NATIONAL BOARD FOR TECHNICAL EDUCATION

CURRICULUM AND COURSE SPECIFICATION
FOR
NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY

DEVELOPED IN COLLABORATION WITH

ENVIRONMENTAL HEALTH OFFICERS REGISTRATION COUNCIL OF NIGERIA (EHORECON), ABUJA

NOVEMBER, 2017.

GENERAL INFORMATION

1.0 PROGRAMME NOMENCLATURE:

National Diploma (ND) in Environmental Health Technology

2.0 PROGRAMME GOAL:

The National Diploma Programme in Environmental Health Technology is designed to produce middle level personnel i.e. Environmental Health Technician who will, under supervision be able to ensure healthy environment in homes, communities and work places; thereby bequeathing to the public a sustainable level of health to enable them live and perform optimally in their communities

3.0 OBJECTIVES OF THE PROGRAMME:

At the end of the Programme, the Diplomate should be able to:

i) Assist the Environmental Health Technologist and Environmental Health Officer in the discharge of their work responsibilities
ii) Assist in sensitizing, counseling and providing preventive health information to the community
iii) Assist in keeping, analyzing and retrieval of records in an Environmental Health Office
iv) Assist in conducting Sanitary Inspection of Premises
v) Assist in handling and maintenance of equipment
vi) Assist in carrying out environmental health –related Primary Health care activities
vii) Assist in providing Environmental Health care services at schools, homes, commercial outfits and the likes

4.0 ENTRY REQUIREMENTS

The minimum entry requirements into the ND Environmental Health programme are:

- Five (5) credit passes in: WASC, SSC (NECO), NABTEB or GCE 'O' Level; at not more than two (2) sittings.
- The subject combination must include: English, Mathematics, Biology/Health Science, Chemistry and Physics

5.0 STRUCTURE/DURATION OF THE PROGRAMME:

The ND Environmental Health Technology is a terminal programme structured to last for two (2) years (four semesters) of classroom work, laboratory and workshop practices and field trips in an accredited tertiary educational health institution.

This duration also incorporates: 3-4 months Supervised Field Experience (SUPFE) which shall take place at the end of the first semester of the second year.

Each semester shall be for 17-18 weeks, made up as follows:

i) 15 contact weeks of teaching (i.e. lectures and practical sessions etc.) and
ii) 2-3 weeks for registration, tests, quizzes and examinations.

6.0 CURRICULUM:

The syllabus of the ND Environmental Health Technology programme consists of four (4) main components. These are:

I) General studies/General education courses
II) Foundation courses
III) Professional courses
IV) Supervised Field Experience

7.0 ASSESSMENT CRITERIA:

Aspect	**Classwork /practical &Laboratory Works**	**Semester Examinations**	**Total**
Theory	10	30	40
Practical	20	40	60
Total	30	70	**100**

8.0 AWARD OF NATIONAL DIPLOMA:

The National Diploma certificate shall be awarded by the authority of the Academic Board of the Institution.
Theconditions for the award of National Diploma for Environmental Health Technician Certificate include the following:

i) Satisfactory performance in all prescribed course work/assignments, tests/quizzes, workshop practice, laboratory work, field trips etc.
ii) Satisfactory completion of Supervised Field Experienceofone year.
iii) Satisfactory performance in all semester examinations.
iv) Satisfactory completion of written term papers and or final year diploma project works.
v) The candidate should have completed a minimum of between 72 and 80 semester credit units.

Additionally, Candidates must pass the Professional Certification examination administered by the Environmental Health Officers Registration Council of Nigeria (EHORECON) in the second semester of ND II (Year Two). This will enable the graduate to be inducted into and be temporarily licensed to practice the profession as a Supervisee Environmental Health Technician pending the completion of the one-year mandatory Supervised Field Experience (SUPFE).
The Professional Certification examination shall involve the following papers:
Candidates are to sit for 3 papers viz:

i) Oral Examination
ii) Practical Examinations
iii) Theory Examinations made up of Essay and Multi Choice Questions (MCQ) of 50. The Essay and MCQ will test the Knowledge of theory and practice of Environmental Health

The National Diploma shall be awarded based on the following classifications:

Distinction	-	CGPA 3.50 - 4.00
Upper Credit	-	CGPA 3.00 - 3.49
Lower Credit	-	CGPA 2.50 - 2.99
Pass	-	CGPA 2.00 - 2.49

9.0 ACCREDITATION OF PROGRAMME:

Each programme offered at the ND or HND Levels shall be accredited by the NBTE before diplomates can be awarded either ND/HND certificates. Details about the process of accrediting a programme for the award of ND or HND are available from the Board's website www.nbte.gov.ng or through correspondence to: The Executive Secretary, Attention –MonotechnicsProgrammes Department., NBTE, Plot 'B' Bida Road, P.M.B 2239, Kaduna, Nigeria.

10.0 LOG BOOK:

There shall be two types of Log Books:

i) A personal log book for each course is to be kept by the students. It shall contain all the recordings of the day-to-day, weekly and semester practical works/ activities from day one to the end of the programme.This is to be checked, marked appropriately and endorsed by all lecturers concerned at the end of every week.
ii) An end-of-School (Post Diploma) log book maintained by a Supervisee Environmental Health Technician for the entry of their daily/weekly Field Experience work in the Environmental Health Department/Unitof Supervisee's posting. The log book shall be duly signed by the Industry-based Supervisor on monthly basis. At the end of the EHORECON-supervised fifty-two-week-long SUPFE, the Supervisee receives a Certificate of SUPFE Completion from EHORECON.

11.0 FINAL YEAR PROJECTS:

Final year students of the programme are expected to carry out project works, either on individual or group basis (2 -3 per group). The project topics should as much as possible should be related to the programme and serve as a useful tool for further Research and /or Development. Projects should be properly supervised and their reports well presented. The institution should develop formats for presenting and grading of projects. The formats should be adopted as applied to each stakeholder.

12.0 CURRICULUM TABLE

LEVEL: YEAR 1 **SEMESTER: 1**

COURSE CODE	COURSE TITLE	L	T	P	CU/CH	TOTAL HOURS PER SEMESTER	PRE-REQUISITE
EHT 111	Introduction to Environmental Health	2	-	-	2	30	
EHT 112	Introduction to Concept of Health & Diseases	2	-	-	2	30	
DTH 115	Human Anatomy & Physiology	2	-	2	4	60	
EHS 111	Applied Physics	2	-	1	3	45	
EHS 112	Applied Chemistry	2	-	1	3	45	
GNS 230	General Biology	2	-	1	3	45	
GNS 411	Introduction to Psychology	2	-	-	2	30	
COM 111	Introduction to Computer Science	1	-	1	2	30	
GNS 101	Use of English I	2	-	-	2	30	
GNS 111	Citizenship Education I	2	-	-	2	30	
		19	-	6	25	375	

KEY: L: Lecture T-Tutorial P-Practical CU-Course Unit CH-Credit Hour

PROGRAMME: NATIONAL DIPLOMA ENVIRONMENTAL HEALTH TECHNOLOGY.

