain Unity.</p> <p>1.8 Explain Movement and Rhythm</p> <p>1.9 Explain Emphasis in design</p> <p>1.10 Explain Space</p>	<p>Discuss balances in planes forms, balance in landscape.</p> <p>Discuss three types of balance:</p> <ul style="list-style-type: none"> - Symmetrical - Asymmetrical - Radial balance <p>Discuss unity in terms of design, materials, silhouette, colour.</p> <p>Discuss Movement</p> <p>Discuss emphasis in focal point, point of interruption, repetition, contrasting the primary element with its subordinates, sudden change in direction, size, shape etc.</p> <p>Discuss Space</p> <ul style="list-style-type: none"> - Positive Space - Negative Space <p>Foreground, middle ground, background</p> <p>Two dimensional</p>	<p>and chalk, books, journals, projector</p> <p>“</p> <p>“</p>	<p>Create three dimensional forms with paper.</p> <p>Show balance using diagrams from books, photo books, picture etc.</p> <p>Demonstrate Movement with the use of images, paintings etc.</p> <p>Describe emphasis using a composition of objects</p> <p>Show Emphasis using zoomed images</p>	<p>show differences of elements with drawings, painting.</p> <p>Guide students to create two dimensional works flower design etc.</p> <p>Guide student to identify balance in plane forms, landscape etc.</p> <p>Guide students to create design representing movement</p> <p>Guide students to demonstrate emphasis using zoomed images, etc.</p>	<p>pencil, and eraser, colour, textured materials, gum, clay etc.</p> <p>Photographs , camera, painting etc.</p>
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		<p>Space Three dimensional Space Overlapping objects Changing size and placement of related objects Linear perspective Relative hue and value Atmospheric perspective</p> <p>Discuss scale and proportion.</p> <p>Discuss proportion in human form</p> <p>Discuss Contrast. Understand Contrast with size, contrast with value, contrast with colour, contrast with type, using obvious contrasting elements.</p> <p>Discuss composition of elements and principle of design.</p>	“	<p>Show contrast with a creative work or photograph</p> <p>Make a composition using the elements and principles of design</p>	<p>Guide students to show contrast with a creative work or photograph Student create designs with elements and principles of design</p>	<p>Pictures, artworks</p> <p>Camera, Pictures, paintings.</p> <p>Paper, Ink, brushes, colour etc.</p> <p>Pictures, paper, colour, pencils, etc.</p>
<p>General Objective 2.0: Understand Three Dimensional design</p>						

	<p>2.1 Define Three dimensional design</p> <p>2.2 State the differences between two dimensional and three dimensional design</p> <p>2.3 Explain the elements and principles of 3D</p> <p>2.4 Explain methods of construction in three dimensional design</p>	<p>Discuss three dimensional design</p> <p>Discuss the differences between two dimensional and three dimensional design</p> <p>Discuss the elements and principles of 3D design – (Planer forms) volume mass space texture, light colour, time. The organizing principles: Containment Proximity, continuity closure, repetition variation, Rhythm balance, scale proportion, emphasis economy, unity with variety.</p> <p>Discuss methods of construction in 3D Additive (modeling, casting, assemblage, armature, gluing) Subtractive (Carving, cutting) Modular.</p>	<p>Clay, sculptures, projector, marker, white board etc</p> <p>“</p> <p>“</p> <p>Clay, wood, gauze wire, metal etc, makers, whiteboard.</p>	<p>Create a sculpture with clay, plaster of Paris, etc.</p> <p>Demonstrate the processes of making a three dimensional design i.e sculpture, ceramic ware etc.</p>	<p>Create an artwork in 3D using clay,</p> <p>Students to undertake project to make a 3D work.</p>	<p>Clay, plaster of Paris, etc.</p> <p>“</p>
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General Objectives: 3.0 Understand Design and Technology						
	3.1 Discuss technological devices for design: - Computer - Camera - Printers - Etc	Explain the use of technological devices		Demonstrate how to design a prototype of a camera	Guide students to design prototype of a camera	Paper, adhesives, cutters etc.

Assessment: Course work - 40% Exams - 60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Second
COURSE TITLE:	-	FILM CHARACTERISTICS
DURATION	-	Lecture 1 hr Practical: 1 hr
UNIT:	-	2
CODE NO:	-	PHG 123
GOAL:	-	This course is designed to provide the student with adequate knowledge of the characteristics of photographic films.

GENERAL OBJECTIVES:

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

- 1.0 Know the history of films;
- 2.0 Know the characteristics of films in terms of suitability of purpose;
- 3.0 Understand film speed for production of good quality prints;
- 4.0 Know the effect of films on lenses and filters;
- 5.0 Know different types of special films.

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: FILM CHARACTERISTICS			COURSE CODE: PHG 123		CONTACT HOURS: 1	
GOAL: This course is designed to provide the student with adequate knowledge of the characteristics of photographic films.						
COURSE SPECIFICATION: THEORETICAL CONTENT				PRACTICAL CONTENT		
General Objectives: 1.0 Know the history of films						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Explain the Daguerreotype. 1.2 Explain Calotype. 1.3 Explain photographic emulsions. 1.4 Explain the development of the first roll of film. 1.5 Explain the contribution of George Eastman to photography. 1.6 Explain the development of films from Kodak to X-ray.	Discuss the terms in 1.1 – 1.3. Discuss the development of films in 1.4 – 1.6.	Books, Journals, Internet. Different types of films: Black and white, coloured, slides, x-ray, reversal films etc.			
General Objectives: 2.0 know the characteristics of films in terms of suitability of purpose.						
	2.1 Explain the main light sensitive chemical in photographic films.					

	2.2 Identify graininess in films.					
	2.3 State the advantages and disadvantages of grainy films.					
3.0 General Objectives: Understand film speed for production of good quality prints.						
	3.1 Define film speed.	Discuss film speed.				
	3.2 State the ASA, DIN and ISO ratings and how it affects production of good quality prints.	Explain ASA, DIN and ISO ratings.				
	3.3 Identify film types that do not respond to push-pull process.	Explain push-pull process.				
	3.4 State the different types sizes of film format and their advantages.					
	3.5 State the functions and uses of slow film speed in photography.					
	3.6 Differentiate between films suitable for different light situations.					
General Objectives: 4.0 know the effect of films on lenses and filters.						
	4.1 Explain the main light sensitive chemical in photographic films.					

