

**NATIONAL BOARD FOR TECHNICAL EDUCATION**

**NATIONAL TECHNICAL CERTIFICATE**

**AND**

**ADVANCED NATIONAL TECHNICAL CERTIFICATE**

**DRAFT CURRICULUM AND MODULE SPECIFICATIONS**

**IN**

**P H O T O G R A P H Y C R A F T P R A C T I C E**

**JANUARY 2008**

## **GENERAL INFORMATION**

### **AIM:**

To give training and impart the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self – reliant.

## **ENTRY QUALIFICATIONS**

### **CRAFT PROGRAMME**

Candidates must not be less than 14 years of age and should have successfully completed three years of junior secondary education or its equivalent. Special consideration may be given to sponsored candidates with lower academic qualifications who hold trade test certificates and are capable of benefiting from the programme.

### **ADVANCED CRAFT PROGRAMME**

Candidates should possess the National Technical Certificate or its equivalent and should have had a minimum of two years post qualification cognate industrial experience.

## **THE CURRICULUM**

The Curriculum of each programme is broadly divided into three components:

- a General Education, which accounts for 30% of the total hours required for the programme
- b Trade Theory, Trade Practice and Related Studies which account for 65% and
- c Supervised Industrial Training/Work Experience, which accounts for about 5% of the total hours required for the programme. This component of the course which may be taken in industry or in college production unit is compulsory for the full-time students

Included in the curriculum, for the guidance of the teacher are the teacher's activity and learning resources required.

## **UNIT COURSE/MODULE**

A Course/Module is defined as a body of knowledge and skills capable of being utilized on its own or as a foundation or pre-requisite knowledge for more advanced work in the same or other fields of study. Each trade when successfully completed can be used for employment purposes.

## **BEHAVIOURAL OBJECTIVES**

These are educational objectives which identify precisely the type of behaviour a student should exhibit at the end of a course/module or programme. Two types of behavioural objectives have been used in the curriculum. They are:

- a General Objectives
- b Specific learning outcomes

General Objectives are concise but general statements of the behaviour of the students on completion of a unit of work such as understanding the principles and application of: -

- a Orthographic projection in engineering/technical drawing
- b Loci in Mathematics
- c Basic concepts of politics and government in Political Science
- d Demand and Supply in Economics

Specific Learning outcomes are concise statements of the specific behaviour expressed in units of discrete practical tasks and related knowledge the students should demonstrate as a result of the educational process to ascertain that the general objectives or course/programme have been achieved. They are more discrete and quantitative expressions of the scope of the tasks contained in a teaching unit.

## **GENERAL EDUCATION IN TECHNICAL COLLEGES**

The General Education component of the curriculum aims at providing the trainee with complete secondary education in critical subjects like English Language, Economics, Physics, Chemistry, Biology, Entrepreneurial Studies and Mathematics to enhance the understanding of machines, tools and materials of their trades and their application and as a foundation for post-secondary technical education for the above average trainee. Hence, it is hoped that trainees who successfully complete their trade and general education may be able to compete with their secondary school counterparts for direct entry into the universities, polytechnics or colleges of education (Technical) for Degree, ND or NCE courses respectively. The Social Studies component is designed to broaden the trainee's social skills and his understanding of his environment.

For purpose of certification, only the first three courses in Mathematics will be required. The remaining modules are optional and are designed for the above average students.

## NATIONAL CERTIFICATE

The NTC and ANTC programmes are run by Technical Colleges accredited by NBTE while the National Business and Technical Examination Board (NABTEB) in Benin City, Edo State conducts the final national examination and awards certificates to successful candidates.

Trainees who successfully complete all the courses/modules specified in the curriculum table and pass the national examinations in the trade will be awarded one of the following certificates

S/NO	LEVEL	CERTIFICATE
	<b>Technical Programme</b>	
1	Craft Level	National Technical Certificate (NTC)
2	Advanced Craft Level	Advanced National Technical Certificate (ANTC)

### GUIDANCE NOTES FOR TEACHERS TEACHING THE CURRICULUM

The number of hours stated in the curriculum table may be increased or decreased to suit individual institution's timetable provided the entire course content is properly covered and the goals and objectives of each module are achieved at the end of the term.

The maximum duration of any module in the new scheme is 300 hours. This means that for a term of 15 weeks, the course should be offered for 20 hours a week. This can be scheduled in sessions of 4 hours in a day leaving the remaining hours for general education. However, (properly organised and if there are adequate resources), most of these courses can be offered in two sessions a day, one in the morning and the other one in the afternoon. In so doing, some of these programmes may be completed in lesser number of years than at present.

Each session of 4 hours include the trade theory and practice. It is left for the teacher to decide whether the class should be held in the workshop or in a lecture room.

### INTEGRATED APPROACH IN THE TEACHING OF TRADE.

#### **Theory, Trade Science and Trade Calculation**

The traditional approach of teaching trade science and trade calculation as separate and distinct subjects in technical college programmes is not relevant in the new programme as it will amount to a duplication of teaching of mathematics and physical science subjects in the course. The basic concepts and principles in mathematics and physical science are the same as in the trade calculation and trade science. In the new scheme therefore, mathematics and the physical science will be taught by qualified persons in these fields and the instructors will apply the principles and concepts in solving trade science and calculation problems in the trade theory classes. To this end, efforts have to be made to ensure that mathematics and science modules required to be able to solve technical problems were taken as pre-requisite to the trade module.

### **Evaluation of Programme/Module**

For the programme to achieve its objectives, any course started at the beginning of a term must terminate at the end of the term.

Instructors should therefore devise methods of accurately assessing the trainees to enable them give the student's final grades at the end of the term. A national examination will be taken by all students who have successfully completed their modules. The final award will be based on the aggregate of the scores attained in course work and the national examination.

**PROGRAMME OBJECTIVES:** This programme is designed to provide the trainee with the following objectives: -

- 1.0 Knowledge of the essentials of photography and an introduction to the use of camera
- 2.0 Understanding of the nature and characteristics of photographic film.
- 3.0 Understanding of the place of light in photography and development of basic skills needed in taking good pictures.
- 4.0 Basic knowledge of darkroom procedure and skills in developing film and printing pictures.
- 5.0 Basic knowledge and skills in different methods of handling and framing prints.
- 6.0 Basic knowledge and skills in camera handling techniques.
- 7.0 Basic knowledge and skills of digital photography.

#### **ANTC LEVEL**

- 8.0 Advanced knowledge of the development of photography as an art and science.
- 9.0 Basic knowledge and skills of composition in photography.
- 10.0 Basic knowledge and skills of processing film and printing photographs both conventionally and digitally.

**CURRICULUM TABLE FOR NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY**

S/N	COURSE CODE	SUBJECT MODULE	Y	E	A	R	1	-	Y	E	A	R	2	-	Y	E	A	R	3	-	TOTAL DURATION
-	-	-	T	1	TM	2	TM	3	TM	1	TM	2	TM	3	TM	1	TM	2	TM	3	-
-	-	-	L	P	L	P	L	P	L	P	L	P	L	P	L	P	L	P	L	P	-
1	CMA 12-15	Mathematics	2	-	2	-	2	-	2	-	2	-	2	-	2	-	2	-	2	-	216
2	CEN 11-17	English Lang.	2	-	2	-	2	-	3	-	3	-	3	-	3	-	3	-	3	-	288
3	CPH 10-12	Physics	2	-	2	-	2	-	2	1	2	1	2	1	2	1	2	1	2	1	288
4	CCH 11-12	Chemistry	2	-	2	-	2	-	2	1	2	1	2	1	2	1	2	1	2	1	288
5	CBB 11-13	Biology	2	-	2	-	2	-	2	1	2	1	2	1	2	1	2	1	2	1	288
6	CEC 11-13	Economics	2	-	2	-	2	-	2	-	2	-	2	-	2	-	2	-	2	-	216
7	CBM 10	Entrepreneurship	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-	2	-	72
8	ICT 11-15	Computer Studies	-	-	-	-	-	-	1	2	1	2	1	2	1	2	1	2	-	-	180
9	CTD 11-13	Drawings	-	3	-	3	-	3	-	3	-	3	-	3	-	2	-	2	-	2	288
10	CME 11	General Metal Work 1	2	5	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	168
11	CPC 101	Introduction to Photography	-	-	-	-	4	6	-	-	-	-	-	-	-	-	-	-	-	-	120
12	CPC 201	Photography film	-	-	-	-	-	-	4	8	-	-	-	-	-	-	-	-	-	-	144
13	CPC 202	Taking Pictures	-	-	-	-	-	-	-	-	4	8	-	-	-	-	-	-	-	-	144
14	CPC 203	Darkroom Practice	-	-	-	-	-	-	-	-	-	4	8	-	-	-	-	-	-	-	144
15	CPC 301	Print Finishing	-	-	-	-	-	-	-	-	-	-	-	-	4	8	-	-	-	-	144
16	CPC 302	Camera Handling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	6	2	3	180
17	CPC 303	Digital Photography	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	6	120
			<b>14</b>	<b>8</b>	<b>14</b>	<b>8</b>	<b>16</b>	<b>9</b>	<b>18</b>	<b>16</b>	<b>18</b>	<b>16</b>	<b>18</b>	<b>16</b>	<b>20</b>	<b>15</b>	<b>20</b>	<b>13</b>	<b>21</b>	<b>14</b>	<b>3,288</b>

**CURRICULUM TABLE FOR ADVANCED NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY**

S/N	COURSE CODE	SUBJECT MODULE	TERM 1		TERM 2		TERM 3		TOTAL DURATION
			L	P	L	P	L	P	
1	CMA 21-22	Mathematics	2	-	2	-	2	-	72
2	CEN 21-22	English Lang & Communication	2	-	2	-	2	-	72
3	CEC 21-23	Economics	2	-	2	-	2	-	72
4	CTD 21	Engr Drawing & Design	-	3	-	3	-	-	72
5	CEM 21	Entrepreneurship	2	-	2	-	2	-	72
6	ICT 21-22	Auto-Card	1	2	1	2	-	-	72
7	CPC 401	Introduction to Photography	5	10	-	-	-	-	180
8	CPC 402	Composition In Photography	-	-	6	12	-	-	216
9	CPC 403	Development & Printing	-	-	-	-	6	12	216
<b>TOTAL</b>			<b>14</b>	<b>15</b>	<b>15</b>	<b>17</b>	<b>14</b>	<b>12</b>	<b>1,044</b>

**PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY**

**MODULE: INTRODUCTION TO PHOTOGRAPHY**

**CODE: CPC 101**

**DURATION: 120 Hours**

**GOAL: This module is designed to provide the trainee with the essentials of Photography and an introduction to the use of camera.**

**GENERAL OBJECTIVES: on completion of this module, the trainee should be able to:-**

**Theoretical contents: -**

1. Understand the basic concept of photography and its various fields.
2. Understand the brief history of photography.
3. Know how to construct and use a Pin-hole camera.
4. Know different types of cameras.
5. Know the basic operation of different types of cameras.
6. Know how to carry out basic camera maintenance.