LEVEL: YEAR 1 **SEMESTER: II**

COURSE CODE	COURSE TITLE	L	T	P	CU/CH	TOTAL HOURS PER SEMESTER	PRE-REQUISITE
EHT 121	Introduction to Environmental Management	2	-	1	3	45	
EHT 122	Environmental Health II	2	-	2	4	60	
EHT 123	Building Sanitation I	2	-	1	3	45	
EHT 124	Ecology	2	-	-	2	30	
DTH 216	Human Anatomy & Physiology II	2	-	2	4	30	
EHS 125	Pharmacology I	2	-	-	2	30	
GNS 115	Introduction to Sociology	2	-	-	2	30	
EHS 121	Introduction to Biochemistry	2	-	1	3	45	
STA 111	Introduction to Statistics	2	-	-	2	30	
MEC 112	Technical Drawing	1	-	1	2	30	
EED 126	Entrepreneurship Education	2	-	1	3	45	
		22	-	8	30	450	

KEY: L: Lecture T-Tutorial P-Practical CU-Course Unit CH-Credit Hour

PROGRAMME: NATIONAL DIPLOMA ENVIRONMENTAL HEALTH TECHNOLOGY.

LEVEL: YEAR 2 **SEMESTER: 1**

COURSE CODE	COURSE TITLE	L	T	P	CU/CH	TOTAL HOURS PER SEMESTER	PRE-REQUISITE
EHT 211	Public Health Pest Management	1	-	2	3	45	
EHT 212	Principles of Epidemiology & Disease Control	2	-	1	3	45	
EHT 213	Introduction to Entomology	3	-	-	3	45	
EHT 214	Environmental Parasitology I	2	-	-	2	30	
EHT 215	Waste Management I	2	-	-	2	30	
EHT 216	Environmental Appraisal	2	-	-	2	30	
EHS 211	Technical Report Writing	1	-	1	2	30	
CHO 111	Primary Health Care I	2	-	1	3	45	
NUD 124	Human Nutrition	1	-	2	3	45	
GNS 228	Research Methods	2	-	-	2	30	
					4		
	TOTAL					480 ????	

KEY: L: Lecture T-Tutorial P-Practical CU-Course Unit CH-Credit Hour

PROGRAMME: NATIONAL DIPLOMA ENVIRONMENTAL HEALTH TECHNOLOGY.

LEVEL: YEAR 2 **SEMESTER: II**

COURSE CODE	COURSE TITLE	L	T	P	CU/CH	TOTAL HOURS PER SEMESTER	PER-REQUISITE
EHT 221	Food Hygiene & Inspection	1	-	2	3	45	
EHT 222	Public/Environmental Health Laws	1	-	1	2	15	
EHT 223	Contemporary Environmental Health Issues	2	-	-	2	30	
EHT 224	Sanitary Inspection of Premises	1	-	2	3	45	
EHT 225	Water Sanitation I	1	-	1	2	30	
EHT 226	Principles of Environmental Health Administration	2	-	-	2	30	
EHT 229	Project Report Writing	-	6	2	2	30	
CHO 221	Primary Health Care II	2	-	1	3	45	
EHT 227	Introduction to Immunity & Immunology	2	-	-	2	30	
EHS 228	First Aid Management	1	-	1	2	30	
EHT 228	Health Education I	1	-	-	2	45	
GNS 102	Communication in English II	2	-	-	2	30	
		16	**6**	**10**	**27**	**405**	

KEY: L: Lecture T-Tutorial P-Practical CU-Course Unit CH-Credit Hour

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<Missing courses in the fourth semester>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

EHT 229	Project Report Writing
CHO 221	Primary Health Care II
GNS 201	Communication in English II

<<<<<<<<<<<<<<<<<<To be provided by NBTE>>>>>>>>>>>>>>>>>>

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY [NATIONAL DIPLOMA]				
COURSE TITLE: INTRODUCTION TO ENVIRONMENTAL HEALTH				
COURSE CODE: EHT 111				
DURATION:	Lecture: - 2HRS	Tutorial: -	Practical: -	Total: 30 HRS PER SEM
CREDIT UNITS: 2 C.U.				

GOAL: This course is designed to enable the students acquire knowledge in Environmental Health and solving issues (problems) within the community.
GENERAL OBJECTIVE: On completion of the course, the student should be able to:
1.0 Understand the concepts of Health, Environment and Environmental Health 2.0 Know the components of Environmental Health Service in any community 3.0 Know Environmental Health Hazards/Problems in any community 4.0 Understand the relationship between Air, water, soil pollution and Human Health 5.0 Understand types, sources and disposal of Waste Waters. 6.0 Know Solid Wastes and excreta disposal methods in a Community 7.0 Know the control of vectors of Public health importance. 8.0 Know the control of vectors of Public health importance.

PROGRAMME: NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY						
COURSE TITLE: Introduction to Environmental Health Course Code: EHT 111 Contact Hours: 30Hrs (2 Units)						
COURSE SPECIFICATION: Theoretical Content: Practical Content:						
8.0 **GENERAL OBJECTIVE: 1.0** Understand the concepts of Health, Environment and Environmental Health						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define	• Lecture	• Lecture notes		•		• Assignment

- Health - Environment - Environment health - Sanitation - Environmental sanitation 1.2.Classify Environment into the following types: - Physical (Abiotic) - Biological (Biotic) - Chemical - Social cultural - Occupational etc. 1.3.Describe the various classification listed above 1.4.Describe with examples the various components of environment in your community.	• Discuss • Brainstorm	• Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player				• Class Test • Presentation • Examination

COURSE SPECIFICATION:	**Theoretical Content:**		**Practical Content:**			
GENERAL OBJECTIVE:	**2.0 Know the components of environmental health services in any community**					
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 List the components of environmental health services e.g. housing health, water supply and sanitation, waste management, vector control environmental epidemiology etc. 2.2 Explain each of the components listed in 2.3 above. 2.4 State the components of environmental sanitation as provided in the National	Define List Explain	i. white marker Board ii. Projector iii. Reference Book iv. Charts				i. continue assessment ii. Oral interview iii. Give assignment iv. Semester Examination

Environmental Sanitation Policy. 2.5 Explain the relationship between health and environment		v. Tutorial				

COURSE SPECIFICATION:	**Theoretical Content:**		**Practical Content:**			
GENERAL OBJECTIVE:	**3.0 Identify environmental health hazards/problems in any community**					
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Explain the term environmental health hazards. 3.2 Classify environmental health hazard into: Physical, Chemical, biological and socio-cultural (Psychological). 3.3 Describe examples of the four (4) classes of environmental hazards listed in 3.2 above.	Define List Explain Describe Classify.	i. While maker Board. ii. projector iii. Reference Books iv. Charts				i. continue assessment ii. oral interview iii. Assignment iv. Term paper

3.4 Explain how each of the examples is related to health. 3.5 Explain how to control environmental health hazards. 3.6 Explain how you may control common environmental hazards in the community.		v. Posters vi. Computer				

COURSE SPECIFICATION:	**Theoretical Content:**		**Practical Content:**			
GENERAL OBJECTIVE:	**4.0 Understand the relationship between Air, Water, Soil Pollution and human health.**					
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Define the terms: • Air Pollution • Water pollution and • Soil Pollution 4.2 List sources of Air Pollution. 4.3 List sources of Water Pollution.	Define Explain list Describe Classify.	i. While maker Board. ii. projector iii. Computer iv. Reference				i.Test ii.Oral interview iii.Assignment iv.Semester Examination.