	4.2 Identify graininess in films.					
	4.3 State the advantages and disadvantages of grainy films.					

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Second
COURSE TITLE:	-	PHOTOSHOP I
DURATION	-	Lecture: 1 Hr Practical 1Hr
UNIT:	-	2
CODE NO:	-	PHG 124
GOAL:	-	The course is designed to introduce the student to Photoshop

GENERAL OBJECTIVES:

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

1. Understand the uses of the Photoshop as an image editing software
2. Understand basic keyboard shortcuts in Photoshop

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: PHOTOSHOP II			COURSE CODE: PHG 124		CONTACT HOURS: 2	
GOAL: The course is designed to introduce the student to Photoshop						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0 Understand the use of Photoshop as an image editing software						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Explain photoshop as an image editing software	Discuss the development of Photoshop	Textbooks, Journals, Computer system,			Computer system, Internet, Projector, Printer, Scanner, Memory card reader, DVD, Flash drive
	1.2 Explain the use of Photoshop in digital images	Discuss the uses of Photoshop in image manipulation	Internet, Projector, Printer, Scanner, Memory card reader, DVD, Flash drive			
	1.3 Open the Photoshop software	Discuss various ways of importing images to Photoshop		Demonstrate how to open Photoshop.	Demonstrate how to open the Photoshop workspace	
	1.4 Explain the Menu bar, File, Edit, Image etc.	Explain the various ways of opening Photoshop		Import images into Photoshop is opened	Demonstrate how to import images into the Photoshop workspace.	
	1.5 Explain the process of importing images from a device into Photoshop					
	1.6 Explain Photoshop workspace	Discuss Photoshop workspace.				
General Objectives: 2.0 Understand basic keyboard shortcuts						

	<p>2.1 Explain shortcuts keys</p> <p>2.2 Define history Palette:</p> <p>2.3 List basic shortcuts keys like</p> <ul style="list-style-type: none"> - Open - Undo - Save - Closing a single images - etc 	<p>Discuss shortcut keys</p> <p>Describe the use of history palette</p> <p>Explain the shortcut keys</p>	<p>Textbooks, Journals, Internet Computer system, Internet, Projector, Printer, Scanner, Memory card reader, DVD, Flash drive</p>	<p>Apply the palettes to manipulate images</p>	<p>Demonstrate the use of palette to manipulate images.</p>	<p>Computer system, Internet, Projector, Printer, Scanner, Memory card reader, DVD, Flash drive</p>
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Assessment: Course work 40%,

Examination 60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Second
COURSE TITLE:	-	EXPOSURE IN PHOTOGRAPHY
DURATION	-	Lecture: 1 Hr Practical 2Hrs
UNIT:	-	3
CODE NO:	-	PHG 125
GOAL:	-	This course is designed to provide the student with the knowledge and skills required in the application of exposure to photography.

GENERAL OBJECTIVES:

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

1. Understand exposure
2. Know camera controls
3. Understand exposure factors
4. Know aperture settings
5. Know shutter speed settings
6. Know the combinations of aperture and shutter speed settings
7. Know exposure techniques

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: EXPOSURE IN PHOTOGRAPHY			COURSE CODE: 125		CONTACT HOURS: 3	
GOAL: The course is designed to provide the student with the knowledge and skills required in application of exposure.						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objective: 1.0 Understand exposure						
Week	Specific Learning Outcomes	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Define exposure. 1.2 Explain how exposure affects image appearance 1.3 Explain the terms: <ul style="list-style-type: none"> • correct exposure, • under exposure and • over exposure 	Discuss exposure in photography Discuss how exposure affects image appearance Discuss the terms in 1.3	Whiteboard marker	Identify correctly exposed photographs, under exposed photographs and over exposed photographs	Show samples of correctly exposed photographs, under exposed photographs and over exposed photographs	Photographs under exposed and over exposed photographs
General Objectives: 2.0 Know camera controls						
	2.1 List camera controls (e.g aperture, shutter speeds) 2.2. Explain each camera control listed in 2.1 2.3 Explain how each of the controls in 2.1 above affects exposure	Discuss how the controls determine exposure	Books Cameras Calculator	Identify different shutter speeds and aperture settings	Show different shutter speeds and aperture settings	Cameras Calculator
General Objectives: 3.0 Understand exposure factors						

	<p>3.1 List out the factors that affect exposure:</p> <ul style="list-style-type: none"> • Lighting • Subject properties • Speed rating • Unusual imaging conditions (such as light absorption due to lens filters and attachments e.t.c.) <p>3.2 Explain the role of each of the factors listed in 2.0 in exposure measurement</p>	<p>Discuss factors affecting exposure measurement</p>	<p>Camera Lenses Filters Whiteboard Marker Books Journals</p>			
<p>4.0 General Objectives: Know aperture settings</p>						

	<p>4.1 Explain aperture settings</p> <p>4.2 Explain the relationship between aperture settings and exposure</p> <p>4.3 Explain how different aperture settings affect depth of field</p>	<p>Discuss aperture settings</p>	<p>Camera Detachable lens (analogue)</p>	<p>Demonstrate how to set different aperture settings</p>	<p>Guide students on how to set aperture</p>	<p>Camera Detachable lens (analogue) Projector</p>
<p>6.0 General Objectives: Know shutter speed settings</p>						
	<p>5.1 Explain shutter speed</p> <p>5.2 Explain the relationship between shutter speed and exposure</p> <p>5.3 Discuss how shutter speeds affect motion</p>	<p>Discuss shutter speed.</p>	<p>Camera Detachable lens (analogue)</p>	<p>Carry out exercises using different shutter speed settings</p>	<p>Demonstrate how to use different shutter speed settings</p>	<p>Camera Detachable lens (analogue)</p>
<p>General Objective: 6.0 Know the combinations of aperture and shutter speed settings on exposure</p>						
	<p>6.1 Explain the relationship between aperture settings, shutter speeds and exposure</p> <p>6.2 Explain how different</p>	<p>Discuss how aperture, shutter speeds affect exposure.</p> <p>Explain the effect of</p>	<p>White board Marker Cameras</p>			

	combination of aperture and shutter speeds affect depth of field, sharpness, motion etc.	different aperture and shutter speeds on exposure		Demonstrate how to combine different shutter speeds and aperture	Guide students on the exercise.	
General Objective: 7.0 Know the ways of achieving correct exposure and techniques of exposure measurement						
	7.1 List various techniques for getting correct exposure:	Discuss various exposure techniques Explain exposure measurement		Carry out the various techniques listed in 7.1	Demonstrate the various techniques listed in 7.1	
	7.2 Define exposure measurement	Discuss types of camera in-built meters such as:	Cameras with in-built meters Handheld meters			
	7.3 Explain how in-built camera meter works	<ul style="list-style-type: none"> • Averaging meter • Center-weighted meter 				
	7.4 Identify types of camera in-built camera meters	<ul style="list-style-type: none"> • Spot meter • Multi-segment meter 				
		Explain Exposure value (EV) compensation scale in cameras				
		Discuss types of hand-held meters such as:				
		<ul style="list-style-type: none"> • Reflected-light meter • Incident- light 				
				Take readings with handheld meters	Guide students to	

	<p>7.5 Identify types of hand-held meters</p> <p>7.6 Explain how hand-held exposure meter works</p> <p>7.7 Explain the use of hand-held meter</p> <p>7.8 List the ways of “taking readings” with hand-held meters:</p> <ul style="list-style-type: none"> • General reading • Brightness-range reading • Grey-card reading • Incident-light reading <p>7.9 Explain the use of handheld meter with fill-in flash</p>	<p>meter</p> <ul style="list-style-type: none"> • Spot meter <p>Explain how to convert the light measurement (readings) into an exposure setting</p>		<p>Use handheld meters with fill-in flash</p>	<p>take readings with handheld meters</p> <p>Guide students on the use of handheld meters with fill-in flash</p>	
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Assessment: Course work 40%,

Examination 60%

PROGRAMME: - **National Diploma in Photography**

SEMESTER: - **Second**

COURSE TITLE: - **CAMERA HANDLING AND COMPOSITION**

COURSE CODE: - **PHG 126**

DURATION: - **2HRS** Lecture 1hr Practical 1hr

CREDIT UNITS: - **3**

GOAL: This course is designed to provide the student with the knowledge and skill required in camera handling and photographic composition.