**Practical contents: -**

1. Know how to construct and operate a Pin-hole camera.
2. Know different types of cameras.
3. Know basic operations of different types of cameras.
4. Know how to carry out basic maintenance of cameras.



<b>PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>							
<b>COURSE: INTRODUCTION TO PHOTOGRAPHY</b>			<b>COURSE CODE: CPC 101</b>			<b>CONTACT HOURS: 10 HRS/WEEK</b>	
<b>GOAL:</b> This module is designed to provide the trainee with the essentials of Photography and an introduction to the use of cameras.							
<b>MODULE SPECIFICATION: Theoretical Contents: 4HRS/WK</b>					<b>Practical Contents: 6HRS/WK</b>		
<b>General Objective: 1.0:</b> Understand the basic concept of photography and its various fields.							
<b>WEEK</b>	<b>Specific Learning Objective</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Objective</b>	<b>Learning</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-2</b>	1.1 Define photography  1.2 Enumerate different fields of Photography.	* Give the definition of photography.  * List the different fields of Photography.	Books Slides/Pictures Films Diagrams Chalkboard				
<b>General Objective 2.0: Understand the brief history of photography.</b>							
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Objectives</b>	<b>Learning</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>3-5</b>	2.1 State the historical background of photography.  2.2 Identify the early pioneers and their contributions to photography.  2.3 Discuss the contemporary development in photography.	* Explain the development of Photography.  * Enumerate the prominent people that contributed to the development of the field.  * Explain the current situation and advancement in photography.	Books Slides/Pictures Films Diagrams Chalkboard				

	<b>General Objective 3.0: Understand the principle of operation of a Pin-hole camera.</b>			<b>Know how to construct and operate a Pin-hole camera.</b>		
<b>6-9</b>	3.1 State the nature of light in relation to photography.  3.2 Describe the principle of pin-hole camera	* Explain the nature of light with respect to photography.  *Explain the principle of operation of a pin-hole camera.	<ul style="list-style-type: none"> <li>• Books</li> <li>• Pictures/Slides</li> <li>• Film strips</li> <li>• Chart</li> </ul>	3.1 Construct a Pin-hole camera.  3.2 Operate a Pin-hole camera.	*Demonstrate how to construct a Pin-hole camera.  *Demonstrate how to operate a Pin-hole camera. *Give exercises in using the Pin-hole camera to take pictures.	*Card board box *Photographic paper *Developer *Fixer *Charts *Film Strips *Film Slides.
	<b>General Objective: 4.0: Understand different types of Camera</b>			<b>Know different types of Camera.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
10-12	4.1 List different types of cameras viz: - - TLR - SLR - Range finders - Instamatics - Digital - View camera  4.2 State the advantages and disadvantages of different types of cameras listed above.	* Mention different types of cameras  * Explain different types of cameras in 4.1.  Explain the advantages and disadvantages of the different types of cameras.	* Books * Charts * Pictures * Audio visual aids  * Different types of cameras namely: - - TLR - SLR - Range finders - Instamatics - Digital camera - View camera. - Etc.	4.1 Identify different types of cameras namely: - - TLR - SLR - Range finders - Instamatics - Digital - View camera  4.2 Identify various parts and accessories of different types of cameras e.g. - Flash - Tripod - Light meter - Exposure meter - Etc.	* Show students different types of cameras listed in 4.1.  * Show students different parts and accessories of different types of cameras listed in 4.2.	* Charts * Pictures * Audio visual aids.  *Different types of cameras namely: - -TLR - SLR - Range finders -Instamatics -Digital camera -View camera.

	<p>4.3 List various parts and accessories of different types of cameras e.g.</p> <ul style="list-style-type: none"> <li>- Flash</li> <li>- Tripod</li> <li>- Shutter release cable</li> <li>- Flitters</li> <li>- Exposure meter</li> <li>- Light meter</li> <li>- Lens, Etc.</li> </ul> <p>4.4 Describe the merits and demerits of different types of cameras.</p> <p>4.5 List various kinds of lenses e.g.</p> <ol style="list-style-type: none"> <li>I) Wide angle lens</li> <li>II) Normal lens</li> <li>III)</li> <li>IV) Telephone lens</li> <li>V) Zoom lens</li> </ol> <p>4.6 State the uses of Various types of lenses listed in 4.5.</p>	<p>* Enumerate various parts and accessories of different types of cameras.</p> <p>Explain the functions of various parts and accessories of camera s listed in 4.3.</p> <p>* Explain the merits and demerits of different types of cameras.</p> <p>* Give examples of various kinds of lenses.</p> <p>*Explain the uses of various kinds of lenses listed in 4.5.</p>	<p>* Different camera accessories e.g.;</p> <ul style="list-style-type: none"> <li>- Flash</li> <li>- Tripod</li> <li>- Light meter</li> <li>- Exposure meter</li> <li>- Lenses</li> <li>- Etc.</li> </ul> <p>*Different kinds of lenses e.g.:-</p> <ul style="list-style-type: none"> <li>-Wide angle lens</li> <li>- Normal lens</li> <li>- Telephoto lens</li> <li>- Zoom lens.</li> </ul>	<p>4.3 Identify various kinds of lenses such as:</p> <ul style="list-style-type: none"> <li>-</li> <li>i) Wide angle lenses</li> <li>ii) Normal lens</li> <li>iii) Telephoto lens</li> <li>iv) Zoom lens</li> </ul> <p>4.4 Observe the effect of different lenses mounted on a camera on a particular image.</p>	<p>*Show students various kinds of lenses listed in 4.3.</p> <p>*Guide students to identify the features of different kinds of lenses.</p> <p>*Demonstrate how to mount different kinds of lenses on a camera.</p> <p>*Guide students to observe effects of the different lenses mounted on a particular camera on the same image.</p>	<p>*Varied camera accessories e.g. - Flash</p> <ul style="list-style-type: none"> <li>- Tripod</li> <li>-Light meter</li> <li>-Exposure meter</li> <li>- Lenses</li> <li>- Etc.</li> </ul> <p>*Varied kinds of lenses e.g.:</p> <ul style="list-style-type: none"> <li>-</li> <li>-Wide angle lens</li> <li>-Normal lens</li> <li>-Telephoto lens</li> <li>-Zoom lens</li> <li>-Etc</li> </ul>
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	<b>General Objective: 5.0: Understand the basic operation of different types of cameras</b>			<b>Know the basic operation of different types of camera.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-2</b>	5.1 Describe the operation of a TLR. 5.2 Describe the operation of SLR. 5.3 Describe the operation of Range finders. 5.4 Describe the operation of Instamatics. 5.5 Describe the operation of Digital camera. 5.6 Describe the operation of view camera.	* Explain the mechanism of operation of different types of cameras listed from 5.1 to 5.6.  * Illustrate the operation of the different types of cameras namely; - TLR - SLR - Range finder - Instamatics - Digital camera - View camera.	* Different types of Cameras listed from 5.1 to 5.6.  * Operation manual of different types of cameras * Chalkboard	5.1 Operate different types of cameras viz: - - TLR - SLR - Range finders - Instamatics Digital camera - View camera.	* Demonstrate the operation of different types of cameras listed in 5.1 to 5.6.  * Give exercises in the operation of different types of camera.	* Books * Operation manuals of various cameras. * Films * Slides * Different types of cameras viz: -TLR - SLR - Range finders - Instamatics Digital camera - View camera.

	<b>General Objective 6.0: Understand the technique of carrying out basic camera maintenance.</b>			<b>Know how to carry out basic maintenance of a camera...</b>			
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Objectives</b>	<b>Learning Activities</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>3-5</b>	<p>6.1 State various aspects of basic camera maintenance viz:-</p> <ul style="list-style-type: none"> <li>- Camera cleaning and storage,</li> <li>- Lens cleaning and storage.</li> <li>- ETC</li> </ul> <p>6.2 Discuss the effects of the following conditions in the maintenance of camera and its accessories;</p> <ul style="list-style-type: none"> <li>- Sudden rise in temperature,</li> <li>- Humidity,</li> <li>- Shocks on the lens.</li> </ul>	<p>* Explain various aspects of basic camera maintenance e.g. Proper camera cleaning and storage, proper lens cleaning and storage.</p> <p>Explain why the following should be considered in the maintenance of camera and its accessories;</p> <ul style="list-style-type: none"> <li>- Sudden rise in temperature</li> <li>- Humidity</li> <li>- Shocks on the lens.</li> </ul>	<ul style="list-style-type: none"> <li>* Camera case</li> <li>* Cleaning tissue</li> <li>* Lens cap</li> <li>* Camel hair brush blower</li> <li>* Manual</li> <li>* Books</li> </ul>	<p>6.1 Carry out basic maintenance of camera and their accessories, example:</p> <ul style="list-style-type: none"> <li>- Cleaning of the lens using lens cleaning fluid on the tissue,</li> <li>- Removing dust using camel hair brush blower,</li> <li>- Etc.</li> </ul>	<ul style="list-style-type: none"> <li>* Demonstrate basic care, maintenance and storage of camera and their accessories using the correct tools and techniques.</li> </ul>	<ul style="list-style-type: none"> <li>*Camera case</li> <li>*Cleaning tissue</li> <li>*Lens cap</li> <li>*Camel hair brush blower</li> <li>*Operation Manual</li> <li>*Books</li> </ul>	

**PROGRAMME:** NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY

**MODULE:** PHOTOGRAPHIC FILM

**CODE:** CPC 201

**DURATION:** 144 Hours

**GOAL:** This module is designed to provide the trainee with an understanding of the nature and characteristics of photographic film.

**GENERAL OBJECTIVES:** on completion of this module, the trainee should be able to: -

**Theoretical contents:**

- 1.0 Understand the components of photographic film.
- 2.0 Understand the characteristics of photographic film.

**Practical contents:**

- 1.0 Know components of photographic film.
- 2.0 Know characteristics of photographic film.