4.4 List sources of Soil Pollution 4.5 State the relationships between Air Pollution, Water Pollution and Soil Pollution. 4.6 State how air, water and soil pollution affects human health. 4.7 State the ways you can prevent and control air, water and soil pollution and contamination in the community.		Books v. Posters				

GENERAL OBJECTIVE: 5.0 Understand types, sources and disposal of Waste Waters.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Define waste water. 5.2 List types of waste water -Grey Water -Sullage -Storm Water -Sewage 5.3 Explain sources of wastes waters within the community	Define Explain List Classify State	i. While maker Board. ii. projector iii. Reference Books iv. Charts v.				i. Test ii.Quiz iii.Assignment iv.Explain

5.4 Define waste water disposal . 5.5 Explain types of waste water disposal methods.		Computer				

GENERAL OBJECTIVE: 6.0 Know Solid Wastes and excreta disposal methods in a Community

Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Describe ideal housing in relation to sanitary amenities. 6.2 Explain the simple methods of waste disposal in a community: i. Open Burning ii. Composting (window and vermin composting) iii. Sanitary land fill	Define Explain List Describe Classify.	i. While maker Board. ii. projector iii. Reference Books iv. Poster				i. continue assessment ii. Oral interview iii. Assignment iv. Explain

iv. Controlled tipping v. Incineration vi. Recycling etc. 6.3 Identify the various methods of excreta disposal in a rural Community. i. Trench latrine, ii. Simple pit latrine, iii. Ventilated improved pit latrine iv. Pour – flush latrine v. Aqua Privy vi. Sanplat latrine (sanitation platform) vii. Ecological sanitation 6.4 Classify insecticides into its various groups. 6.5 Describe the ways in which injurious arthropods affects the health of man i.e. a. Directly injurious arthropods. b. Indirectly injurious arthropods.		v. Computer				

GENERAL OBJECTIVE: 7.0 Know the control of vectors of Public health importance.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Define Vectors 6.2. List types of vectors 6.3. State Methods of Vector control including rodents within the community - Biological -Physical	Define List Explain Describe Classify.	i. While maker Board. ii. projector iii. Computer iv.				i. Test ii.Oral interview iii.Assignment. iv.Explain.

-Chemical -Integrated vectors management (IVM). 6.4 Describe the vector control methods listed in 6.3 above. 6.5 state the advantages and disadvantages of the various vector control methods listed in 6.3 above.		Reference Books v. Poster				

PROGRAMME: NATIONAL DIPLOMA (ND) ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: INTRODUCTION TO CONCEPT OF HEALTH AND DISEASES.				
COURSE CODE: EHT 112				
DURATION:	Lecture: - 2 HRS	Tutorial: -	Practical: -	Total: 30 HRS
CREDIT UNITS: 2 CU				
GOAL: This course is designed to provide students with the knowledge of basic concept in Health and disease.				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:				
1.0 Know the different concepts of Health. 2.0 Understand the meaning of "diseases". 3.0 Understand the major determinants of Health.				

4.0 Know the factors responsible for disease causation.

5.0 Understand the basic preventive measures of diseases.

GENERAL OBJECTIVE: 1.0 To know the different concepts of Health

Specific Learning Objectives (Theory)	Teachers Activities	Learning Resources	Specific Learning Objectives (Practical)	Teachers Activities	Learning Resources	Evaluation
1.1 Define Health according to -WHO -Orthodox -Others. 1.2 Explain the components of Health i.e. physical, mental and Emotional (Psychological) wellbeing and spiritual. 1.3. Differentiate between Health and illness. 1.4. List factors contributing to a healthy living. 1.5.State factors that determine disease causation. 1.6. Outline the Health-Disease Continuum.	Define Health Explain Concept of optimal Health Discuss Brainstorm Differentiate Health and illness List factor contributing to Health living.	- Charts - Visuals aids - Internet - Board and marker				- Assignment - Quiz - Test

GENERAL OBJECTIVE: 2.0. Understand the meaning of "disease"

Specific Learning Objectives (Theory)	Teachers Activities	Learning Resources	Specific Learning Objectives (Practical)	Teachers Activities	Learning Resources	Evaluation

2.1 Define the word "disease". 2.2 Explain some theories of diseases e.g. Germ theory, Ancestral theory genetic theory etc. 2.3 Explain the relationship between disease and wellness. 2.4. Identify disease conditions.	Explain Discuss Brain Storm	- Charts - Projector - Internet - Text book				- Test - Quiz - Assignment
GENERAL OBJECTIVE: 3.0 Understand the major determinants of Health .						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Identify major determinants of Health such as - Environment - Socio-Cultural - Lifestyle - Heredity - Economy. 3.2 Explain the roles of each	Explain Discuss Brainstorm	- Charts - Internet - Text book - Board				- Assignment - Quiz - Test

determinant listed in 3.1 above. 3.3. Describe the impact of the above listed determinants on Health.						

GENERAL OBJECTIVE: 4.0 Know the factors responsible for disease causation.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

4.1 Identify factors in the environment that can lead to "diseases". Such as :- - Filthy environment - Poor personal hygiene - Unhealthy lifestyles - Poor nutrition etc. 4.2 Explain the roles of Bacteria, Viruses, Protozoa, Fungi, Rickettsia, Helminthes, Arthropods etc. 4.3. Describe the factors that promote the growth of disease - causing organisms in the environment. 4.4 Explain the infectious disease process e.g. - Agent - Reservoir/Source of infection - Mode of escape - Mode of transmission - Susceptible Host	Explain Discuss Demonstration Explain Discuss demonstration	- Charts - Internet - Text books - Board and marker - Charts - Internet - Text books Board and marker				- Assignment - Quiz - Test

GENERAL OBJECTIVE: 5.0 Understand the basic preventive measures of diseases .						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

5.1 Explain the various levels of disease prevention:- -Primary -Secondary -Tertiary. 5.2 State the general preventive measures for the control of diseases. 5.3 Explain immunization, clean environment, potable water supply, Health Education, Personal hygiene etc. 5.4 Describe the process of disease transmission chain interruption.	Explain Discuss Brainstorm Explain Discuss Brainstorm Explain Discuss Brainstorm	- Charts - Text books - Internet - Visuals - Board and marker - Charts - Text books - Internet - Visuals - Board and marker - Charts - Text books - Internet - Visuals - Board and marker				- Assignment - Quiz - Test - Examination

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)		
COURSE:	HUMAN ANATOMY AND PHYSIOLOGY I		
CODE:	DTH 115		
DURATION (Hours/Week) **Lecture: 2hrs**	**Tutorial: 0**	**Practical: - 2**	**Total: (60hrs/semester)**
UNITS: 4			
GOAL:	This course is designed to enable student acquire knowledge of blood and other systems of the body.		
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:		