GENERAL OBJECTIVES:

On completion of this course the student should be able to:

1. Understand the concept of composition in a photograph
2. Know the use of various compositional elements in a photograph
3. Understand the application of framing
4. Understand the concept of depth of field
5. Understand view point and camera angle
6. Understand the application of the rule of third
7. Understand the techniques of camera handling
8. Understand camera supports.

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: Camera Handling and Composition in Photography			COURSE CODE: PHG 126	CONTACT HOURS: 3		
GOAL: The course is designed to provide the student with the knowledge and skills required in camera handling and photographic composition						
COURSE SPECIFICATION:		THEORETICAL CONTENT		PRACTICAL CONTENT		
General Objectives: 1.0: Understand the concept of composition in photography						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
	1.1 Explain the meaning of composition 1.2 Identify the elements of composition 1.3 Discuss the concept of composition in photography	Explain the concept of composition in photography	Photographs Marker board, Cleaner, Marker etc. Books Journals			
General Objectives: 2.0 Know the use of various compositional elements in a photograph						
	2.1 Discuss arrangement of elements such as line, shape, space, tone, emphasis etc. in a photograph	Discuss the use of various elements of composition in a photograph Describe how these elements enhance the visual features, content, meaning	Photographs Marker board, Cleaner, Marker etc. Books Journals			

		and aesthetic quality of a photograph				
General Objectives: 3.0 Understand the application of framing						
3.1 Explain framing	Discuss framing	Sample Photographs Camera Projector	Compose pictures with correct framing and compositional techniques	Demonstrate how to compose pictures with correct framing	Sample Photographs ; Camera, paper, projector	
3.2 State framing errors	Discuss framing errors Describe ways to avoid framing errors					
3.3 Explain the meaning of the terms (head room, nose room, looking room, etc.)	Discuss the terms in 3.3					
3.4 List ways to achieve the right head room in a photograph and looking room						
General Objectives: 4.0 Understand the concept of depth of field						
4.1 Explain the meaning of depth of field	Discuss foreground and background	Camera, Books, Journals.	Compose pictures with the right depth of field	Guide students to compose pictures with right depth of field	Camera, Books, Journals.	
General Objectives: 5.0 Understand Viewpoint and camera angle						
5.1 Explain viewpoint and camera angle	Discuss viewpoint and camera angles.	Camera Books	Describe pictures with compose low and high camera angle	Demonstrate high and low camera angle	Camera, Books	
5.2 Explain High and Low						

	viewpoint Camera Angles					
General Objectives: 6.0 Understand the application of the rule of third						
6.1	Explain the rule of third	Discuss the rule of third		Compose pictures with correct rule of third	Demonstrate how to compose pictures using the rule of third.	
6.2	Explain how the rule-of-third enhances visual impact	Describe how the rule-of-third enhances visual impact of a photograph				
6.3	Explain the meaning of focal point					
6.4	Explain focal point enhances focus of attention					
General Objectives: 7.0 Understand the techniques of camera handling						
7.1	Explain camera handling	Discuss camera handling	Camera			
7.2	Enumerate the various techniques of holding a camera - Keeping the camera steady - Handholding the camera	State the various techniques of holding a camera				
General Objectives: 8.0 Understand Camera Supports						

	<p>8.1 Explain the need for camera supports</p> <p>8.2 Enumerate various camera supports:</p> <ul style="list-style-type: none"> - Tripods - Monopods - Clamps etc. 	<p>Discuss the need for camera support</p> <p>Describe various camera supports</p>	<p>Tripod</p> <p>Monopods</p> <p>Camera</p> <p>Clamps</p> <p>etc.</p>			
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Assessment: Theory 40 %; Practical 60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Second
COURSE TITLE:	-	PHOTOGRAPHIC PHYSICS
DURATION	-	Lecture 1 hr Practical 1hr
UNIT:	-	2
CODE NO:	-	PHG: 127 NDII 3 rd Semester
GOAL:	-	This course is designed to provide the student with knowledge of photographic physics

GENERAL OBJECTIVES:

On completion of this course, the student will be able to:

- 1.0 Understand the principle of image formation in the human eye
- 2.0 Understand refraction of light through lenses
- 3.0 Know the concept of heat as a form of energy
- 4.0 Understand the concept of latent heat
- 5.0 Understand the behavior of vapour

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: PHOTOGRAPHIC PHYSICS				COURSE CODE: PHG 127	CONTACT HOURS: 3	
GOAL: This course is designed to provide students with adequate knowledge of photographic Physics						
COURSE SPECIFICATION: THEORETICAL CONTENT				PRACTICAL CONTENT		
	General Objective: 1.0 Understand the basic principle of optics					
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.3 Describe the human eye 1.4 Explain the formation of images by the eye 1.5 Explain the defects that can affect the eyes 1.6 Explain how those defects can be corrected	Discuss the human eye Discuss formation of image by the eye lenses Discuss defects that can affect the eye Discuss how eye defects can be corrected	Marker Board, Cleaner, Books, Journal	Draw a labeled diagram of human eye	Guide the student to draw the human eye	Books, Journals, Paper, Pencil, Eraser
	General Objective: 2.0 Understand refraction of light through lenses.					
	2.1 Identify different types of lenses 2.2 Define linear magnification	Discuss simple lens, Compound lens, wide angle lens, Long focus lens, zoom lens etc, tele photo, fish eye lenses. Discuss linear magnification.	Marker Board, Cleaners, Books, Journals, Charts,lenses.			