<b>PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>						
<b>MODULE: PHOTOGRAPHIC FILM</b>			<b>COURSE CODE: CPC 201</b>		<b>CONTACT HOURS: 12 HRS/WK.</b>	
<b>GOAL: This module is designed to provide the trainee with an understanding of the nature and characteristics of photographic film.</b>						
<b>COURSE SPECIFICATION: Theoretical Contents: 4 Hrs/Wk.</b>				<b>Practical Contents: 8 Hrs/Wk.</b>		
<b>General Objective: 1.0: Understand the components of photographic film.</b>				<b>Know the components of photographic film.</b>		
<b>WEEK</b>	<b>Specific Learning Objective</b>	<b>Teachers'/Students' Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objective</b>	<b>Teachers'/Students' Activities</b>	<b>Learning Resources</b>
<b>1-5</b>	1.1 State the components of photographic film. 1.2 List various types of films. 1.3 Describe how to handle films. 1.4 State film formats namely; 110mm, 120mm, 135mm, film sheets, film packages. 1.5 State film emulsion types namely: - - Coloured - Black and White - Negative - Positive/Slides. 1.6 State the differences between Black & White and Coloured films	*Explain the components of photographic film. *Explain what films are. * Explain proper handling of films. * Explain various film formats in 1.4. * Explain the film emulsion types listed in 1.5. * Explain the differences between Black & White and Coloured films.	* Books * Film manuals * Samples of different types of films * Samples of film format viz:- 110mm, 120mm, 135mm, film sheets, film packages. * Samples of film emulsion types listed in 1.5.	1.1 Identify various types of films. 1.2 Carry out proper handling of film. 1.3 Identify film formats namely; 110mm, 120mm, 135mm, film sheets, film packages. 1,4 Identify various film emulsion types namely; -Coloured - Black & White - Negative - Positive/Slides. 1.5 Differentiate between Black & White and Coloured films	* Show students various types of film. *Illustrate how to handle film. Show students different film formats listed in 1.3. Guide students to identify various film emulsion types listed in 1.4. Illustrate the differences between Black & White and Coloured film.	* Books * Film manuals * Samples of different types of film format viz; 110mm, 120mm, 135mm, film sheets, film packages. * Samples of film emulsion types listed in 1.5.

	<b>General Objective 2.0: Understand the characteristics of photographic film.</b>			<b>Know characteristics of photographic film.</b>		
<b>WEEK</b>	<b>Specific Learning Objective</b>	<b>Teachers'/Students' Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objective</b>	<b>Teachers'/Students' Activities</b>	<b>Learning Resources</b>
<b>6-10</b>	2.1 Mention the characteristics of photographic film examples: - - Standard ISO/ASA, DIN - Film speed and grains.	* Explain the characteristics of photographic film listed in 2.1.	* Books * Manuals * Samples of film packs.	2.1 Identify film packs of different speeds.  2.2 Identify photographs of pictures taken with films of different speed.	* Show students samples of film packs of different speed.  * Show students photographs of pictures taken with films of different speed.	*Manuals *Samples of film packs *Prints of pictures taken with films of different speed.



**PROGRAMME:** NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY

**MODULE:** TAKING PICTURES

**CODE:** CPC 202

**DURATION:** 144 Hours

**GOAL:** This module is designed to enable the trainee understand the place of light in photography and develop basic skills needed in taking good pictures.

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

**Theoretical contents:**

- 1.0 Understand the characteristics of light.
- 2.0 Understand various sources of light.
- 3.0 Understand the elements of composition.
- 4.0 Understand the concept of Exposure.
- 5.0 Understand the principle of focusing...
- 6.0 Understand the steps involved in loading and unloading film in a camera.

**Practical contents:**

- 1.0 Know various characteristics of light
- 2.0 Know various sources of light.
- 3.0 Know elements of composition.
- 4.0 Know techniques of exposure.
- 5.0 Know how to focus.
- 6.0 Know steps involved in loading and unloading film in a camera.

<b>PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>						
<b>MODULE: TAKING PICTURES</b>			<b>COURSE CODE: CPC 202</b>		<b>CONTACT HOURS: 12 HRS/WK</b>	
<b>GOAL: This module is designed to enable the trainee understand the place of light in photography and develop basic skills needed in taking good pictures.</b>						
<b>COURSE SPECIFICATION: Theoretical Contents: 4 HRS/WK</b>				<b>Practical Contents: 8 HRS/WK</b>		
<b>General Objective 1.0: Understand the characteristics of light.</b>				<b>Know various characteristics of light.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-12</b>	1.1 State the characteristics of light namely: - i) Rectilinear propagation ii) Reflection iii) Refraction iv) Absorption v) Dispersion	* Explain various characteristics of light listed in 1.1.	* Books * Films * Charts * Pictures	1.1 Carry out experiments on various characteristics of light. namely: - - Rectilinear propagation - Reflection - Refraction - Absorption - Dispersion.	* Demonstrate the nature of light with experiments e.g. - Using prism for dispersion. - Using plain sheet of paper for refraction. - Using mirror for reflection - Etc.	*Prism *Plane paper *Mirror *Lenses *Charts *Pictures *Chalkboard
<b>General Objective 2.0 Understand various sources of light.</b>				<b>Know various sources of light.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-6</b>	2.1 Mention various sources of lights (natural and artificial)  2.2 List examples of natural and artificial sources of lights.  2.2 Describe the effects of different sources of lights.	*Enumerate different sources of lights. *Explain different sources of lights mentioned in 2.1. *Categorize different sources of lights into natural and artificial e.g. i) Natural sources of light e.g. Sun.	*Books *Pictures/Pictures *Charts *Sunlight *Flash bulbs * Spotlights Floodlight Etc.	2.1 Identify natural sources of light e.g. Sunlight.  2,2 Identify artificial sources of light e.g. - Electricity - Torch light - Tungsten light - Flash light.	* Illustrate various sources of light mentioned in 2.1& 2.2.	*Books *Pictures/Pictures *Charts *Sunlight *Flash bulbs * Spotlights Floodlight Etc.

		ii) Artificial sources of light e.g. Electricity, Torch light, Tungsten light, Flash light etc...				
	<b>General Objective 3.0: Understand the elements of composition.</b>			<b>Know elements of composition.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>7-12</b>	3.1 State the elements of composition namely: - - Space - Line - Tones - Forms  3.2 Describe the uses of space, line, tones and forms.	*Define composition.  *Explain the elements of composition listed in 3.1  * Explain the uses of space, line, tones and forms in composition.	*Books *Charts *Slides and Pictures showing Space, Line, Tones, Forms	3.1 Identify various elements of composition viz; - -Space - Line - Tones - Forms.	*Illustrate various elements of composition listed in 3.1.	*Books *Charts *Slides and Pictures showing Space, Line, Tones, Forms
	<b>General Objective 4.0: Understand the concept of Exposure.</b>			<b>Know the techniques of Exposure</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	4.1 Define Exposure  4.2 List the functions of Aperture.  4.3 Mention types of shutter.  4.4 List the functions of shutter.  4.5 State the relationship of aperture to shutter speed in Exposure control.	*Explain what exposure is. *Explain the functions of Aperture. *Explain types of shutter and their functions in exposure control. *Explain the relationship of aperture to shutter speed in exposure control.	*Books *Camera *Pictures *Charts *Audio visual aids.	2.1 Identify aperture in different cameras.  2.2 Identify shutter in different cameras.  2.3 Carry out experiments using various aperture size and shutter speed.	*Show students apertures and shutters in different cameras.  *Demonstrate the use of aperture and shutter speed in exposure control.	*Camera. * Charts *Pictures *Slides

<b>General Objective 5.0: Understand the principle of focusing.</b>				<b>Know how to focus.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	5.1 Define focusing.  5.2 Describe the techniques involved in focusing.	* Give the definition of focusing.  *Explain the techniques of focusing.	*Books *Manuals *Pictures / Slides showing different focusing techniques.	5.1 Carry out various techniques of focusing on different subjects-to-camera distance.	Demonstrate various techniques of focusing on different subjects-to-camera distance.	*Camera *Films *Pictures showing various focusing techniques. *Slides on Focusing.
<b>General Objective 6.0: Understand the steps involved in loading and unloading film in a camera.</b>				<b>Know the steps involved in loading and unloading film in a camera.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	6.1 Outline the procedure involved in loading and unloading film in common cameras namely; - SLR - TLR - Digital Camera - View Camera	*Explain how to load and unload films in the various cameras listed in 6.1.	*Books *Different types of cameras listed in 6.1. *Charts *Films *Pictures *Slides showing the techniques of loading and unloading films in common cameras.	6.1 Load and unload films in common cameras e.g. - SLR - TLR - Digital Camera - View Camera	*Demonstrate how to load and unload films in different types of cameras listed in 6.1.	*Common cameras e.g.; SLR, TLR, Digital and View cameras. *Pictures *Slides showing how to load and unload films in common cameras.

**PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY**

**MODULE: DARKROOM PRACTICE**

**CODE: CPC 203**

**DURATION: 144 Hours**

**GOAL: This module is designed to provide the trainee with the knowledge of darkroom procedures and skills in developing film and printing pictures.**

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

**Theoretical contents: -**

- 1.0 Understand the set up of a darkroom/photographic laboratory
- 2.0 Understand the composition of equipment used in a darkroom/photographic laboratory.
- 3.0 Understand the uses of various darkroom/photo laboratory equipment.
- 4.0 Understand the composition of basic chemicals used in a photographic laboratory
- 5.0 Understand the techniques of processing a negative film.
- 6.0 Understand printing techniques.
- 7.0 Understand safety precautions to be taken in a darkroom/photo laboratory.

**Practical contents: -**

- 1.0 Know darkroom/photographic laboratory set-up.
- 2.0 Know the equipment used in a darkroom/photographic laboratory.
- 3.0 Know how to use various darkroom/photo laboratory equipment.
- 4.0 Know the basic chemicals used in a darkroom/photo laboratory.
- 5.0 Know how to process a negative film.
- 6.0 Know the procedures and techniques of printing.
- 7.0 Know safety measures applicable to a darkroom/photo laboratory.