1.0 Understand human blood and other systems of the body

2.0 Understand body resistance to infection

3.0 Understand types of immunity

4.0 Know blood groups

5.0 Understand the structure of the heart and blood vessels

6.0 Know the body lymphatic system

7.0 Know the respiratory system.

General Objective 1: Understand human blood and other systems of the body						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Describe the red blood cells and its contents 1.2 Describe the following:- - Production of red blood cells - Formation of haemoglobin - Iron metabolism - Destruction of red blood cells - The anaemias - Effects of anaemia on the - Circulatory system - Polycythemia and the effects of polycythemia on the Circulatory system.	Lecture illustrate	Charts overhead projector classroom resources	1.3 Observe Red Blood Cell under microscope	Show students Red Blood Cell (RBC) under the microscope	Microscopes Prepared slide of Red Blood Cell	Quiz Test Assignment Examination
General Objective 2: Understand body resistance to infection						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Explain the resistance of body to infection 2.2 Explain the role of the following in body resistance to infection:	Lecture illustrate	Charts overhead projector classroom resources	2.3 Observe White Blood Cell under microscope	Show students (white blood cells) WBC	Microscopes Prepared slide of White Blood Cell	Quiz Test Assignment Examination

- The leukocytes (white blood cells) - General characteristics of leukocytes - Life span of the white cells - Properties of neutrophils, monocytes and macrophages - Inflammation and function neutrophils and macrophages - Agranulocytosis						
General Objective 3: Understand types of immunity						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Explain leukaemia 3.2 Describe the effects of leukaemia on the body vis-à-vis immunology and allergy 3.3 Define the following:- Innate immunity Acquired immunity	Lecture Show pictures of cases of allergy	Pictures Classroom resources				Quiz Test Assignment Examination

3.4 Describe the two basic types of Acquired immunityVaccination and Passive immunity 3.5 Describe allergy including: - Allergy in normal people - Delayed reaction allergy - Allergy in the allergic "Person						
General Objective: 4: Know blood groups						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Explain blood Groups 4.2 Explain the significance of blood group in transfusion, organ and tissue transplant 4.3 Explain the following: - Antigenic and immune reactions of blood - A.O.B. Blood groups - The A and B antigens – called agglutinogen - The agglutinins - The agglutination process in transfusion			4.6 Demonstrate Blood coagulation	Guide the student to Demonstrate blood coagulation	Fresh Blood	Quiz Test Assignment

reaction - Blood typing - The blood types Rhesus (RH) - Other blood factors 4.4 Explain transfusion reactions resulting from - mismatched blood groups - transplantation of tissues and organs 4.5 Explain haemostasis and blood coagulation process in the following: - Events in haemostasis - Mechanism of blood coagulation - Conditions that cause excessive bleeding in human beings - Thromboembolic conditions in humans - Anticoagulants for tests (bleeding time, clotting time and prothrombin time)						
General Objective 5: Understand the structure of the heart and blood vessels						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Describe cardio-vascular system	Explain with models	Models of heart,		Guide the student to	Model of the heart	Quiz Test

5.2 Describe the structure and functioning of the heart 5.3 Describe the blood circulatory system 5.4 Describe the structure of the arterial veins and capillaries 5.5 Describe the structure of the veins 5.6 Explain the following: - Anatomises and collateral circulation - Growth of blood vessels - Vital line and placental circulation - General development of the heart and vessels - Circulation 5.7 Describe the anatomy of the heart under the following:- - General configuration of the heart - Interior of the heart - Tissues of the heart - Heart chambers and their functions 5.8 Describe the blood movement through the heart 5.9 Describe tissues of the	of the heart, the circulatory system.	circulatory system.	5.12 Dissect the model of the heart, draw and label	perform the task in 5.12	dissecting set drawing instruments	Assignment Examination

heart, heart chambers and functions 5.10 Describe the blood under the following:- - Blood vessels - Aorta - Descending thoracic aorta 5.11 Identify the position of the following veins in the body: - Veins of the neck and head - Veins of the upperlimb - Superior vena cava and its drainage area - Veins of the lower limbs - Inferior vena-cava and its drainage areas - Portal veins and its tributaries.			5.13Dissect a small mammal and draw the circulatory system and cross sections of the heart.			
General Objective 6: Know the body lymphatic system						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Explain body lymph and its functions	Use picture or model to	Picture, models				Quiz Test

6.2 Describe lymphatic system 6.3 Describe the following: - Lymphatic vessels; - Lymph nodes disposition, structure and relation to lymph vessels; - Main collecting lymphatic channels	lecture illustrate					Assignment Examination
General Objective 7: Know the respiratory system.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 Describe the respiratory system 7.2 Explain respiration 7.3 Explain cellular respiration 7.4 Describe the human respiration system: - The respiratory passage (structure and functions of the nose) - Nasal cavity - Nasal pharynx - Larynx - Trachea and bronchi - Media sternum - Lungs/lung tissues/alveoli 7.5 Describe types of respiration i.e.	Lecture and illustrate with a model	Classroom resources	7.7 Dissect a small mammal, draw and label its respiratory system.	Guide the student to perform the tasks in 7.7	Dissecting set	Quiz Test Assignment Examination

	external and internal respiration,						
7.6	Explain gas exchange and utilization in and between the blood and the tissue cells.						

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY [NATIONAL DIPLOMA]				
COURSE TITLE: APPLIED PHYSICS.				
COURSE CODE: EHS 111				
DURATION: (Hours/Week)	**Lecture:2hrs**	**Tutorial: -**	**Practical:1 hr**	**Total Contact Hours: 2 (45 hrs.)**
CREDIT UNIT: 3				
GOAL: This course is designed to provide students with basic knowledge of physics applicable to Environmental Health.				
GENERAL OBJECTIVES: **On completion of this course, the student should be able to:**				

1.0 Understand the concepts and principles of physics and their applications to EHT.

2.0 Understand molecular phenomena and their applications to EHT.

3.0 Understand specific principles of heat energy in health care interventions

4.0 Understand the nature of radioactivity in relation to health care, communication and power generation.

5.0 Understand principles of optics and light waves in application to health care

6. 0 Know the various measurements and units relevant to EHT practice

7.0 Understand the concepts and principles of elasticity and their application to EHT practice

8.0 Know basic machines used in healthcare practice

9.0 Know the principles of force(s) and their applications to EHT practice

GENERAL OBJECTIVE 1.0: Understand the concepts and principles of physics and their applications to EHT.						
Specific Learning Objectives (Theory)	**Teachers' Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teachers' Activities**	**Resources**	**Evaluation**
1.1 Define the following terms - Science - Physics 1.2 Enumerate the branches of science and their relevance to	• Lecture • Discussion	• Text books • White board / Markers • Charts • Multimedia projector/ Laptops				