	2.3 Derive a relation between focal length and radius of curvature of the lens surface	Guide the Student in 2.3.				
	2.4 Explain the effect of combining two thin lenses in contact	Discuss the effect of combining two thin lenses in contact.				
	2.5 State the relation for the combined focal length of two lenses in contact	Guide the Student in 2.5.				
	2.6 Explain the defects of lenses (e.g. chromatic and spherical aberration)	Explain defects of lenses.				
	2.7 Explain how those defects can be corrected					
	2.8 Explain image formation by a positive lens.	Discuss formation of image by a positive lens.				
General Objectives: 3.0 Know the Concept of heat as a form of energy						

	<p>3.1 Define Heat, heat capacity, specific heat capacity</p> <p>3.2 Determine the specific heat capacity of solid and liquid by method of mixture.</p> <p>3.3 State Newton law of cooling.</p> <p>3.4 Determine the specific heat capacity of a liquid by method of cooling.</p> <p>3.5 Explain cooling correction in calorimetric.</p>	<p>Example 3.1</p> <p>Guide the student in 3.2</p>	<p>Marker Board. Cleaner, Book Journals.</p>			
General Objectives: 4.0						
1.4			<p>Chalk Board Marker Board.</p>			
General Objectives: 5.0 Understand the behaviour of Vapour						
5.1	Define vapour	<p>Discuss vapour</p> <p>Discuss evaporation</p>	<p>Marker board, Cleaner Books, Journal</p>		<p>Guide students to carry out experiment to determine specific</p>	<p>Bunsen Burner Gas cylinder</p>

	5.2 Explain evaporation				latent heat of fusion	Glassware
	5.3 Distinguish between evaporation and boiling	Discuss difference between evaporation and boiling	“		Guide the student in 4.4	Books Journal Marker Board cleaner Thermometer.
	5.4 Relate evaporation to Cooling.	Discuss evaporation and vapour				
	5.5 Explain saturated and unsaturated vapour					
	5.6 Define saturated vapour Pressure					
	5.7 Solve simple numerical problems on vapour	Guide students to solve numerical problems on vapour				
	5.8 Define sublimation	Discuss sublimation				

Assessment: Course work 40%

Examination

60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Second
COURSE TITLE:	-	PHOTOGRAPHIC CHEMISTRY
DURATION	-	Lecture: 1 hr Practical 1hr
UNIT:	-	2
CODE NO:	-	PHG 128
GOAL:	-	This course is designed to introduce the student to photographic chemistry.

GENERAL OBJECTIVES:

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

- 2 Understand some preparative organic reactions
- 3 Understand Photographic chemistry
- 4 Know the photochemistry of light sensitive materials

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: PHOTOGRAPHIC CHEMISTRY			COURSE CODE: 128		CONTACT HOURS: 1	
GOAL: This course is designed to acquaint the students with the effect of chemical reactions on photographic materials.						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0 Understand photographic chemistry.						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	4.1 Define Chemistry 4.2 Explain Photographic Chemistry. 4.3 Identify chemical Symbols relating to photography. 4.4 Explain metals and non metals 4.5 Explain reaction of metals and non metals.	Discuss photographic chemistry. Discuss chemical reactions on metals and non metals.	Chalk Board, Marker Board Books, Journals Chemical chart			
General Objectives: 2.0 Know basic Organic Compound						
	2.16 Define Organic compounds 2.17 Name with a few examples the two major classes of	Define terms Explain the following: Organic compounds. Aliphatic and Aromatic	Chalk Board Marker Board Duster Marker			

	<p>organic compounds i.e. Aliphatic and Aromatic compounds</p> <p>2.18 Name the functional groups and classes of organic compounds</p> <p>2.19 Identify the elements in each class of organic compounds</p>	<p>compounds. Explain the functional groups of organic compounds. Discuss halogens.</p>	<p>Cleaner Books, Journals.</p>			
3.0 General Objectives: Understand Redox reactions						
	<p>3.1 Define chemical reaction</p> <p>3.2 Explain redox reactions in terms of electron gain or loss i.e. (electron transfer).</p> <p>3.3 Explain oxidation in terms of oxygen, hydrogen, electrons and changes in oxidation numbers.</p> <p>3.4 Explain reduction in terms of Oxygen, hydrogen, electron and changes in reduction numbers.</p> <p>3.5 Explain oxidizing agent and reducing agent.</p>	<p>Explain chemical reactions. Discuss redox reaction</p> <p>Discuss oxidation and reduction processes.</p> <p>Discuss corrosion and corrosion agent.</p>	<p>Magnetic Board Marker Books Journals</p>			

	<p>3.6 Explain corrosion as a process involving oxidation.</p> <p>3.7 List the main agent necessary for corrosion (e.g. water, oxygen, acid-alkalis).</p> <p>3.8 Explain methods to protect metals against corrosion</p>					
4.0 Comprehend Simple Chemistry Of Glass						
	<p>4.6 Explain glass composition</p> <p>4.7 Explain the characteristics of glass</p> <p>4.8 Mention the uses of glass in photography</p>	<p>Discuss the composition, characteristics and uses of glass.</p>	<p>Chalk Board Marker Board.</p> <p>Books/ Journals.</p>			

Assessment: Continuous Assessment: 40% Examination : 60%

ND II

THIRD SEMESTER

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Third
COURSE TITLE:	-	STUDIO LIGHTING
DURATION	-	Lecture 1 hr Practical 1hr
UNIT:	-	2
CODE NO:	-	PHG 211 ND
GOAL:	-	This course is designed to acquaint the student with the technical knowhow of photographic studio Practice and lighting.

GENERAL OBJECTIVES:

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

1. Use a hand held light meter
2. Begin to use some of the creative possibilities that allows light controls
3. Control the level of contrast desired by the use of lights, reflectors and light shapers
4. Use both “soft” and “hard” lighting
5. Analyse images, recognize how they are lit and begin to use the “style of lighting” in their own practice
6. Create “High and Low Key” portraits
7. Photograph still life objects lit by flash, tungsten and “cold” lighting.

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: STUDIO & LIGHTING				COURSE CODE: PHG 211		CONTACT HOURS: 2
GOAL: This course is designed to acquaint the student with the technical knowhow of photographic studio practice and lighting.						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0 Use a hand held light meter						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Define Hand Held Meters 1.2 Explain the importance of Hand Held Meters 1.3 Label different types of Hand Held Meters	Discuss Hand Held Meters Describe different types of Hand Held Meters	Books, Journals, Magazines and Hand Held Meters	Identify the various types of Hand Held Meters	Display the various Types of Hand Held Meters	Hand Held Meters
General Objectives: 2.0 Begin to use some of the creative possibilities that allows light controls						
	2.1 List the following as different light sources: (a) Daylight (b) Flash (c) Fluorescent (d) Led (e) Ice Light (f) Tungsten, etc. 2.2 Advantages and disadvantages of lighting. 2.3 Mixing studio flash with daylight to control	Discuss different light sources. Describe the advantages and disadvantages of lighting.	Books, Journals, Magazines, colour gels and studio lights	Categorise the various types of lights. (Cold and Warm lights)	Categorise the various types of lights. (Cold and Warm lights)	Tungsten, Fluorescent, Led, Ice Light, Flash lights.