<b>PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>						
<b>MODULE: DARKROOM PRACTICE</b>			<b>CODE: CPC 203</b>		<b>CONTACT HOURS: 12 HRS/WK</b>	
<b>GOAL: This module is designed to provide the trainee with the knowledge of darkroom procedures and skills in developing film and printing pictures.</b>						
<b>COURSE SPECIFICATION: Theoretical Contents: 4HRS/WK</b>				<b>Practical Contents: 8HRS/WK</b>		
<b>General Objective 1.0: Understand the set up of a darkroom/photographic laboratory.</b>				<b>Know the darkroom/photographic laboratory set-up.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-3</b>	<p>1.1 State the basic requirements for a darkroom/photo lab namely:</p> <ul style="list-style-type: none"> <li>- light type</li> <li>- adequate electricity and water supply</li> <li>- adequate ventilation</li> <li>- allow work to proceed logically.</li> </ul> <p>1.2 Describe the basic layout of a darkroom/photographic laboratory: -</p> <ul style="list-style-type: none"> <li>- Wet areas</li> <li>- Dry areas</li> </ul> <p>1.3 State the basic requirements of a darkroom/photographic laboratory.</p>	<p>Explain what a darkroom/photographic laboratory is.</p> <p>Explain the basic requirements of a darkroom/photographic laboratory</p> <p>*Illustrate the basic layout of a darkroom/photographic laboratory using charts.</p>	<ul style="list-style-type: none"> <li>* Books</li> <li>*Charts</li> <li>*Audio Visual Aids</li> <li>*Chalk board</li> </ul>	<p>1.1 Identify what constitutes a basic darkroom/photographic laboratory.</p> <p>1.2 Identify wet areas and dry areas in a darkroom/photographic laboratory.</p>	<p>Take students to see a darkroom/photographic laboratory.</p> <p>*Guide students to identify the composition and set-up of a darkroom/photographic laboratory.</p>	<p>*Industrial visit to darkroom/photographic laboratory.</p>

<b>General Objective 2.0: Understand the composition of equipment used in a photographic laboratory.</b>				<b>Know the equipment used in a darkroom/photography laboratory.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1 - 4</b>	2.1 List the various equipment used in a darkroom/photographic laboratory such as:- - enlarger - safe light - processing tanks - clocks/Timers - printing tongs - dryers -guillotine(paper cutter) - thermometer - etc	* Enumerate various equipment used in a darkroom/photographic laboratory e.g. - enlarger - safe light - processing tanks - clocks/Timers - printing tongs - dryers -guillotine (paper cutter) - thermometer - etc	*Audio visual aids. *Chalk board * Charts and pictures of darkroom/photographic laboratory equipment listed in 2.1.	2.1 Identify various equipment used in a darkroom/photographic laboratory namely: - * Enlarger *Safe light *Processing tanks *Clocks/Timers *Printing tongs *Dryers *Guillotine(paper cutter) *Thermometer *Etc	* Guide students to identify the different darkroom/photographic laboratory equipment listed in 2.1.	* Real darkroom/photographic laboratory *Various darkroom/photographic laboratory equipment such as: - *Enlarger *Safe light *Processing tanks *Clocks/Timers *Printing tongs *Dryers *Guillotine(paper cutter) *Thermometer *Etc *Audio visual aids. * Charts and pictures.
<b>General Objectives 3.0: Understand the uses of various darkroom/photo laboratory equipment.</b>				<b>Know how to use various darkroom/photo laboratory equipment.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	3.1 State the uses of various darkroom/photographic equipment such as: - processing tanks/trays - enlarger - contact printer - dryer	*Explain the uses of various darkroom/photographic laboratory equipment listed in 3.1.	*Books *Charts and pictures using different darkroom/photographic laboratory equipment mentioned in 3.1. *Audio visual aids.	3.1 Carry out exercises on the use of various darkroom/photographic laboratory equipment earlier identified.	Demonstrate how to use different darkroom/photographic laboratory equipment identified in 3.1.	*Real darkroom/ photographic laboratory *Various equipment used in a darkroom/ photographic laboratory such as: -Processing tanks/trays - Enlarger

	-guillotine(paper cutter) - safe light						- Contact printer - Dryer - Guillotine (paper cutter) - Safe light - Etc. *Audio visual aids
	<b>General Objectives 4.0: Understand the composition of basic chemicals used in a darkroom/photographic laboratory.</b>			<b>Know the basic chemical used in a darkroom/photographic laboratory.</b>			
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	
	4.1 List various chemicals used in film and prints processing in a darkroom/ photographic laboratory.  4.2 State the composition of the basic chemicals used in film and prints processing.  4.3 Outline the importance of the listed chemicals in film and prints processing.  4.4 Outline the procedure of mixing developer and fixer.	*Mention various chemicals used in film and prints processing in darkroom/photographic laboratory and their composition.  *Explain the importance of various chemicals used in film and prints processing.  * Explain how to mix developer and fixer.	*Books *Charts *Pictures *Audio visual aids	4.1 Identify various chemicals that are used in film and prints processing in a darkroom/photographic laboratory by the following methods: - smelling - touching  4.2 Guide students to mix developer and fixer.  4.3 Carry out exercises on identification of developers and fixers - by smelling and - by touching.	*Show students various chemicals used in film and prints processing.  *Demonstrate how to mix developer and fixer.  *Demonstrate how to identify developers and fixers using senses of smell and touch.	*Developer part A & B *Fixer *Stop bath *Mixing bowls *Stirring rod *Storage bottles *Warmer/Heater *Protective gloves (rubber gloves) *Apron *Etc	



	<b>General Objectives 5.0: Understand the techniques of processing a negative film.</b>			<b>Know how to process a negative film.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	<p>5.1 Outline the procedure involved in processing a negative film.</p> <p>5.2 Enumerate different development techniques such as: -  I Hand processing – dish/see saw  II Hand processing – tank  III Machine processing</p> <p>5.3 List factors that affect film development such as: -  developer condition, dilution, time, temperature, agitation.</p> <p>5.4 State the merits and demerits of each film development technique listed in 5.2.</p>	<p>*Explain the process of film development.</p> <p>*Explain different techniques of developing negative films listed in 5.2.</p> <p>*Explain various factors that affect film development e.g. developer condition, dilution, time, temperature, agitation.</p> <p>*Explain the merits and demerits of each technique of film development listed in 5.2.</p>	<p>*Books  *Charts  *Pictures  *Chalk board  *Audio visual aids.</p>	<p>5.1 Carry out a negative film processing exercise using the various technique e.g.  i) Hand processing – dish/see saw  ii) Hand processing – tank.  iii) Machine processing.</p> <p>5.2 Observe the effects of different development techniques listed above.</p> <p>5.3 Guide students to identify factors that can affect film development such as, developer condition, dilution, time, temperature, agitation, etc.</p>	<p>*Demonstrate various techniques of processing negative film listed in 5.1.</p> <p>*Show samples of negatives affected by different development techniques.</p> <p>Demonstrate the effects of various factors mentioned in 5.3 on film development.</p>	<p>*Samples of negatives  *Chemicals  *Water  *Developing trays  *Developing tanks  *Timers  *Warmers/Heaters</p> <p>*Audio visual aids  *Manuals</p>

	<b>General Objectives 6.0: Understand printing techniques.</b>			<b>Know the procedures and techniques of printing.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	<p>6.1 Outline the procedures involved in the two common types of printing namely: - I) Contact printing II) Enlargement.</p> <p>6.2 State the characteristics of different photographic papers.</p> <p>6.3 Describe an enlarger.</p> <p>6.4 Describe how an enlarger is operated.</p> <p>6.5 Describe various methods of drying prints.</p>	<p>*Explain the procedure of making contact printing and enlargement.</p> <p>*Explain the characteristics of different photographic papers.</p> <p>*Explain an enlarger and its components.</p> <p>*Explain how an enlarger is operated.</p> <p>*Explain various methods of drying prints.</p>	<p>*Books *Charts *Pictures *Enlarger *Printing frames *Chemicals *Samples of prints. *Samples of different types of photographic papers *Etc</p>	<p>6.1 Carry out contact and enlargement printing.</p> <p>6.2 Identify various types of photographic papers.</p> <p>6.3 Identify various parts of an enlarger and their functions.</p> <p>6.4 Operate an enlarger.</p> <p>6.5 Dry prints using a dryer and under room temperature.</p>	<p>*Demonstrate common printing procedures viz:- i) Contact printing ii) Enlargement.</p> <p>*Show different types of photographic papers.</p> <p>*Show students an enlarger. *Guide students to identify various parts of an enlarger and their functions.</p> <p>*Demonstrate how to operate an enlarger.</p> <p>*Demonstrate how to carry out drying of prints using dryers and under room temperature.</p>	<p>*Samples of prints *Enlarger *Contact frame *Developers *Fixers *Water *Samples of different types of photographic papers *Dryer/warmers *Pegs</p>

	<b>General Objectives 7.0: Understand safety precautions to be taken in a darkroom/photographic laboratory.</b>			<b>Know safety measures applicable to a darkroom/photographic laboratory</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	<p>7.1 Outline the safety measures of a darkroom/photographic laboratory e.g.– Proper ventilation</p> <ul style="list-style-type: none"> <li>- Good layout</li> <li>- Safe Chemical storage</li> <li>- Demarcation of dry and wet areas</li> <li>- Use of safety lights</li> <li>- Etc</li> </ul>	<p>*Explain the need for safety in a darkroom/photographic laboratory.</p> <p>*Explain how the layout of the photographic laboratory can reduce accidents e.g.:-</p> <ul style="list-style-type: none"> <li>- Usage of safety lights</li> <li>- Maintenance of adequate ventilation.</li> <li>- Demarcation of wet and dry areas.</li> <li>- Etc</li> </ul>	<p>*Charts</p> <p>*Pictures</p> <p>*Chalkboard</p> <p>*Audio visual aids</p> <p>*Apron</p> <p>*Rubber gloves</p> <p>*First aid kit</p> <p>*Water</p> <p>*Fire extinguishers</p>	<p>7.1 Discuss safety measures applicable to a darkroom.</p> <p>7.2 Apply safety measures identified in 7.1 in a darkroom.</p> <p>7.3 Identify accidents that can occur in a darkroom/photographic lab and their causes.</p> <p>7.4 Apply relevant safety measures in the prevention of darkroom accidents identified.</p> <p>7.5 Guide students to undertake first aid treatment in case of accidents in a darkroom.</p>	<p>*Emphasize the importance of safety in a darkroom/ photographic laboratory.</p> <p>*Demonstrate how to maintain safety in a darkroom/photographic laboratory.</p> <p>*Guide students to identify accidents that can occur in a darkroom/photographic laboratory, their causes and how to prevent them.</p> <p>*Demonstrate how to give first aid treatments in case of accidents and chemical burns in a darkroom/photographic laboratory.</p>	<p>*Charts</p> <p>*Audio visual aids</p> <p>*Apron</p> <p>*Rubber gloves</p> <p>*First aid kit</p> <p>*Charts</p> <p>*Fire extinguishers</p>

**PROGRAMME:** NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY

**MODULE:** PRINT FINISHING

**CODE:** CPC 301

**DURATION:** 144 Hours

**GOAL:** This module is designed to provide the trainee with different methods of handling and framing prints.

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

**Theoretical contents: -**

- 1.0 Understand the techniques of dry mounting prints.
- 2.0 Understand the techniques of framing prints.
- 3.0 Understand the methods of storing photographic materials.