EHT practice 1.3 List the branches of physics and their relevance to EHT practice.						
GENERAL OBJECTIVE 2.0: Understand molecular phenomena and their applications to EHT.						
Specific Learning Objectives (Theory)	**Teachers' Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teachers' Activities**	**Resources**	**Evaluation**
2.1 Define the following: - Atom - Molecule - Matter 2.2 State common examples of molecular phenomenon 2.3 Describe the states of matter 2.4 Explain the concept of the following: - Surface tension - Osmosis - Capillarity - Active Transport - Diffusion 2.5 Discuss the	• Lecture • Discussion	• Chart, • Films • White board/ Markers • Multimedia projector/ Laptops	2.5 Demonstrate the application of the following to EHT practice: Surface tension Osmosis Active transport Capillarity Diffusion	• Demons trate and Assist students to carry out the activity in 2.5	• Beaker (glass) • Water and soap • Mercury • Capillary tube	Assignment Test Examination

application of the following to EHT - Surface tension - Osmosis - Capillarity - Active Transport - Diffusion						
General Objective 3.0:Understand specific principles of heat energy in health care interventions.						
Specific Learning Objectives (Theory)	**Teachers' Activities**	**Resources**	**Specific Learning objective (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
3.1 Define heat and energy 3.2 Enumerate the sources of Heat Energy 3.3 Explain the various methods of providing heat for the body 3.4 Define Temperature 3.5 List types of thermometer and their uses 3.6 Describe heat conversion 3.7 Define calories	• Lecture • Discussion	• Thermometer • Charts • Films • Books • White board / Markers	3.3 Demonstrate the various methods in providing heat for the body 3.4 Demonstrate measurement of temperature of Human body, fluid and Air	• Demonstration and return demonstration Demonstrate and assist students to measure the temperature of human body, fluid, air	• Hot water bottle • Thermometer Hydrometer Barometer	Assignment Test Examination

3.8 State the caloric values of the following: - Adult food - Baby food - Vegetarian diet						
General Objective 4.0: Understand the nature of radioactivity in relation to health care, communication and power generation.						
Specific Learning Objectives (Theory)	**Teachers' Activities**	**Resources**	**Specific Learning Objective (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
4.1 Define the following terms: - Electricity - Magnetism 4.2 Explain the basic principles of the following: - Electricity - Magnetism 4.3 State the properties of magnet 4.4 Explain Electromagnetism 4.5 Discuss x-ray under the following:	• Lecture • Discussion	• Charts • Films • Text Books • White board/ Marker • Multimedia projector/ Screen	4.4 Demonstrate magnetism and its application to health 4.6 Demonstrate application of the following radiological instruments: - Computed Tomography (CT) Scan - Ultrasound - Magnetic Resonance Imaging (MRI)	• Demonstrate and assist students perform magnetism process Demonstrate and assist students with activities in 4.6	• Magnetic metals • Non-magnetic substances • C.T Scan • MRI • Ultrasound	Assignment Test Examination

- Prediction - Properties and nature (in healthcare) 4.6 State the precautionary measures in radiological procedures						

General Objective 5.0:Understand principles of optics and light waves in application to health care						
Specific Learning Objectives (Theory)	**Teachers' Activities**	**Resources**	**Specific Learning Objective (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
5.1 Define the following: - Optics - Waves 5.2 List types of Waves 5.3 Explain the basic principles in the propagation of sound waves 5.4 Define light energy 5.5 Discuss properties of light 5.6 List sources of light energy 5.7 Explain the following: - Propagation of light - Transmission of light - Reflection of light - Dispersion of light 5.8 Discuss lenses 5.9 Explain reflection	• Lecture • Discussion	• Books • Samples of Lenses etc. • Multimedia projector/ Laptops	• 5.0 Demonstrate light application	• Demonstrate and assist students apply light as in 5.9 • Organize visit to X-ray or Medical Imaging Depart. • Carry out visit to eye clinic	• Sources of light e.g. Torch light • Microscope • Eye clinics	Assignment Test Examination

of light through lenses 5.10 Explain light application on - - Simple lenses - Human eye - Microscope - Common eye defect - Corrective mechanism			on Simple lenses • Human eye • Microscope • Common eye defect			

General Objective 6.0:Know the various measurements and units relevant to EHT **practice.**

Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
6.1 Enumerate types of measurement commonly carried out by nurses 6.2 Explain Standard International Unit (SI Unit) 6.3 Identify the various SI Units and their related English unit conversions 6.4 Explain the conversion of the unit(s) identified in 6.3	• Lecture • Discussion	• Text Books • Measuring Instruments i.e. sphygmomanometer, urinometer, fluid hydrometer, barometer. • White board/ marker	6.5 Demonstrate the following: - pressure measurement - use of urinometer - use of hydrometer 6.7Demonstrate application of the following: - Pascal's Law - in a water mattress - Boyle's law in a sterilizer	• Demonstrate and assist students to: - Measure pressure - Use urinometer - Use hydrometer • Demonstrate and assist students in carrying out activities.	• Barometer • Sphygmomanometer • Urinometer • Urine • Water • Hydrometer • Test tube, mattress • Water • Sterilizer • Cerebro Spinal Fluid (CSF) • Amniotic fluid	Assignment Test Examination

6.5 Explain the following measuring instruments and their uses: - Barometer - Sphygmomanometer - Hydrometer - Urinometer - Fluid hydrometer 6.6 Explain the following: - Characteristics of pressure in fluid - Specific gravity 6.7 Discuss the following and their applications to EHT - Pascal's law - Boyle's law - Buoyancy and Archimede's principles - Viscosity			- Buoyancy and Archimedes law in cerebrospinal fluid (CSF), Amniotic fluid etc. - Viscosity of Fluid, Blood in the capillary tubes		• Blood specimen • Capillary tubes	
General Objective 7.0:Understand the concepts and principles of elasticity and their application EHT practice.						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
7.1 Define elasticity 7.2 Explain stress and strain	• Lecture • Discussion • Multimedia presentation	• Books • Anatomical models i.e. blood				Assignment Test Examination

7.3 Enumerate and discuss types of stress 7.4 Define the following: - Hook's law - Young's modulus - Bulk's modulus - Shear's modulus 7.5 Describe the applications of 7.4 in the following: • Blood vessels • Spring balance • Shearing force in decubitus ulcer		vessels, arteries, veins etc. • Multimedia projector/ Laptops				
General Objective 8.0:Know the basic machines used in health care practice						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
8.1 Define machine 8.2 Enumerate types of machine used in health care 8.3 Explain the applications of lever and pulleys in EHT	• Lecture • Discussion	• Books • Charts • Samples of Pulleys and Levers	8.2 Classify and Give examples of - Levers - Pulleys 8.3 Demonstrate the application of	• Demonstrate classification of levers / pulleys	• Levers • Pulleys • sand bags	Assignment Test Examination

practice.			levers and pulleys			
General Objective 9.0:Know the principles of force(s) and their application to EHT practice.						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
9.1 Define the following: - Force - Work - Energy - Power 9.2 Explain the principles and relevance of the following to EHT practice: - Force - Work - Energy - Power	• Lecture • Discussion	• Text books • White Board/ Marker • Multimedia projector/ Laptops				Assignment Test Examination

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY [NATIONAL DIPLOMA].
COURSE TITLE: APPLIED CHEMISTRY
COURSE CODE: EHS 112