<p>background exposure and image contrast.</p> <p>2.4 Mixing studio flash and continuous lighting to create movement and blur.</p> <p>2.5 Painting with lights in the studio.</p> <p>2.6 Controlling the colour of light and images by using coloured gels.</p>					
<p>General Objectives: 3.0 Control the level of contrast desired by the use of lights, reflectors and light shapers</p>					
<p>3.1 Discuss what is contrast in relation to flash photography</p> <p>3.2 Explain Reflectors and how they affect lighting in photography.</p> <p>3.3 Explain other light shapers in the studio: Snoots, Honey Combs, Door Barns, Beauty Dish etc.</p>	<p>Describe the reasons why light shapers and reflectors are needed in the studio for lighting.</p>	<p>Reflectors, Snoots, Honey Comb, Barn Doors, Beauty Dish, etc.</p>			<p>Reflectors, Snoots, Honey Comb, Barn Doors, Beauty Dish, etc.</p>
<p>General Objectives: 4.0 Use both “soft” and “hard” lighting</p>					
<p>4.1 Discuss what is Soft and Hard lighting</p> <p>4.2 Explain the effects of</p>	<p>Give assignment on hard and soft lighting</p>	<p>Cameras, Studio Lights, Tripods and</p>		<p>Demonstrate the positioning of lights in creating</p>	<p>Cameras, Studio Lights,</p>

	shadows in pictures		Soft Boxes		a very good image in the Studio	Tripods and Soft Boxes
General Objectives: 5.0 Analyse images, recognize how they are lit and begin to use the “style of lighting” in their own practice						
	5.1 Explain the need in research of great photographers in terms of lighting in the studio 5.2 Explain how to mix different sources of light together. E.g. daylight and flash	Discuss technics on how people recognize images by an artist from another	Cameras, Studio Lights and Tripods		Construct few methods of how to be consistent with own lighting signature in the studio	Cameras, Studio Lights and Tripods
General Objectives: 6.0 Create “High and Low Key” Portraits						
	6.1 Explain What is “High” and “Low” Key Portraits 6.2 Explain when to use either of the technics	Discuss the technics involve in the creation of “High” and “Low” Key Portraits Give assignment on the two technics.	Cameras, Studio Lights and Tripods		Show the two backdrops needed to be able to create a “High” or “Low” Key Portraits	Cameras, Studio Lights, Tripods and Backdrops
General Objectives: 7.0 Photograph still life objects lit by flash, tungsten and “cold” lighting						
	7.1 Explain the correlation between flash, tungsten and cold lighting on a still life 7.2 Explain still life	Discuss the correlation between flash, tungsten and cold lighting on still life	Cameras, Studio Lights, Tungsten Lights and Tripods		Demonstrate the mixture of the three lights source on Still life	Cameras, Studio Lights, Tungsten Lights, Tripods and Backdrops

Assessment: Course work 40%

Examination

60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER	-	Third
COURSE TITLE:	-	DARKROOM PROCEDURES
DURATION	-	Lecture: 1 hr Practical 2hrs
UNIT:	-	3
CODE NO:	-	PHG 212
GOAL:	-	This course is designed to acquaint the student with darkroom procedures.

GENERAL OBJECTIVES:

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

- 1.0 Know darkroom setting and equipment
- 2.0 Know photographic chemicals
- 3.0 Understand the procedures of using and handling darkroom equipment and chemicals

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: DARKROOM PROCEDURES			COURSE CODE: 212		CONTACT HOURS: 3	
GOAL: This course is designed to acquaint the students with the effect of chemical reactions on photographic materials.						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0 Understand photographic chemistry.						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Define darkroom 1.2 State the essential requirements for a darkroom. 1.3 Identify the equipment used in processing film. 1.4 Identify the equipment used in processing prints. 1.5 State the functions of each equipment in processing raw film and production of prints.	Discuss darkroom. Discuss the essential requirements for a darkroom. Discuss the equipment used in processing film. Discuss the equipment used in processing print.	Textbooks, roll films, developing tank, timer, film washer, graduated containers, film clips, dryer etc.	Identify the similarities and differences of darkroom equipment	Guide the student to identify darkroom equipment.	Darkroom, roll films, developing tank, timer, film washer, graduated containers, drying rack, thermometer, printing frame, developing trays, film clips, source of water etc.

General Objectives: 2.0 Know photographic chemicals						
2.1 Explain the use of the following chemicals used in processing roll film: (a) Developer; (b) Stop bath; (c) Fixer; (d) Water; (e) Wetting agent.	Discuss chemicals used in processing roll film.	Textbooks, journals, white board, marker and cleaner.				
2.2 Explain how to mix and store chemicals.	Discuss how to mix and store chemicals					
5.0 General Objectives: Understand the procedure of using and handling darkroom equipment and chemicals						
3.1 Explain the processes of developing a roll film.	Discuss the processes of developing black-and-white roll film.	Developing reel, developing tank, roll film, timer, film washer, photo sponge, graduated containers, thermometer, processing chemicals, enlarger, safelight, printing frame, trays, drying racks etc.	Develop a roll film.	Demonstrate how to develop roll film.	Developing reel, developing tank, roll film, timer, film washer, photo sponge, graduated containers, thermometer, processing chemicals, enlarger, safelight, printing frame, trays,	
3.2 State the functions of an enlarger	Discuss the functions of an enlarger.					
3.3 Explain the steps involved in processing prints	Discuss factors that affect production of good prints.					
3.4 Explain the factors that determine good prints	Discuss safety equipment.					
3.5 Explain the use of the following safety equipment: - Rubber gloves			Use the enlarger to produce prints.	Demonstrate the process of producing prints.		

	<ul style="list-style-type: none"> - Safety goggles - Printing tongs - Waterproof apron - Particle mask etc. 						drying racks etc.
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Assessment: Continuous Assessment: 40% Examination : 60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Third
COURSE TITLE:	-	PHOTOSHOP II
DURATION	-	Lecture: 1 Hr Practical 1Hr
UNIT:	-	2
CODE NO:	-	PHG 213
GOAL:	-	The course is designed to provide the student with skills on how to use Photoshop

GENERAL OBJECTIVES:

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

1. Understand the toolbox
2. Understand palettes
3. Understand the key concept of image, size,. Resolution, resizing, pixel
4. Understand Colour management

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: PHOTOSHOP II			COURSE CODE: 213		CONTACT HOURS: 3	
GOAL: This course is designed to provide students with the skills on how to use Photoshop						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0 Understand the toolbox						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Explain Toolbox. 1.2 Enumerate basic tools <ul style="list-style-type: none"> - Move - Zoom - Marquee - Lasso - Crop - Etc. 1.3 Explain the uses of various tools and how they can be applied to image, e.g polygona, magnetic, patch, red eyes etc	Discuss Toolbox Explain basic tools Discuss various tools and their application	Textbooks, Journal, Internet and computer	Apply the tools to manipulate images	View the toolbox on the screen Demonstrate the use of tools to manipulate images.	Computer system, projector, etc.
General Objectives: 2.0 Understand Palettes						
	2.1 Define Palettes 2.2 List the contents of Palette: <ul style="list-style-type: none"> - Info - History - Colour Swatches 	Discuss Palettes Enumerate the contents of Palette	Textbooks, Journals, Internet	Apply the palettes to manipulate images	Demonstrate the use of palette to manipulate images.	Computer system, projector etc.
General Objectives: 3.0 Understand the key concept of Image size, resolution, resizing, pixel						

	3.1 Explain Image size, resolution, pixel etc	Discuss image size, resolution, pixel, etc.	Textbooks, Journals, Internet	Demonstrate how pixels, resolution affects the image size.	Show how pixel resolution etc affects the image size.	Computer System, Projector, etc.
General Objectives: 4.0 Understand Colour Management						
	4.1 Explain the colour management, colour correction.	Discuss the attribute of colour management	Demonstrate different ways of colour management, selection and file format.	Guide student to demonstrate different ways of colour management, selection and file format.		
	4.2 Explain the colour mode Kab, CYMK, RGB	Discuss the colour mode				
	4.3 Explain the processes of adjusting colour tone with curves, level, exposure, hue/saturation	Discuss the process of colour tone adjustment				
	4.4 Explain the conversion of image sepia, black and white, monochrome, black and colour etc.					
	4.5 Explain how to read navigator, histogram, info, etc	Discuss how to read navigator histogram info etc.				
	4.6 Explain the various tools for selection, e.g Lasso Marquee, Magic Wand, etc.	Discuss various tools for selection.				
	4.7 Explain different type of file format, e.g JPEG, PSD, RAW etc	Discuss file format.				