**Practical contents: -**

- 1.0 Know how to dry mount prints.
- 2.0 Know how to frame a print.
- 3.0 Know how to store photographic materials.

<b>PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>						
<b>MODULE: PRINTING FINISHING</b>			<b>CODE: CPC 301</b>		<b>CONTACT HOURS: 12 HRS/WK</b>	
<b>GOAL: This module is designed to provide the trainee with different methods of handling and framing prints.</b>						
<b>COURSE SPECIFICATION: Theoretical Contents: 4HRS/WK</b>				<b>Practical Contents: 8 HRS/WK</b>		
<b>General Objective 1.0: Understand the techniques of dry mounting prints.</b>				Know how to dry mount prints.		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-5</b>	<p>1.1 Outline various techniques involved in dry mounting prints such as: - I) Lamination e.g. wood, canvass, glass etc. II) Rubber cement. III) Etc.</p> <p>1.2 Outline various problems that may arise in dry mounting using the two techniques listed above.</p>	<p>* Explain dry mounting and why it is necessary to carry out dry mounting of prints.</p> <p>* Explain the techniques of dry mounting listed in 1.1</p> <p>* Explain problems of dry mounting techniques.</p> <p>* Explain how to solve the problems arising from the mentioned dry mounting techniques.</p>	<p>*Textbooks *Charts *Samples of dry mounted prints *Samples of prints *Mounting press *Dry-mount tissue (pressure sensitive/thermo plastic sheets)  *Audio visual aids.</p>	<p>1.1 Carry out dry mounting of print using the two common techniques viz -: I) Lamination e.g. wood, canvass, glass etc. II) Rubber cement.</p> <p>1.2 Identify various problems that may arise from the two dry mounting techniques such as: I) Lamination e.g. Air bubbles II) Rubber cement e.g. Warped surface, Un-inert cement gum.</p> <p>1.3 Discuss how to prevent problems of dry mounting techniques listed above.</p> <p>1.3 Solve the problems arising from both dry mounting techniques identified in 1.2.</p>	<p>*Demonstrate the process of dry mounting prints using various techniques listed in 1.1.</p> <p>* Guide students to identify various problems that may arise in dry mounting using the two techniques.</p> <p>* Demonstrate how to solve the problems arising from both dry mounting techniques listed in 1.2.</p>	<p>*Textbooks *Charts *Samples of dry mounted prints *Samples of prints *Mounting press *Dry-mount tissue (pressure sensitive/thermo plastic sheets)  *Audio visual aids.</p>

	<b>General Objective 2.0: Understand the techniques of framing prints.</b>			<b>Know how to frame a print.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>6-12</b>	<p>2.1 List the reasons why prints need to be framed.</p> <p>2.2 Mention various techniques of framing prints namely: -            I) Cropping of print            II) Bleeding of print            III) Mounting without an over mat            IV) Mounting with an over mat</p>	<p>Explain why it is necessary to frame prints.</p> <p>Explain the various techniques of framing prints listed in 2.2.</p>	<p>*Charts            *Pictures            *Textbooks            *Illustration board            *Cutting knife            *Tee square            *Art curve            *Samples of prints            *Frames            *Audio visual aids</p>	<p>1.1 Frame a print using the following techniques:            I) Cropping of print            II) Bleeding of print            III) Mounting without an over mat            IV) Mounting with an over mat</p>	<p>* Demonstrate how to frame prints using the following techniques:-            - Cropping of print            - Bleeding of print            - Mounting without an over mat            - Mounting with an over mat</p>	<p>*Charts            *Pictures            *Textbooks            *Illustration board            *Cutting knife            *Tee square            *Art curve            *Samples of prints            *Frames            *Audio visual aids</p>
	<b>General Objective 3.0 Understand the methods of storing photographic materials.</b>			<b>Know how to store photographic materials.</b>		
	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-7</b>	<p>3.1 List the equipment used for the storage of unexposed photographic materials.</p> <p>3.2 List the equipment needed for the storage of exposed photographic materials.</p> <p>3.3 Outline the reasons and importance for using correct equipment in the storage of both exposed and unexposed photographic materials.</p>	<p>*Enumerate various equipment required for the storage of exposed and unexposed photographic materials.</p> <p>*Explain the reasons for good storage of photographic materials (both exposed and unexposed).</p>	<p>*Textbooks            *Charts            *Pictures            *Films            *Refrigerator            *Cupboard            *Print            *Portfolio            *Storage racks            *Storage bottles            *Audio visual aids.</p>	<p>1.1 Identify the equipment required in the storage of both exposed and unexposed photographic materials.</p> <p>1.2 Identify the problems of improper storage of both unexposed and exposed materials.</p>	<p>*Show students various equipments used in the storage of both exposed and unexposed photographic materials.            *Guide students to identify various problems arising from improper storage of both exposed and unexposed</p>	<p>*Textbooks            *Charts            *Pictures            *Films            *Refrigerator            *Cupboard            *Print            *Portfolio            *Storage racks            *Storage bottles            *Audio visual aids.</p>

	<p>3.4 Outline problems that may arise from using wrong equipment in the storage of both exposed and unexposed photographic materials.</p> <p>3.5 Describe the methods of solving the problems of improper storage of both exposed and unexposed photographic materials and how to prevent them.</p>	<p>*Explain the importance of using correct equipment in storing both exposed and unexposed photographic materials.</p> <p>*Explain various problems of improper storage of both exposed and unexposed materials and how to solve them.</p> <p>*Explain the preventive measures of improper storage of both exposed and unexposed photographic materials.</p>		<p>1.3 Discuss how to solve the problems of improper storage of both exposed and unexposed photographic materials identified in 1.2.</p> <p>1.4 Carry out exercises on proper storage of both exposed and unexposed photographic materials.</p>	<p>photographic materials.</p> <p>*Demonstrate proper storage of both exposed and unexposed photographic materials.</p>	
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**PROGRAMME:** NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY

**MODULE:** CAMERA HANDLING

**CODE:** CPC 302

**DURATION:** 180 Hours

**GOAL:** This module is designed to provide the trainee with the basic knowledge and skills in camera handling techniques.

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

**Theoretical contents: -**

- 1.0 Understand the principles of shutters, shutter speed and aperture control.
- 2.0 Understand how to use cameras indoors for taking pictures.
- 3.0 Understand how to use cameras outdoors for taking pictures.

**Practical contents: -**

- 1.0 Know shutters, shutter speed and apertures.
- 2.0 Know how to use cameras indoors for taking pictures.
- 3.0 Know how to use cameras outdoors for taking pictures.



<b>PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>							
<b>MODULE: CAMERAL HANDLING</b>				<b>CODE: CPC 302</b>		<b>CONTACT HOURS: 15 HRS/WK (2 Terms)</b>	
<b>GOAL: This module is designed to provide the trainee with the basic knowledge and skills in camera handling techniques.</b>							
<b>COURSE SPECIFICATION: Theoretical contents: 4Hrs/wk , (Next Term -2 hrs/wk)</b>				<b>Practical Contents: 6Hrs/wk. (Next term – 3 Hrs/wk)</b>			
<b>General Objective 1.0: Understand the principles of shutters, shutter speed and aperture control.</b>				<b>Know shutters, shutter speed and apertures.</b>			
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher’s Activities</b>	<b>Learning Resources</b>	<b>Specific Objectives</b>	<b>Learning</b>	<b>Teacher’s Activities</b>	<b>Learning Resources</b>
<b>1-2</b>	1.1 Define shutter and aperture.  1.2 Explain the principle of operation of shutter.  1.3 Define shutter speed.  1.4 State the relationship between shutter and aperture in picture taking.	*Explain what is meant by shutter and aperture.  *Explain the uses of shutter and aperture in picture taking.  *Explain the relationship between shutter and aperture.	* Charts *Video tapes *Pictures *Camera.	1.1 Carry out exercises using shutter and aperture in taking pictures.		*Demonstrate how to use shutter and aperture in taking pictures.	* Charts *Video tapes *Pictures *Camera.
<b>General Objective 2.0: Understand how to use cameras indoors for taking pictures.</b>				<b>Know how to use cameras indoors in taking pictures.</b>			
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher’s Activities</b>	<b>Learning Resources</b>	<b>Specific Objectives</b>	<b>Learning</b>	<b>Teacher’s Activities</b>	<b>Learning Resources</b>
<b>3-6</b>	2.1 Name types of artificial lights used in taking indoor pictures e.g.: - Flash - Lamps - Etc	*Explain when artificial lights e.g. flash, lamps are needed for taking indoor pictures.	*Textbooks *Charts *Pictures *Film *Camera *Exposure control *Various lamps *Flash bulbs *Tripod	2.1 Identify types of artificial light used in taking indoor pictures such as: - - Flash - Lamps - Etc		*Show students various types of artificial lights used in taking indoor pictures e.g. flash, lamps, etc.	*Textbooks *Charts *Pictures *Film *Camera *Exposure control *Various lamps *Flash bulbs

	2.1 Describe when you need artificial lighting e.g. flash, lamps.	*Give reasons why artificial lights are needed in taking indoor pictures.	*Etc	2.2 Use exposure meter to set exposure control on the camera for taking indoor pictures.  2.3 Take indoor pictures applying exposure control set by exposure meter.	Demonstrate how to set exposure control using exposure meter in a camera.  Demonstrate how to use exposure meter to take pictures indoors.	*Tripod *Etc
	<b>General Objective: 3.0: Understand how to use cameras outdoors for taking pictures.</b>			<b>Know how to use cameras outdoors for taking pictures.</b>		
	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>7-12</b>	3.1 Describe how to choose site, stands and shades for outdoor pictures.  3.2 Describe how to position persons, animals and objects for outdoor pictures.  3.1 Describe how to take outdoor pictures.	*Explain how to go about taking pictures outdoor for persons, animals and objects.	*Textbooks *Camera *Tripod *Charts *Audio visual aids.	1.1 Carry out exercises on outdoor photography under different lighting conditions such as: - - Under a shade - Direct sunlight - Etc	*Demonstrate how to take pictures outdoor under different lighting conditions listed in 1.1.	*Camera *Tripod *Charts *Audio Visual aids

**PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY**

**MODULE: DIGITAL PHOTOGRAPHY**

**CODE: CPC 303**

**DURATION: 120 Hours**

**GOAL: This module is designed to provide the trainee with knowledge and skills of digital photography.**

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

**Theoretical contents: -**

- 1.0 Understand the basics of digital photography.
- 2.0 Understand the basics of forming digital images.
- 3.0 Understand the principles of operation of a digital camera.
- 4.0 Understand the techniques of printing digital photographs
- 5.0 Understand the facilities and methods of storing digital photographs.