DURATION (Hours/Week):	***Lecture: 1hr***	***Tutorial: 0***	***Practical: 1hr***	***Total Contact Hours: 2 (30hrs)***
CREDIT UNIT: 2				
GOAL: This course is designed to provide the students with basic knowledge of chemistry and its application in Environmental Health Practice				
GENERAL OBJECTIVES: At the end of the course, the student should be able to:				
1.0 *Understand the concepts and the principles of Chemistry* and its importance to Environmental Health Practice. 2.0 *Understand the nature of matter.* 3.0 *Know acids, bases, salts and their characteristics.* 4.0 *Understand electrolytes/electrolysis.* 5.0 *Understand the application of knowledge of carbon and hydrocarbon compounds to* Environmental Health *practice.* 6.0 *Know the classification and structure of organic and inorganic compounds and their application on* Environmental Health *practice.* *7.0 Understand atomic structure and nuclear energy.*				

GENERAL OBJECTIVE: 1.0: Understand the concepts, principles of chemistry and its importance to Environmental Health Practice						
Specific Learning Objectives (Theory)	***Teacher's Activities***	***Resources***	***Specific Learning Objectives (Practical)***	***Teacher's Activities***	***Resources***	**Evaluation**
1.1 Define Science, Chemistry	• Lecture • Discussion	• Text books • White				Assignment Test Examination

1.2 List branches of chemistry and their relevance to EHT practice 1.3 Explain the nature and importance of chemistry to EHT practice.		Board/Marker • Multimedia projector/Laptops				
2.0 General Objective 2.0:Understand Nature of Matter						
Specific Learning Objectives (Theory)	***Teacher's Activities***	***Resources***	***Specific Learning Objectives (Practical)***	***Teacher's Activities***	***Resources***	**Evaluation**
2.1 Describe Physical and chemical properties of matter *2.2 Describe physical and chemical changes in the body.* *2.3 Explain the chemical symbols of elements.*	• *Lecture* • *Discussion*	• *Charts* • *White Board/Marker* • *Packages containing materials on nature of matter* • *Textbooks* • *Multimedia projectors* • *Computers.*	*2.1Demonstrate Physical and chemical change using substances like water andair* 2.4 Demonstrate	*Demonstrate and assist students perform activities on 2.1, 2.4 2.5 2.6*	• *Water* • *Bunsen burner* • *Flask* • *Whole blood* • *Air* • *Spinning machine* • *Test tube* • *Centrifuge* • *Acid compound* • *Base compound Litmus*	Assignment Test Examination

2.4 Describe classification of elements, compounds and mixtures. *2.5 Discuss particulate nature of matter:* - *Atoms* - *Molecules* - *Ions* *2.6 Explain structure and chemical combinations*			separation of mixtures e.g. blood, air and their application 2.5 Use simple formulae and equations 2.6 Apply symbols, formulae of elements and components		*papers*	

General Objective 3.0:Know acids, bases, salts and their characteristics						
Specific Learning Objectives	**Teacher's Activities**	**Resources**	**Specific learning objective (practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
3.1 Define the following: acids, bases and salts 3.2 Discuss properties and uses of acids, bases and salts.	• Lecture • Discussion	• Samples of compounds i.e. Acids, Base, Salts etc.	3.2 Measure the acidity and alkalinity of acid and base compounds. 3.6 Demonstrate	• Demonstrate and assist students perform activity on 3.6 • Demonstrate and	• Water • Bunsen burner • Flask • Acid compound	Assignment Test Examination

3.3 Discuss types of salts and their uses. 3.4 Describe:- efflorescent, deliquescent 3.5 List examples of properties of metals and non-metals. 3.6 Discuss hydrolysis of salts. 3.7 Discuss titration acid and base 3.8 Discuss simple volumetric analysis		• Acid • Base • Pipettes/ Beakers	hydrolysis of salts. 3.7 Titrate acid and base 3.8 Perform simple volumetric analysis	assist students perform activity on 3.7, 3.8 and 3.9. Demonstration	• Base compound • Litmus papers • Water • Bunsen burner • Flask • Acid compound • Base compound • Litmus papers	
General Objective 4.0:Understand Electrolysis /Electrolytes						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practice)**	**Teacher's Activities**	**Resources**	***Evaluation***
4.1 Define the following - Electrolytes - Non-electrolytes - Electrolysis	• Lecture • Discussion • Demonstrate electrolysis and guide student to do return	• Multimedia projector//Laptops				*Quiz* *Test* *Examination*

4.2 Describe ionic theory and ionization 4.3 Describe electrolytes/non-electrolytes 4.4 Explain Electrolysis 4.5 Enumerate the composition of air 4.6 Explain air pollution and purification 4.7 Explain water pollution and purification	demonstration					
7.0 General Objective 5.0:*Understand the application of knowledge of carbon and hydrocarbon compounds to* Environmental Health *practice.*						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	***Evaluation***
5.1 Define Carbons 5.2. List the properties of	• Lecture • Discussion	Sample of : • Alcohol • Amino				*Quiz* *Test* *Examination*

elements 5.3. Describe hydrocarbons (saturated and unsaturated) 5.4. Discuss the following functional group chemistry - Alcohol - Amines - Carbonyls - Carboxylic acid etc.		• Carbon • Acids • Multimedia projector				

General Objective 6.0: ***Know the classification and structure of organic and inorganic compounds and their application on*** **Environmental Health** ***practice.***						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	***Evaluation***
6.1 Define and classify the following: - Organic compounds	• Lecture • Discussion • Sketch out examples of	• White board/Marker • Textbooks • Charts				*Quiz* *Test* *Examination*

- Inorganic compounds 6.2 Enumerate examples of oxidation products of alcohol. 6.3. State examples and uses of aldehydes in EHT practice 6.4. Describe the Chemical compounds of the following:- - Carbohydrates - Proteins - Fatty acids - Lipids 6.5. State the biological importance of some organic and inorganic substances. 6.6 Draw the biochemical structures of organic and	the structures for the students to observe.	• Multimedia Projector /Laptops • Card board paper • Card board paper • Multimedia projector • Markers				

in-organic compounds and list examples.						
General Objective 7.0:Understand atomic structure and nuclear energy						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	***Evaluation***
7.1. Discuss natural and artificial radio-activity 7.2. List radioactive elements 7.3 Discuss types of radiations from radioactive elements e.g. alpha, beta, and gamma. 7.4 Explain nuclear structure and radioactive decay 7.5 Explain the following:- - Radio–isotopes - nuclear reaction - nuclear energy e.g. nuclear fusion	• Lecture • Discussion	• Sample of substance with radio-active elements • Multimedia projector/Laptops				*Quiz* *Test* *Examination*

7.7 Identify health hazards from radioactive substance 7.8 State precautionary measures taken against biochemical and radioactive substances used in the Health care System.						