Assessment: Course work 30%, Test 10%; Practical 20%; Examination 40%

ND II

FOURTH SEMESTER

PROGRAMME:	-	National Diploma in Photography
SEMESTER:	-	Fourth
COURSE TITLE:	-	PHOTOSHOP III
DURATION	-	Lecture: 1 Hr Practical 2Hr
UNIT:	-	3
CODE NO:	-	PHG 242
GOAL:	-	The course is designed to provide the student with indepth knowledge of Photoshop

GENERAL OBJECTIVES:

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

1. Understand layers
2. Understand Masks and channels
3. Understand correction and Enhancement of Digital images
4. Know Typographic Design

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: PHOTOSHOP III			COURSE CODE: PHG 242		CONTACT HOURS: 3	
GOAL: The course is designed to provide the student with an in-depth knowledge of Photoshop						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0 Understand Layers						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Explain how to use the layers palette	Discuss how to use the layers palette	Textbooks, Journals, Internet, Maker board, projector	Use the Layers Palette to enhance an image	Demonstrate the use of the layers palette to enhance an image	Computer system, Projector, etc.
	1.2 Explain layers style	Discuss rearrangement of layers		Illustrate the rearrangement of layers.	Demonstrate the rearrangement of layers while designing	
	1.3 Explain how to rearrange layers.	Discuss layer style		Apply style		
	1.4 Explain how to merge and flatten layers.	Discuss how to flatten layers		Carry out merging and flattening of layers.	Demonstrate proper procedure of merging and flattening.	
General Objectives: 2.0 Understand Masks and Channels						
	2.1 Explain Masks and channels	Discuss masks and channels	Textbooks, Journals, Internet, Maker board.	Use Masks and channels to enhance an image	Demonstrate the use of Masks and channels to enhance an image	Computer system, Videos and projector etc.
	2.2 Explain creating and	Discuss how to		Demonstrate	Guide the	

	editing a quick mask	create and edit a quick mask.		creating and editing a quick mask.	students to create and editing a quick mask.	
	2.4 Explain saving a selection as channel mask	Discuss saving a selection as channel mask		Demonstrate saving a selection as channel mask	Guide students to saving a selection as channel mask	
	2.5 Explain the application of filter effect to a mask selection	Discuss Hue to application of filter effect to a mask selection.		Apply filter effect to a Mask selection	Guide student to apply filter effect to a mask selection	
	2.6 Explain gradient mask	Discuss gradient mask.		Apply effects using gradient mask.		
General Objectives: 3.0 Understand Correction and Enhancement of Digital Images						
	3.1 Define Camera raw	Explain camera raw	Textbooks	Carryout the processing of a camera raw file	Demonstrate how to process a camera raw image file	Computer system, and projector etc.
	3.2 Explain the processing of camera raw file	Discuss the processing of camera raw file	Journals			
	3.3 Explain correction of digital images	Discuss correction of digital images	Videos	Guide student to correct digital images	Demonstrate how to correct digital images	
	3.4 Explain PDF	Discuss PDF	Internet Marker Board	Describe creation of PDF	Guide students to create PDF	
General Objectives: 4.0 Know Typographic Design						
	4.1 Define typographic design	Discuss typographic design	Textbooks Journals	Guide student to create a clipping		

	4.2 Explain clipping mask from type	Discuss clipping mask from type	Internet Marker Board	mask from type	Demonstrate the creation of clipping mask from type	
	4.3 Explain ways of creating a design elements from type	Discuss how to create a design element from type		Guide students to create design from type	Demonstrate how to create design from type	
	4.4 Explain Warping type	Discuss Warping type.		Illustrate how to warp type	Demonstrate how to warp a type.	

Assessment: Course work 40%, Examination 60%

PROGRAMME:	-	National Diploma in Photography
SEMESTER	-	Fourth
COURSE TITLE:	-	LAWS AND ETHICS RELATING TO PHOTOGRAPHY
DURATION	-	Lecture 1 hr Practical 0hr
UNIT:	-	1
CODE NO:	-	PHG 222 ND
GOAL:	-	This course is designed to acquaint the student with knowledge of law and ethics relating to the practice of photography

GENERAL OBJECTIVES:

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

1. Understand the importance of law in the society
2. Know the laws relating to some selected professional practice
3. Known some selected legal terms
4. Know the rights and limitations to take pictures
5. Understand the basic principles of copyright
6. Know the basic principles of Libel
7. Know basic elements and principles of ethical standards.

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHIC TECHNOLOGY						
COURSE: LAW AND ETHICS RELATING TO PHOTOGRAPHY				COURSE CODE: PHG 212	CONTACT HOURS: 3	
GOAL: This course is designed to provide the students with knowledge of laws and ethics relating to photographic practice and the creative industry in general						
COURSE SPECIFICATION:			THEORETICAL CONTENT	PRACTICAL CONTENT		
General Objectives: 1.0 Understand the importance of law in the society						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Explain the role and importance of law in Nigeria	Discuss as in 1.1	Books Internet Law reports			
General Objectives: 2.0 Know the law relating to selected professional practice						
	2.1 Explain the various law and legislations relating to media 2.2 Explain the various laws and legislations relating to the creative and entertainment industry	Discuss 2.1 Discuss various laws and legislation relating to the creative and entertainment industry	APCON code of conduct Nigeria constitution NUJ code of conduct Books			
General Objectives: 3.0 Know some selected legal terms						

	<p>3.1 Explain the following terms:</p> <ul style="list-style-type: none"> - National security - Clear and present danger to public safety - Copyright - Courtroom proceeding - Libel - Slander - Common Law - Criminal offense - Civil offense - Right of Privacy - Defamation - Public figures - Privacy and property rights - Obscenity - Profanity - etc 	<p>Discuss how each of the terms affect photography</p>				
General Objectives: 4.0 Know in rights and limitation to take picture						
	<p>4.1 Explain the rights of Freedom</p> <p>4.2 Explain the rights to take Picture</p> <p>4.3 List the various statues limiting the right to take picture</p>	<p>Discuss the right of freedom to take pictures</p> <p>Discuss the official secret act.</p>	<p>Official secret Act of 1962</p>			