**Practical contents: -**

- 1.0 Know the basics of forming digital images.
- 2.0 Know how to operate a digital camera.
- 3.0 Know how to print digital photographs.
- 4.0 Know how to store digital photographs.

<b>PROGRAMME: NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>						
<b>MODULE: DIGITAL PHOTOGRAPHY</b>			<b>CODE:CPC 303</b>		<b>CONTACT HOURS: 10 HRS/WK</b>	
<b>GOAL: The module is intended to provide the trainee with the knowledge and skills of digital photography.</b>						
<b>COURSE SPECIFICATION: Theoretical Contents: 4Hrs/wk</b>				<b>Practical Contents: 6Hrs/wk</b>		
<b>General Objective: 1.0 Understand the basics of digital photography.</b>						
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-4</b>	1.1 Define digital in relation to photography.  1.2 Outline the origin of digital photography.  1.3 List the differences between Analogue and Digital photography.	*Explain the concept of digital in photography.  *Explain how digital photography came into usage.  *Compare Analogue and Digital photography noting their advantages and disadvantages.	*Books *Audio visual aids *Pictures *Diagrams/Charts * Schematic Diagram			
<b>General Objective 2.0: Understand the basics of forming digital images.</b>				<b>Know the basics of forming digital images.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>5-12</b>	2.1 Define Pixels.  2.2 List pixels rating of a digital camera.	*Explain the meaning of Pixels.  *Explain the pixels rating of a digital camera and their qualities.	*Books *Audio visual aids. *Schematic diagrams. *Diagrams/Charts *Computers *Digital Camera.	2.1 Identify pictures taken with different pixels rating.	*Show students pictures of different pixels rating.	*Books *Audio visual aids. *Schematic diagrams. *Diagrams/Charts *Computers *Digital Camera *Softwares *Photo prints.

	<b>General Objective 3.0: Understand the principles of operation of a digital camera.</b>			<b>Know how to operate a digital camera.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	3.1 List the parts of a digital camera.  3.2 Outline the functions of different parts of a digital camera.	*Enumerate the parts of a digital camera.  *Explain the functions of various parts of a digital camera.	*Books *Diagrams/Charts *Manuals *Digital Cameras *Audio visual aids.	3.1 Operate a digital camera.	*Demonstrate how to use digital camera to take photographs.	*Books *Diagrams/Charts *Manuals *Digital Cameras *Audio visual aids.
	<b>General Objective 4.0: Understand the techniques of printing digital photographs.</b>			<b>Know how to print digital photographs.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	4.1 List the equipment required in printing digital photographs.  4.2 State the functions of various parts a digital camera 4.2 Outline the procedure involved in transferring images from camera to the printer.  4.3 Outline the procedure involved in transferring images from memory card to the printer.	*Explain the equipment required in printing digital photographs and their functions.  *Explain the procedure of transferring images from camera to printer.  *Explain the procedure of transferring images from memory card to printer.	*Textbooks *Diagrams/Charts *Audio visual aids *Digital cameras *Printer *Memory cards *Manuals	4.1 Carry out the process of transferring and printing images from camera to printer.  4.2 Carry out the process of transferring and printing images from memory card to printer.	*Demonstrate the process of transferring and printing images from camera to printer. *Demonstrate the process of transferring and printing images from memory card to printer.	*Textbooks *Diagrams/Charts *Audio visual aids *Digital cameras *Printer *Memory cards *Manuals

	<b>General Objective 5.0: Understand the facilities and methods of storing digital photographs.</b>			<b>Know how to store digital photographs.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	5.1 List the facilities used in storing digital photograph e.g. - Memory card - CD ROM - CD RAM - Etc  5.2 State the uses of the different storage facilities in 5.1.	*Enumerate different facilities used in storing digital photographs.  * Explain the functions and uses of different storage facilities listed in 5.1	*Diagrams/Charts *Audio visual aids *Digital cameras *Printer *Memory cards *CD ROM *CD RAM *Manuals	5.1 Identify different facilities used in storing digital photographs e.g. - memory card - CD ROM - CD RAM - Etc  5.2 Carry out exercises in the storage of digital photographs using the facilities identified above.	*Illustrate the uses of different facilities listed in 5.1 in the storage of digital photographs.  *Guide students to store digital photographs using appropriate storage facilities.	*Diagrams/Charts *Audio visual aids *Digital cameras *Printer *Memory cards *CD ROM *CD RAM *Manuals

**ADVANCED NATIONAL TECHNICAL CERTIFICATE**

**IN**

**PHOTOGRAPHY**

**PROGRAMME: ADVANCED NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY**

**MODULE: INTRODUCTION TO PHOTOGRAPHY**

**CODE: CPC 401**

**DURATION: 180 HOURS**

**GOAL: The module is designed to provide the trainee with the knowledge of the development of photography as an art and science.**

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

**Theoretical Contents:**

- 1.0 Understand the term photography and its relationship to light.
- 2.0 Understand the developmental history of photography.
- 3.0 Understand different fields of photography.
- 4.0 Understand different types of cameras.
- 5.0 Understand parts of a camera and their functions.
- 6.0 Understand the uses of various camera accessories.

**Practical contents: -**

- 1.0 Know various properties of light.
- 2.0 Know different fields of photography.
- 3.0 Know different types of cameras.
- 4.0 Know various parts of a camera and their functions.
- 5.0 Know various camera accessories and their uses.



<b>PROGRAMME: ADVANCED NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>						
<b>MODULE: INTRODUCTION TO PHOTOGRAPHY</b>			<b>CODE: CPC 401</b>		<b>CONTACT HOURS: 15 HRS/WK</b>	
<b>GOAL: The module is designed to provide the trainee with knowledge of the development of photography as an art and science.</b>						
<b>COURSE SPECIFICATION: Theoretical Contents: 5 Hr/wk</b>				<b>Practical Contents: 10 Hrs/wk</b>		
<b>General Objective: 1.0 Understand the term photography and its relationship to light..</b>				<b>Know various properties of light.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-4</b>	1.1 Define the term photography.  1.2 State the basic principles of light vis-a-vis photography.  1.3 Outline the properties of light: i. Reflection ii. Transmission iii. Refraction iv. Dispersion v. Absorption	*Explain the term photography.  *Explain the principle of light e.g. visible spectrum and light separation into red, orange, yellow, green, blue, indigo, violet (ROYGBIV).  * Explain the properties of light listed in 1.3.	*Books *Audio visual aids *Pictures *Diagrams/Charts * Schematic Diagram *Glass prism *Light source *Mirror *Coloured materials (assorted) *Light source	1.1 Carry out experiments on the properties of light namely: - reflection, transmission, refraction, dispersion, absorption.	*Perform experiments that will explain the properties of light listed in 1.1.	*Books *Audio visual aids *Pictures *Diagrams/Charts * Schematic Diagram *Glass prism *Light source *Mirror *Coloured materials (assorted) *Light source

	<b>General Objective 2.0: Understand the developmental history of photography.</b>					
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>5-12</b>	2.1 Discuss the origin of photography.  2.2 State the roles of the following people in the development of photography: i) Al-Haitian ii) John Dolland iii) Prof Joham Henry Schulze of Nuremburg. iv) Joseph Nicephore Niepce v) Louis Joarcques Mande Daguerre vi) Henry Fox Talbot.  2.3 Outline the developmental stages of photography to date.	*Explain the developmental history of photography.  *Explain the roles played by the pioneers in photography listed in 2.2.  *Explain the various stages in the development of photography from origin to date.	*Books *Audio visual aids. *Schematic diagrams. *Diagrams/Charts			
	<b>General Objective 3.0: Understand different fields of photography.</b>			<b>Know different fields of photography.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>

	3.1 List different fields of photography namely: - i) Glamour photography ii) Portraiture iii) Sport photography iv) Underwater photography v) Micro photography vi) Photo journalism vii) Advertising viii) Scientific photography ix) Nature photography	*Explain different fields available in photography listed in 3.1. *Explain the purpose of each field in photography e.g. - as means of communication  - as means of record keeping - for document copying - for preservation of cultural values - for education - for information distribution e.g. in newspapers.	*Books *Diagrams/Charts *Manuals *Audio visual aids. *Samples of works and photographs in each field in photography listed in 3.1.	3.1 Produce clip pictures in various fields of photography viz; i) Glamour photography ii) Portraiture iii) Sport photography iv) Underwater photography v) Micro photography vi) Photo journalism vii) Advertising viii) Scientific photography  3.2 Produce real pictures in the afore-mentioned fields in photography.	*Show students clip pictures different fields of photography mentioned in 3.1.   *Demonstrate how to take pictures in different fields in photography.	*Books *Diagrams/Charts *Manuals *Audio visual aids. *Samples of works and photographs in each field in photography listed in 3.1.
	<b>General Objective 4.0: Understand different types of cameras.</b>			<b>Know different types of cameras.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	4.1 List different types of cameras namely: - i) TLR ii) SLR iii) Range finders iv) Instamatics v) Digital camera vi) View camera  4.2 State the differences between different types of cameras listed above.	*Explain different types of cameras listed in 4.1 in detail.   *Explain what makes one camera different from the	*Textbooks *Diagrams/Charts *Audio visual aids *Different types of camera e.g. i) TLR ii) SLR iii) Range finders iv) Instamatics v) Digital	4.1 Identify different types of camera e.g. . i) TLR ii) SLR iii) Range finders iv) Instamatics v) Digital camera vi) View camera  4.2 Differentiate cameras of similar features, principles and methods of	*Conduct a close study of the different types of camera listed in 4.1.  *Illustrate how to differentiate cameras of similar features, principles and methods of operation e.g.	*Textbooks *Diagrams/Charts *Audio visual aids *Different types of camera e.g. i) TLR ii) SLR iii) Range finders iv) Instamatics v) Digital