PROGRAMME: NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: GENERAL BIOLOGY				
COURSE CODE: GNS 230				
DURATION:	**Lecture – 1hr**	**Tutorial:- 0**	**Practical:- 2 hours**	**Total: 3(45)**
CREDIT UNITS: 3				
GOAL: This course is designed to introduce the students to basic biological sciences and to make them understand the environment in which they live				
GENERAL OBJECTIVES: On completion of the Course, the Student should be able to:				

1. Understand the concept of living things
2. Understand the structure of cells
3. Understand the principal features of different groups of living things
4. Know the methods by which plants and animals feed themselves
5. Know the methods by which plants and animals generate energy from their food
6. Understand the methods by which substances are moved in the bodies of plants and animals
7. Understand how plants and animals remove their waste products
8. Understand how living things move
9. Know how living thing things increase in size and number
10. Understand the interaction between an organism and its environment
11. Know Man's interference with his environment

12. Understand the fundamentals of inheritance

PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH

COURSE: GENERAL BIOLOGY	**COURSE CODE: GNS**230		**CONTACT HOURS: 45 HRS**

GOAL: This course is designed to introduce the students to basic biological sciences and to make them understand the environment in which they live

COURSE SPECIFICATION: THEORETICAL CONTENTS				**PRACTICAL CONTENTS**			
WEEK	**Specific Learning Outcome**	**Teacher's Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Evaluation**
GENERAL OBJECTIVE 1: Understand the concept of living things							
	1.1 Define Biology 1.2 List living and non-		Projector Text book	Group Students into pairs for		Projector Video/Au	• Test • Examination

	living things in the immediate environment 1.3 List the characteristics of living organisms 1.4 Illustrate the differences between a plant, an animal and a protist e.g. Mango tree plant mycobacterium tuberculosis for protist, Man for animal		Internet Lecture notes Charts Pictures Tutorials	collection of all common pests of human body, stored product, livestock, house-hold, Field crops		dio devices Models	
GENERAL OBJECTIVE 2: Understand the structure of cells**.**							
	2.1 Define cell theory *2.2 Distinguish between prokaryotic and eukaryotic cells* *2.3 Observe some cells under the microscope (e.g. a plant cell, and animal cell)* *2.4 Draw and label the cells observed in 2.3 above* *2.5 Differentiate*		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination

	between a plant and animal cell *2.6 List the functions of the different cell organelles.*						
GENERAL OBJECTIVE 3: Understand the principal features of different groups of living things							
	3.1 Name the four major divisions under the plant kingdom: Thallophyta, Bryophyta, Pteridophyta, and Spermatophyta 3.2 State the characteristic features in each division in 3.1 above 3.3 List at least four differences between Algae and Fungi e.g. Chloroplast, autotrophic/heterotrophic, starch/glycogen, presence of chitin in fungi, etc.		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination

	3.4 Give two examples of each group in 3.3 above 3.5 Describe the external structures of a flowering plant 3.6 Name the different phyla under the animal kingdom 3.7 Explain the distinguishing characteristics of each phylum mentioned in 3.6 above 3.8 Name two examples of animals belonging to each group 3.9 Describe the external structures of a mammal						
GENERAL OBJECTIVE 4: Know the methods by which plants and animals feed themselves							
	4.1 Define food 4.2 Distinguish between the		Projector Text book Internet	•			Test Examination

	food the food of plants and that of animals 4.3 Distinguish between autotrophic and heterotrophic modes of feeding 4.4 Explain the different types of heterotrophy e.g. parasitism, saprophytism 4.5 Explain the different types of autotrophy e.g. photosynthesis, chemosynthesis 4.6 List the stages involved in feeding in animalse.g. ingestion, digestion, assimilation and egestion 4.7 Draw and label the digestive system in man		Lecture notes Charts Pictures Tutorials				
GENERAL OBJECTIVE 5: Know the methods by which plants and animals generate energy from their food							

	5.1 Distinguish between breathing and respiration 5.2 Differentiate between aerobic and anaerobic respiration 5.3 Locate sites of respiration incells (e.g. Mitochondrion and free Cytoplasm) 5.4 State the economic importance of fermentation (production of alcoholic beverages, lactic acid, and citric acid 5.5 List the respiratory organs in animals (e.g. plasma membrane in protozoa, tracheal system in arthropods, gills in fish and lungs in		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination

	terrestrial animals						
GENERAL OBJECTIVE 6: Understand the methods by which substances are moved in the bodies of plants and animals							
	6.1 Define (a) osmosis (b) diffusion 6.2 Demonstrate Osmosis and Diffusion by simple experiments 6.3 Explain the importance of transpiration 6.4 Explain the importance of Translocation 6.5 Describe the vascular system of the plant 6.6 Draw and label the structure of a Mammalian heart 6.7 Explain the structure and function of blood		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination
GENERAL OBJECTIVE 7: Understand how plants and animals remove their waste products							

	7.1 Define Excretion 7.2 Name the Excretory Organs and Excretory Products in man 7.3 List the structures involved in excretion and the excretory products in plants 7.4 Explain the processes of osmo-regulation in plants and various types of animals		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination
GENERAL OBJECTIVE 8: Understand how living things move							
	8.1 List the organs of Locomotion in animals (e.g. pseudopodia; cilia, flagella, chetea, jointed limbs etc.) 8.2 Describe the general plan Of the skeleton in mammals 8.3 State the functions of		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination

	the skeleton 8.4 List the different types of movements in plants (e.g. tropisms, taxisms, nastic movements etc.)						
GENERAL OBJECTIVE 9: Know how living thing things increase in size and number.							
	9.1 Distinguish between asexual and sexual reproduction 9.2 List some examples of asexual reproduction in plants and animals (e.g. binary fission in bacteria, budding in yeast, fragmentation in spirogyra, grafting etc.) 9.3 Draw and label some sexual reproductive organs in plants and animals e.g. the flower in plants and male and female reproductive organs in mammals		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination

	9.4 List the advantages of asexual and sexual reproduction in plants and animals 9.5 Note the modern advances in plant cultures in in-vitro and in-vivo fertilization (e.g. test tube babies and artificial insemination respectively 9.6 Describe methods of measuring growth in living things						
GENERAL OBJECTIVE 10: Understand the interaction between an organism and its environment							
	10.1 Define the following Terms (a) Ecology (b) Habitat (c) Community 10.2 Explain the interaction of living things as shown by predation, parasitism, saprophytism,		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination

	commensalism 10.3 Explain the food Relationship in the community (e.g. food chain, food web, pyramid of numbers etc.) 10.4 List five useful and five harmful microbes 10.5 State the causes and control of the following diseases (a) malaria (b) guinea worm (c) bilharzia (d) river blindness 10.6 State the common sources of environmental pollution 10.7 Describe the effects of environmental pollution on living organisms 10.8 List the control measures of environmental pollution described in 10.6 above						
GENERAL OBJECTIVE 11: Know Man's interference with his environment							

	11.1 Explain the composition and characteristics of a fertile soil 11.2 List the sources of soil erosion 11.3 Give three methods for prevention of soil erosion 11.4 Explain Man's activities (farming, mining, deforestation, overgrazing, etc.) that accentuate disasters (e.g. desert encroachment, flooding etc.) 11.5 Enumerate different Methods by which the deleterious effects can be minimized 11.6 Explain the need for the creation of dams and lakes 11.7 List the disadvantage of man-made lakes		Projector Text book Internet Lecture notes Charts Pictures Tutorials	•			Test Examination

GENERAL OBJECTIVE 12: Understand the fundamentals of inheritance							
	12.1 Explain the role of chromosomes and genes found in the nucleus ofthe cell 12.2Explain the role of gametes in cross fertilization 12.3 Define hybridization,phenotypes and genotypes 12.4 Explain the ABO blood Groupings 12.5 Describe how sex is Determined in man 12.6 Explain sex-linked Characters (e.g. haemophilia)			•			

PROGRAMME: EHT PROGRAMME (HIGHER NATIONAL DIPLOMA)			
COURSE: INTRODUCTION TO PSYCHOLOGY			
CODE: GNS 411			
DURATION (Hours/Week) **Lecture: 3hrs**	**Tutorial: 0**	**Practical: - 0**	**Total: 3 (45hrs/semester)**
UNITS: 3			
GOAL:			
GENERAL OBJECTIVES: This course is designed to enable the student to understand the dynamics of human behavior in order to be able to adjust to situations and work effectively with others.			