4.4 Explain locations, places, areas etc. where the use of photographic equipment is restricted by laws.					
General Objectives: 5.0 Understand the basic principle of Copyright					
5.1 Explain copyright 5.2 Explain the basic principles of copyright 5.3 Explain how to secure copyright for: - Published photographs - Unpublished photographs	Discuss copyright				
General Objectives: 6.0 Know the basic principles of Libel					
6.1 Explain libel 6.2 Explain principles of libel 6.3 Explain libel by Photograph	Discuss Discuss				
General Objectives: 7.0 Know the basic elements and principles of ethical standards					

	<p>7.1 Explain ethics</p> <p>7.2 Discuss ethical standard in photography</p> <ul style="list-style-type: none"> - The personal level - The professional level - The societal level 					
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Assessment: Course work 40%

Examination

60%

PROGRAMME: - **NATIONAL DIPLOMA IN PHOTOGRAPHY**
SEMESTER: - **FOURTH**
COURSE TITLE: - **PRINT FINISHING / PRESENTATION**
DURATION: - **Lectures:1hr Practicals:1hr**
CREDIT UNIT: - **2**
CODE NO: - **PHG 223**

GOAL: This course is designed to provide the student with knowledge on finishing and presentation of photographs.

GENERAL OBJECTIVES:

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

1. Understand print finishing processes.
2. Know how to mount prints.
3. Know how to produce a portfolio.
4. Know how to plan and exhibit.

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: PRINT FINISHING & PRESENTATION			COURSE CODE: PHG 223		CONTACT HOURS: 2	
GOAL: The course is designed to provide the student with knowledge on how to finish and present photographs. composition						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objectives: 1.0: Understand print finishing processes.						
Week	Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
	1.1 Explain print finishing. 1.2 Explain how to use brushes, airbrush, and lacquer to enhance picture quality. 1.3 Explain how to produce transparency. 1.4 Explain how to mount transparency.	Discuss print finishing. Describe how to use fixative, airbrush and lacquer to enhance picture quality. Discuss transparency and how to mount transparency.	Books, Journals, Magazines and different types of photo papers. Airbrush, fixative, lacquer, stickers	Identify the various types of finished prints.	Display the various types of finished prints.	Books, Journals, Magazines and different types of photo papers.
General Objectives: 2.0 Know how to mount prints.						
	2.1 Explain print mounting. 2.2 Explain the Dry and wet Mounting technique.	Discuss different types of mounting. Stickers	Cutter, Mounting Boards, Sharpener, Frames, Masking	Differentiate the various types of mounts.	Assemble the types of mounts.	Cutter, Mounting Boards, Sharpener, Frames, Masking Tapes,

2.3 Explain Glass framing technique.		Tapes, Gum, Heat Sealer. stickers			Gum, Heat Sealer. stickers
2.4 Explain lamination technique.					
2.5 explain canvassing technique					
General Objectives: 3.0 Know how to produce a Portfolio.					
3.1 Explain Portfolios and their importance.	Discuss Portfolios.	Photo Books, Mounted Prints, Clear Sleeves, CD, and DVD, internet etc.	Use Prints, digital files to make type(s) of Portfolio(s).	Demonstrate how to use Photo Book, Mounted Prints, Clear Sleeves, CD, and DVD etc. to make Portfolios.	Photo Book, Mounted Prints, Clear Sleeves, CD, DVD etc.
3.2 Explain the different types of Portfolios.					
3.3 explain how to create digital portfolios.					
General Objectives: 4.0 Know how to plan and exhibit.					
4.1 Define a Body of Work.	Discuss having a body of work.	Books, magazine, journals	Mount an exhibition	Guide the student to mount an exhibition	Body of work. Display boards/stand
4.2 Explain Exhibition	Discuss Exhibition.				

Assessment: Course Work: 40% Examination: 60%

PROGRAMME: - **NATIONAL DIPLOMA IN PHOTOGRAPHY**
SEMESTER: - **FOURTH**
COURSE TITLE: - **PHOTOGRAPHY BUSINESS**
DURATION: - **1HRS**
CREDIT UNIT: - **1**
CODE NO: - **PHG 224**

GOAL: This course is designed to provide the student with practical information on a sole proprietor

GENERAL OBJECTIVES:

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

1. Understand Photography Business.
2. Know how to Market and Publish.
3. Know how to set up Bookkeeping Records.
4. Know how to Register a company
5. Understand image Copyright.

PROGRAMME: NATIONAL DIPLOMA IN PHOTOGRAPHY						
COURSE: PHOTOGRAPHY BUSINESS			COURSE CODE: 224		CONTACT HOURS: 1	
GOAL: The course is designed to provide the student with practical information of a sole proprietor.						
COURSE SPECIFICATION: THEORETICAL CONTENT			PRACTICAL CONTENT			
General Objective: 1.0 Understand Photography Business.						
Week	Specific Learning Outcomes	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's activities	Resources
	1.1 Explain Professional Photography. 1.2 Explain personal presentation.	Discuss working as a Professional Photographer. Discuss personal presentation.	Books, Journals, Magazines and Resource Person.			
General Objectives: 2.0 Know how to Market and Publish.						
	2.1 Explain Marketing. 2.2 Explain Publishing. 2.3 Explain Publicity.	Discuss marketing. Discuss publishing. Discuss publicity.	Books, Journals, Magazines and Resource Person.			
General Objectives: 3.0 Know how to set up a Bookkeeping Records.						
	3.1 Explain Bookkeeping. 3.2 Explain Invoicing, Cost Accounting, Investment and Pension.	Discuss Bookkeeping. Discuss Invoicing, Cost Accounting, Investment and	Books, Journals, Magazines and Resource Person.			

	3.3 Explain Credit Control 3.4 Explain Business plain.	Pension. Discuss Credit Control. Discuss Business plan.				
4.0 General Objectives: Know how to Register a company and become VAT registered.						
	4.1 Explain Company Registration. 4.2 Explain Taxation (Personal income and VAT) 4.3 Explain Insurance	Discuss Company Registration. Discuss VAT, Personal income Taxation Discuss Personal Accident Insurance, Critical Illness Insurance.	Books, Journals, Magazines and Resource Person.			
5.0 General Objective. Understand image Copyright.						
	5.1 Explain Copyright 5.2 Explain key points of Copyrights. 5.3 Explain Licensing the use of photographs.	Discuss Copyright. Discuss Key Points of Copyrights: (a) Protected Works (b) Artistic Works (c) Authorship (d) Ownership (e) Duration (f) Employed Photographers Discuss Licensing	Books, Journals, Magazines and Resource Person.			