		other e.g. i) TLR & SLR. ii) Range finder & View camera. iii) Digital & Film camera.	camera vi) View camera *Printer *Memory cards *ROM *RAM *Manuals	operation such as: - i) TLR & SLR. ii) Range finder & View camera. iii) Digital & Film camera.  4.2 Carry out exercises with different types of cameras.	i) TLR & SLR. ii) Range finder & View cameras. iii) Digital & Film camera.  *Demonstrate how to use different types of camera listed in 4.1 to take photographs.	camera vi) View camera *Printer *Memory cards *ROM *RAM *Manuals
<b>General Objective 5.0: Understand parts of a camera and their functions</b>			<b>Know parts of a camera and their functions</b>			
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	5.1 List parts of a camera namely: I) Lens II) Film chamber III) View finder IV) Film advance lever V) Shutter release button VI) Etc  5.2 State the functions of various parts of a camera listed in 5.1.	*Enumerate parts of a camera.  *Explain the functions of each part of a camera listed in 5.1.	*Textbooks *Pictures/Charts *Illustrative diagrams *Camera *Camera manuals *Audio visual aids	5.1 Identify each part of a Camera and its functions.  5.2 Operate a camera and observe the function of each part of the camera.	*Guide students to identify each part of a camera.  *Demonstrate the function of each part of a camera.	*Textbooks *Pictures/Charts *Illustrative diagrams *Camera *Camera manuals *Audio visual aids
<b>General Objective 6.0: Understand the uses of various camera accessories.</b>			<b>Know various camera accessories and their uses.</b>			
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	6.1 List various camera accessories namely: I) Flash guns II) Lens III) Tripod stand IV) Exposure meter V) Shutter release cable VI) View finder/magnifier	*Enumerate various camera accessories.  *Explain the functions of each camera accessory mentioned in 6.1.	*Textbooks *Camera manuals *Manuals of various camera accessories *Manuals of various types of lenses.	6.1 Identify various kinds of camera accessories e.g. I) Flash gun II) Lens III) Tripod stand IV) Exposure meter V) Shutter release cable VI) View finder/magnifier	*Show students various camera accessories listed in 6.1.	*Textbooks *Camera manuals *Manuals of various camera accessories *Manuals of various types of lenses.

	<p>VII) Filter VIII) Lens hood IX) Camera/flash bracket X) Camel hair brush blower XI) Etc</p> <p>6.2 List various types of lenses e.g. I) Wide angle lens II) Normal lens III) Telephoto lens IV) Zoom lens</p> <p>6.3 Describe the areas of application of each type of lens mentioned above.</p>	<p>*Explain each type of lens listed in 6.2 and their differences.</p> <p>*Explain the uses of each type of lens.</p>	<p>*Pictures/Charts *Illustrative diagrams *Audio visual aids *Samples of camera accessories listed in 6.1.</p> <p>*Samples of various types of lens namely; I) Wide angle lens II) Normal lens III) Telephoto lens IV) Zoom lens</p>	<p>VII) Filter VIII) Lens hood IX) Camera/flash bracket X) Camel hair brush blower XI) Etc</p> <p>6.2 Take photographs using some of the camera accessories mentioned above.</p> <p>6.3 Identify various types of lenses e.g. I) Wide angle lens II) Normal lens III) Telephoto lens IV) Zoom lens</p> <p>6.4 Mount different types of lenses on a camera and observe their effects.</p> <p>6.5 Describe the effect of various types of lenses mounted on a camera.</p> <p>6.6 Carry out exercises using various types of lenses to take photographs.</p>	<p>*Demonstrate the uses of various camera accessories in taking photographs.</p> <p>*Show students various types of lenses listed in 6.3.</p> <p>*Demonstrate how to mount different types of lenses on a camera.</p> <p>*Illustrate the effects of various types of lenses mounted on a camera.</p> <p>*Demonstrate how to use different lenses on a camera to take photographs</p>	<p>*Pictures/Charts *Illustrative diagrams *Audio visual aids *Samples of camera accessories listed in 6.1.</p> <p>*Samples of various types of lens namely; I) Wide angle lens II) Normal lens III) Telephoto lens IV) Zoom lens</p>
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**PROGRAMME: ADVANCED NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY**

**MODULE: COMPOSITION IN PHOTOGRAPHY**

**CODE: CPC 402**

**DURATION: 216 HOURS**

**GOAL: This module is designed to provide the trainee with basic knowledge and skills of composition in photography.**

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

**Theoretical Contents:**

- 1.0 Understand the term, composition in photography.
- 2.0 Understand the principles of composition.
- 3.0 Understand colour in photography.

**Practical contents: -**

1.0 Know key elements of composition in photography.

2.0 Know various principles of composition.

3.0 Know different colours available in photography.

<b>PROGRAMME: ADVANCED NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>						
<b>MODULE: COMPOSITION IN PHOTOGRAPHY</b>			<b>CODE: CPC 402</b>		<b>CONTACT HOURS: 18 HRS/WK</b>	
<b>GOAL: The module is designed to provide the trainee with basic knowledge and skills of composition in photography.</b>						
<b>COURSE SPECIFICATION: Theoretical Contents: 6Hrs/wk</b>				<b>Practical Contents: 12Hrs/wk</b>		
<b>General Objective: 1.0 Understand the term composition in photography.</b>				<b>Know key elements of composition in photography.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-4</b>	1.1 Define the term composition in relation to photography.  1.2 State the key elements of composition e.g. - View points - Purpose.	*Explain the term composition with respect to photography.  *Explain the key elements of composition viz; - View points	*Textbooks *Audio visual aids *Pictures/charts *Illustrative diagrams *Samples of photographs showing the key	1.1 Discuss composition and its key elements viz; - view points - purpose.  1.2 Carry out exercises using elements of composition i.e. view points and purpose.	*Show samples of pictures highlighting the key elements of composition i.e. view points and purpose.  *Demonstrate how to manipulate the key elements of	*Textbooks *Audio visual aids *Pictures/charts *Illustrative diagrams *Samples of photographs showing the key

	1.3 Describe the elements of composition in photography.	- Purpose *Explain how to employ the elements of composition in photography.	elements of composition. *Camera *Camera accessories		composition i.e. view points and purpose in taking pictures.	elements of composition. *Camera *Camera accessories
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<b>General Objective 2.0: Understand the principles of composition.</b>				<b>Know various principles of composition.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>5-12</b>	2.1 List the principles of composition namely: - i. balance ii. harmony (form) iii. unity (order) iv. contrast v. colour  2.2 Describe the principles of composition listed in 2.1	*Enumerate the principles of composition.  *Explain the various principles of composition.	*Textbooks *Pictures/Charts *Illustrative diagrams *Audio visual aids  *Samples of pictures showing the various principles of composition viz; - balance - harmony (form) - unity (order) - contrast - colour * Camera *Camera accessories.	2.1 Discuss the various principles of composition namely: - i. balance ii. harmony (form) iii. unity (order) iv. contrast v. colour  2.2 Identify the listed principles of composition in some sample pictures.	*Show samples of pictures depicting the various principles of composition listed in 2.1.  *Guide students to identify various principles of composition in some sample pictures.	*Textbooks *Pictures/Charts *Illustrative diagrams *Audio visual aids  *Samples of pictures showing the various principles of composition viz; - balance - harmony (form) - unity (order) - contrast - colour * Camera *Camera accessories.
<b>General Objective 3.0: Understand colour in photography.</b>				<b>Know different colour available in photography.</b>		



WEEK	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objectives	Teacher's Activities	Learning Resources
	<p>3.1 Define colour.</p> <p>3.2 Classify colour in photography into two major classes namely: -  - Primary colours  - Complementary colours.</p> <p>3.3 List examples of Primary colours and complementary colours in photography.</p> <p>3.4 Describe the use of colour filters in black and white photography.</p>	<p>*Give the definition of colour with respect to photography.</p> <p>*Explain two major classes of colour in photography viz;  - Primary colours  - Complementary colours</p> <p>*Give examples of each class of colour mentioned above.</p> <p>*Explain the use of colour filters in black and white pictures.</p>	<p>*Textbooks  *Pictures/Charts  *Illustrative diagrams  *Audio visual aids</p> <p>*Various colour pigments for both primary and complementary colours.  *Coloured objects depicting the various types of primary and complementary colours.</p> <p>*Camera  *Camera accessories  *Colour filters</p>	<p>3.1 Discuss two major classes of colours in photography and their examples namely: -  - Primary colours  - Complementary colours.</p> <p>3.2 Carry out exercises using colour filters in taking black and white pictures.</p>	<p>*Show types of colours available in photography e.g.  1) Primary colours e.g. red, green and blue</p> <p>2) Complementary colours e.g. orange, yellow, purple etc.</p> <p>*Demonstrate how to use colour filters in taking black and white pictures.</p>	<p>*Textbooks  *Pictures/Charts  *Illustrative diagrams  *Audio visual aids</p> <p>*Various colour pigments for both primary and complementary colours.  *Coloured objects depicting the various types of primary and complementary colours.  *Camera  *Camera accessories  *Colour filters</p>

**PROGRAMME:      ADVANCED NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY**

**MODULE:           DEVELOPMENT & PRINTING**

**CODE:             CPC 403**

**DURATION:        216 HOURS**

**GOAL:            This module is designed to provide the trainee with basic knowledge and skills of processing film and printing photographs conventionally and digitally.**

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

**Theoretical contents: -**

- 1.0 Understand the process of developing negative film.
- 2.0 Understand the process of printing pictures.
- 3.0 Understand the process of producing digital photographs.

**Practical contents: -**

- 1.0 Know how to develop negative film.
- 2.0 Know how to print pictures.

3.0 Know how to produce digital photographs.

<b>PROGRAMME: ADVANCED NATIONAL TECHNICAL CERTIFICATE IN PHOTOGRAPHY</b>						
<b>MODULE: DEVELOPMENT &amp; PRINTING</b>			<b>CODE: CPC 403</b>		<b>CONTACT HOURS: 18 HRS/WK</b>	
<b>GOAL: The module is designed to provide the trainee with basic knowledge and skills of processing film and printing photographs conventionally and digitally.</b>						
<b>COURSE SPECIFICATION: Theoretical Contents: 6Hrs/wk</b>				<b>Practical Contents: 12Hrs/wk</b>		
<b>General Objective: 1.0 Understand the process of developing negative film.</b>				<b>Know how to develop negative film.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>1-4</b>	1.1 Describe the layout of a darkroom/photographic laboratory indicating wet and dry areas.  1.2 List the chemicals used in the development of a negative film such as: - I) Developer II) Stop bath	*Explain the layout of a darkroom.  *Use diagram and charts to illustrate wet and dry areas of darkroom/photographic laboratory  *Enumerate chemicals used in developing negative	*Textbooks *Manuals *Audio visual aids *Pictures/charts *Illustrative diagrams *Darkroom/Photographic laboratory. *Chemicals for processing negative films	1.1 Visit a real darkroom/photographic laboratory to know the layout.  1.2 Identify wet and dry areas in a darkroom/photographic laboratory.  1.3 Identify the chemicals used in developing negative films such as: - I) Developer II) Stop bath	*Take students to real darkroom/photographic laboratory to see the layout.  *Guide students to identify wet and dry areas in a darkroom/photo lab.  *Show students the various chemicals	*Textbooks *Manuals *Audio visual aids *Pictures/charts *Illustrative diagrams * Darkroom/Photographic laboratory. *Chemicals for processing negative films

	<p>III) Fixer IV) Water V) Etc</p> <p>1.3 List the methods of film processing such as: - I) See-saw method II) Developing tank method (agitation) III) Automated method.</p> <p>1.4 Outline the standard procedure of developing negative films.</p>	<p>films.</p> <p>*Explain how to mix and use the chemicals listed in 1.2 in the development of negative film.</p> <p>*Explain the various methods of processing negative film listed in 1.3.</p> <p>*Explain the detailed procedure of negative film development.</p>	<p>e.g. Developer, Stop bath, Fixer, Water.</p> <p>*Samples of Negative films. *Safelight *Trays *Developing tanks</p>	<p>III) Fixer IV) Water V) Etc</p> <p>1.4 Mix the chemicals listed above to working solutions for use in processing negative films.</p> <p>1.5 Process negative films using various negative film processing methods e.g. I) See-saw method II) Developing tank method (agitation) III) Automated method.</p> <p>1.6 Carry out exercises on negative film processing and development.</p>	<p>used in the development of a negative film listed in 1.3.</p> <p>*Demonstrate how to mix the chemicals used in processing negative films to working solutions.</p> <p>Demonstrate the various methods of processing negative films listed in 1.5.</p> <p>Take students to automated darkroom/photo lab to identify the equipment used in automated film processing.</p>	<p>e.g. Developer, Stop bath, Fixer, Water. *Samples of Negative films. *Safelight *Trays *Developing tanks *Field trips to Darkroom/ Photographic laboratory. *Field trips to automated darkroom/ photographic laboratory to see its equipments.</p>
	<b>General Objective 2.0: Understand the process of printing pictures.</b>			<b>Know how to print pictures</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
<b>5-12</b>	<p>2.1 List the equipment required for printing pictures such as: - I) Enlarger II) Developing trap III) Dryers IV) Timers V) Etc</p>	<p>*Enumerate various equipment required in printing pictures.</p>	<p>*Textbooks *Manuals *Audio visual aids *Pictures/charts *Illustrative diagrams * Darkroom/</p>	<p>2.1 Identify various equipment used in printing pictures such as: - I) Enlarger II) Developing trap III) Dryers IV) Timers V) Etc</p>	<p>* Show students various equipment used in printing pictures listed in 2.1.  * Discuss the uses of various equipment listed in 2.1 in</p>	<p>*Textbooks *Manuals *Audio visual aids *Pictures/charts *Illustrative diagrams * Darkroom/</p>

	2.2 Describe the uses of various equipment listed above in printing pictures. 2.3 List common kinds of printing pictures such as: - I) Contact printing II) Enlargement.	*Explain the uses of the equipment listed in 2.1 in printing pictures. *Explain the two common kinds of printing pictures namely; Contact printing and Enlargement.	Photographic laboratory... *Chemicals for processing negative films e.g. Developer, Stop bath, Fixer, Water. *Samples of Negative films. *Safelight *Enlarger *Printing papers	2.2 Carry out exercises in the two common kinds of printing pictures namely: - I) Contact printing II) Enlargement.	printing pictures.  * Demonstrate the two common kinds of printing pictures namely; Contact printing and Enlargement.  * Take students to field trips to see the two common kinds of printing pictures mentioned above.	Photographic laboratory. *Chemicals for processing negative films e.g. Developer, Stop bath, Fixer, Water. *Samples of Negative films. *Safelight *Enlarger *Printing papers *Field trips to darkroom/photo lab.
	<b>General Objective 3.0: Understand the process of producing digital photographs.</b>			<b>Know how to produce digital photographs.</b>		
<b>WEEK</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
	3.1 List the equipment required in producing digital photographs such as: - I) Camera II) Computer III) Memory card IV) USB cable V) Flash drive VI) Printer VII) Etc.  3.2 State the functions of various equipment listed above in producing digital photographs.	* Enumerate various equipment used in producing digital photographs  * Explain the uses of various equipment listed in 3.1 in the production of a digital photograph.	*Textbooks *Manuals *Audio visual aids *Pictures/charts *Illustrative diagrams *Camera *Computer *Memory card *USB cable *Flash drive *Printer	3.1 Identify various equipment required in the production of digital photographs such as: - I) Camera II) Computer III) Memory card IV) USB cable V) Flash drive VI) Printer, Etc. 3.2 Discuss the functions of each equipment listed above in the production of digital photographs. 3.3 Carry out exercises using the equipment listed in 3.1 in the production of digital	* Show students various equipment required in the production of digital photographs mentioned in 3.1.  * Demonstrate the functions and uses of each equipment listed in 3.1 in producing digital photographs.  * Demonstrate the	*Textbooks *Manuals *Audio visual aids *Pictures/charts *Illustrative diagrams *Camera *Computer *Memory card *USB cable *Flash drive *Printer *Field trip to digital photo studio.

	<p>3.3 Outline various procedure of producing a digital photograph such as: -  I) Camera–Computer–Printer  II) Camera-Flash drive-Computer-Printer.  III) Camera-Memory card-Computer-Printer.  IV) Camera-Printer.</p>	<p>* Explain the different procedure of producing digital photographs mentioned in 3.3.</p>		<p>photographs.  3.4 Print digital photographs using different printing procedure such as: -  I) Camera–Computer–Printer  II) Camera-Flash drive-Computer-Printer.  III) Camera-Memory card-Computer-Printer.  IV) Camera-Printer.</p>	<p>various procedure of printing digital photographs mentioned in 3.4.  * Take students to digital photo studio to see the different procedure of printing digital photographs.</p>	
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## **LIST OF TEXT BOOKS AND REFERENCE MATERIALS**

1. Tourism Planing and Development – 1978
  - By Charles, Kaiser and Larry E. Helber.
2. Ecotourism - A guide for planners and managers – 1993.
  - By Kreg Lindberg and Donald E. Hawkins.
3. Ecotourism as a worldwide Phenomenon – a guide for planers and managers - 1993.
  - By Hector C. Lascurian.
4. Ecological principles for economic Development.
  - By Dasman, F. Raymond, John P. Milton and Peter, H Freeman.
5. Sustainable Tourism in protected area - Guideline for planning and management – 2001.
  - By Paul, F.J Eagles, Stephen F. Mcool and Christopher D. Hagness.
6. Book of colour Photography:
  - By Adrian Bailey.
7. Colour in focus
  - By Bob Clarke.
8. Basic critical Theory for photographers
  - By Ashley La Grange.
9. Elementary photography (Teach yourself book).
  - By R.H Mason
10. Colour Photography
  - By J. Van Welson

11. Lighting for Photography.
  - By Walter Nurnberg
12. Processing (the Darkroom Tips).
  - By H. Gotze
13. Composition (Principles of composition)
  - By A. Feininger.
14. PHOTOGRAPHY
  - By Phil Davies
15. Portraiture (creative Portrait photography)
16. Popular photography (Magazine) monthly.
17. Amateur photographer (Magazine) (Weekly).
18. INTERNET.



**PARTICIPANTS IN NATIONAL CRITIQUE WORKSHOP IN PHOTOGRAPHY  
AT KADUNA 26<sup>TH</sup> - 29<sup>TH</sup> JANUARY 2006 & JOS 14<sup>TH</sup> - 18<sup>TH</sup> JANUARY 2008**

<b>S/No.</b>	<b>Name</b>	<b>Full Address</b>	<b>Phone No.</b>	<b>e-mail Address</b>
1.	Muhammed M. Ari	Dept of Education Technical, College of Science and Technology, Kaduna Polytechnic, Kaduna.	08057414485	<a href="mailto:arisonsnr@yahoo.com">arisonsnr@yahoo.com</a>
2.	Alhaji Aminu Ilu	Dept of Art & Industrial Design, Kano State Polytechnic, Kano.		
3.	Timothy A. Kazzah	Dept of Education Technical, College of Science and Technology, Kaduna Polytechnic, Kaduna.		
4.	Kasimu Suleiman	Nigerian Television Authority, Kaduna.	08026592880	
5.	Robert C. Ikpema	National Film Institute, Jos.	08053057439	
6.	T.A Ilori.	National Teachers Institute, Kaduna.	08054106867	
7.	Dr Onyero Mgbejume	MOTION PICTURE ACADEMY Jos. Or Dept of Mass Communication, Ahmadu Bello University, Zaria.	08033986959	<a href="mailto:jimmyonyero@yahoo.com">jimmyonyero@yahoo.com</a>
8.	Kaigama J. P	Printing & Publication Department, National Veterinary Research Institute, Vom, Jos.	08033148650	<a href="mailto:papkaj@yahoo.com">papkaj@yahoo.com</a>
9.	Lawan Abdulkarim	National Board for Technical Education (NBTE), Kaduna.	08037013711	lawannbte@yahoo.co.uk
10.	Mallam M. K. Jumare	National Board for Technical Education (NBTE), Kaduna.	-	
11.	Mallam Mohammed. Abdullahi Jatau	NBTE, Kaduna.	08023183770	
12.	Engr (Mrs) Ngozi M. Okelekwé	NBTE, Kaduna	08033941915	<a href="mailto:janelive2003@yahoo.com">janelive2003@yahoo.com</a>