	5.4 Explain Moral Rights					
	5.5 Explain Ethics					
	5.6 Explain Contracts and licensing.					

Assessment: Course work 40%,

Examination 60%

S/NO	WORKSHOP/STUDIO/ LABORATORY	EQUIPMENT REQUIRED	QUANTITY
1.	Design Studio (ND & HND)	Drawing tables (A2 size) Storage Cupboards Work tables (15 x 2.5m2) Hand trimmer	30 30 2 5
2.	Photographic Studio (ND & HND)	2.5 h.p Air conditioner. Twin –lens Reflex camera Single lens reflex camera (Analogue) 35 mm Rangefinder camera 35 mm Digital camera Medium format camera View Camera Electronic light flash gun Camera Tripod Standard lens (50mm) Wide–angle lens Telephoto lens Zoom lens Fish-eye lens Camera Extension tubes Bellow attachment Focusing bellows Hand held meter Camera cable release	2 2 4 4 10 5 5 10 10 5 2 2 2 2 2 2 2 2 15 15
3.	Photographic Laboratory (ND & HND)	Hand Trimmer & Guillotine Condenser Enlargers Diffusion Enlargers Paper Dryers	5 5 5 5

		Masking Frames	15
		Film negative storage	5
		Darkroom Densitometer	5
		Developing Dishes	1 sets (8 dishes)
		Developing tanks	5
		A & B developers (in packets)	20
		Photo-flo chemicals	20
		Studio Safelights (red & Yellow)	20
		Developing Timer Clock	2
		Magnifying Mirror	5
		Exposure Meters	10
		Fixer Chemicals (in packets)	20
		Roll fim	20 packets
		Funnels	12
		Pegs	4 dozens
		Bromide paper	5 packets
		Hand gloves	5 packets
		Contact proof printers	3
		Safety goggles	50
		First aid box	1
		Scissors	20
		Tongs	40
		Callibrated containers	12
		Aprons	30
		Negative viewer	2
		Worktops	4
		Stools	8
		Airconditioners (2.5 hp)	2
		5 KVA Stabilizers	3
4	Photographic Colour Laboratory	Colour Camera Enlargers	2
		Darkroom Densitometer	3

		Colour Analyser Colour Densitometer Manual film processor Automatic film processor Gelatine filters Dichroic filters Masking Frames Film negative storage Developing Tanks and Reels 2.5 hp Air conditioner Developing Timer clocks Paper Dryers Magnifying Mirror Negative viewer Film Holder (tongs) Filter Tray Developing Dishes Photo – flo chemicals (in packets) Hand Guillotine and Trimmer Photographic paper Roll fim Airconditioner Stabilizer	8 4 5 1 5 5 20 5 10 2 3 3 5 2 30 20 20 20 5 20 packets 20 2 (2.5 Hp) 2 (5KVA)
5.	Computer (PHOTOSHOP) Studio (ND & HND)	Desk top computer units (<i>System configuration: minimum 20" screen monitor; 1 terrabyte hard drive; 16 GB RAM and Card reader</i>) Colour printers (A3) Scanners – A3 (Flatbed & film) not less than 2,400 dpi/48bits. Softwares assorted (Adobe Photoshop,	31 5 5

		Lightroom, ImageReady, Corel Draw, Indesign etc.) CDs; DVDs; External hard drives Screen Projector and stand	2
6.	Display Room	Display Boards Display Board Stands Masking tapes Lacquer Airbrush Thumb tacks	20 10

NOTE: Consumable items to be procured could be replenished accordingly for students use. The items are photographic papers and panchromatic/orthochromatic film negatives as well as chemicals.

SCHOOL - ART, DESIGN, PRINTING AND RELATED PROGRAMME

DEPARTMENT - PHOTOGRAPHY

ENVIRONMENT - 30 STUDENTS PER STREAM

The size of these facilities should not be below the standard stated below:

Workshop/Laboratory/ Studio	Capacity	Minimum Surface Area Per Studio	Minimum Surface Area for Unit (M2)	Ancillary Space as % Surface Area	Surface Area Required	No of Unit Required Area	Total Surface Area Required
Design Studio	30	7.20	216.00	25.00	270.00	4	370.00
Photographic Studio	30	5.10	150.00	25.00	187.50	2	375.00
Photographic Colour Laboratory	30	5.10	150.00	25.00	187.50	2	375.00
Computer Studio	30						
Display Room	20	5.10	150.00	25.00	187.50	2	375.00

Each of the workshop/laboratories/studio should not be used for more than 30 hours per week because of the used factor of 7. If it is more than the required, then an additional workshop/Laboratory/Studio should be provided.

LIST OF PARTICIPANTS

(CURRICULUM DEVELOPMENT IN PHOTOGRAPHIC TECHNOLOGY, IBADAN, OCTOBER, 1999)

Dr. S.A. Agbede	Department of Veterinary Public Health & Preventive Medicine, Faculty of Veterinary Medicine. University of Ibadan, Ibadan.
Sani Adamu	Department of Printing, School of Art, Design and Printing, Kano State Polytechnic, Kano
Akeredolu, O.A.	Head of Graphics Department, School of Art, Design and Printing, Yaba College of Technology, Yaba – Lagos
Muhammed Ari	Head, Audio-Visual Section, Liberal Studies Department, Kaduna Polytechnic, Kaduna
Igewe, B.O.	University of Ibadan, Ibadan
Isiade, F.F.A.	Head, Graphics & Printing Technology, The Polytechnic, Ibadan
Olalere, S.A.	Graphics & Printing Technology, The Polytechnic, Ibadan
Sulaimon, A.N.	Yaba College of Technology
Fumilola Akinwusi	C/o Dr. S.A. Agbede, Dept. of Veterinary Public Health & Preventive Medicine, University of Ibadan
Aminu Ilu	Dept. of Arts & Design, Photographic/Graphic Section, Kano State Polytechnic, Kano.
Dr. M.S. Abubakar	Director of Programmes, NBTE, Kaduna
Chief S.C. Odumah	Programmes Department, NBTE, Kaduna
M.K. Jumare	Programmes Department, NBTE, Kaduna.

LIST OF PARTICIPANTS

(CURRICULUM CRITIQUE WORKSHOP IN PHOTOGRAPHY, AUCHI POLYTECHNIC, JUNE, 2013)

Dayo Adedayo	Abuja, dayoadedayo@yahoo.co.uk
Dr. Otoha Festus	Department of Art and Industrial Design, Auchi Polytechnic, Auchi. festuotoba@yahoo.com
Bassey E. Ndon	Department of Fine Arts, University of Uyo. drbasseyndon@yahoo.com; basseyndon@uniuyo.edu.ng.
Boumann E. Sule	Department of Architecture, Kaduna Polytechnic, Kaduna. ephsule@yahoo.com
Wale Ajayi	Department of Mass Communication, Lagos State Polytechnic, Ikorodu, Lagos waleajayi@gmail.com
Benjamin B. Ola	Graphics Section, Printing Press, National Veterinary Research Institute, Vom. bobbenoben@gmail.com
Mpieri, Anayo Aloysius	Ag. Director of Programmes, National Board for Technical Education, Kaduna.
Garba M. Nalado	Head Environmental Technology, Programmes Department, National Board for Technical Education, Kaduna. gnalado@yahoo.com
Mohammed A. Jatau	Programmes Department, National Board for Technical Education, Kaduna. moejatau@yahoo.com
Ansa O. Ndem	Programmes Department, National Board for Technical Education, Kaduna. koksie2004@yahoo.com
Arc. Ngbede Ogoh	Programmes Department, National Board for Technical Education, Kaduna. ngbede2001@yahoo.com