1 Appreciate the basis of human behaviour.

2 Know the development of behaviour.

3 Understand the principles of personality development.

4 Know the processes of learning.

5 Understand human memory.

6 Understand human emotions.

7 Comprehend the processes of attitude formation and change.

8 Know the psychological basis of management models in industries and organizations.

9 Understand the psychology of other nationals.

10 Know the psychological effects of health.

11 Know the methods of assessment in experimental psychology

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)						
COURSE: Introduction to Psychology **Course Code:** GNS 411 **Contact Hours:** 30Hours						
COURSE SPECIFICATION: Theoretical Content: 2 Practical Content: 0						
General Objective 1: Appreciate the basis of human behaviour.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define Psychology 1.2 Outline or trace the development of psychology as efforts to discuss human behaviour. 1.3 Discuss methods of studying human behaviour e.g. testing, experimentation, case-study, etc. 1.4 Analyse the interplay between psychology and other social sciences (Sociology, Economics, etc.) 1.5 Identify motives for behaviour (drives, needs, instincts, etc.).	Teach the student on the basis and development of human behaviour.	Textbooks, audio visuals aids.				• Assignment • Class Test • Presentation Examination

General Objective 2: Know the development of behaviour.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Define cognitive development. 2.2 Analyse personality development. 2.3 Define self-concept. 2.4 Explain socialization and its agents. 2.5 Describe the states of development-infancy, adolescence and puberty. 2.6 Describe perception.	Explain types of behaviours development.	Textbooks, audio visuals aids.				• Assignment • Class Test • Presentation Examination
General Objective 3: Understand the principles of personality development.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 State models of personality. 3.2 Explain conflict model. 3.3 Examine the consistency model. 3.4 Describe behaviorism.	Explain the principles of personality development.	Textbooks, audio visuals aids.	3.5			• Assignment • Class Test • Presentation Examination

General Objective 4: Know the processes of learning.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Define learning. 4.2 List types of learning. 4.3 State methods of learning	Explain the processes of learning.	Textbooks, audio visuals aids.	-			• Assignment • Class Test • Presentation Examination
General Objective 5: Understand human memory.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Examine short-term memory. 5.2 Explain long-term memory. 5.3 Define forgetting.	Explain human memory and emotions.	Textbooks, audio visuals aids.				
General Objective 6: Understand human emotions						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Define emotions. 6.2 Define types of emotions. 6.3 Explain casual factors of emotions. 6.4 Examine expressions of emotions.	Explain human emotions.	Textbooks, audio visuals aids.				
General Objective 7: Comprehend the processes of attitude formation and change.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**

7.1 Describe development of attitude. 7.2 Identify the components of attitude. 7.3 Analyse consistency theories of prejudice. 7.4 Explain change of attitudes	Explain the process attitude formation and change.	Textbooks, audio visuals aids.				
General Objective 8: Know the psychological basis of management models in industries and organizations.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
8.1 Explain worker motivation. 8.2 Describe negotiation and bargaining power. 8.3 Analyse organizational crisis intervention. 8.4 Examine building of team harmony and cohesion. 8.5 Explain psychological models of management (autocratic, democratic and laissez faire).	Explain the basis of industrial and organizational psychology.	Textbooks, audio visuals aids.				
General Objective 9: Understand the psychology of other nationals.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**

9.1 Describe the psychology of Western Nations – USA, UK Germany, etc. 9.2 Examine the psychology of Eastern Bloc-USSR China, etc. 9.3 Describe the psychology of Third World countries – 9.4 afro-Asian people. 9.5 Analyse the psychology of international negotiations	Explain the psychology of other nationals.	Textbooks, audio visuals aids.				
General Objective 10: Know the psychological effects of health.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
10.1 Describe hypertension 10.2 Explain coronary heart diseases. 10.3 Describe defence mechanisms. 10.4 State anxiety neurosis. 10.5 Explain fatigue, frustration and interest 10.6 Examine psycho-social factors in	Explain the psychological effects of health	Textbooks, audio visuals aids.				

health (poverty, hunger). 10.7 List coping, mechanisms (relaxation, therapy, behaviour modification).						
General Objective 11: Know the methods of assessment in experimental psychology						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
11.1 Explain reaction time 11.2 Identify achievement motivation. 11.3 Explain interviewing. 11.4 List psychological assessment tools (TAT, Rorschach test, Bio-feedback Tachistoscope).	Describe psychological assessment tools.	Textbooks, audio visuals aids.	11.5			

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)		
COURSE:	INTRODUCTION TO COMPUTER SCIENCE		
CODE:	COM 111		
DURATION (Hours/Week) **Lecture: 1 Hour**	**Tutorial: 0**	**Practical: - 1**	**Total: 2 (30hrs/semester)**
UNITS:	2		
GOAL:	This course is designed to enable students acquire basic knowledge of computers.		
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:		

1.0 Understand the history, classification and import of computers.

2.0 Know the concept of computer hardware

3.0 Know the concept of computer software.

4.0 Understand computer data processing systems.

5.0 Know the procedures for computer and data preparation.

6.0 Understand security and safety procedures within a computer environment.

7.0 Understand the concept of a computer network

8.0 Understand the use of the internet.

General Objective 1: Understand the history, classification and import of computers.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define the computer 1.2 Describe the development of computers, in particular abacus,Pascal, Babbage, Hollerith and ENIAC. 1.3 Classify computers according to generations from 1st - 5th generation (any subsequent generation) 1.4 Distinguish between analogue, digital, and hybrid computers 1.5 Explains the social implication of computers on society in particular privacies and quality of life. 1.6 List the benefits of computers to the society.	Lecture illustrate	White Board. PC loaded with Power point and connected to OHP				Quiz Test Assignments Examination
General Objective 2: Know the concept of computer hardware						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Define Hardware 2.2 Describe computer		White Board.	2.1 Be able to Identify the various	Guide the students to	A DEMO PC showing its	Quiz Test

hardware configuration. 2.3 List some input and output units 2.4 Describe the functions of the output unit. 2.5 Describe the components and functions of the various hardware units 2.6 Describe the function of C.P.U. 2.7 List some auxiliary Units. 2.8 Describe the function of the auxiliary memory 2.9 Define bits, byte, nibble, and word and storage size 2.10 Explain computer software programming languages 2.11 Differentiate between the levels. (Low and High-level languages)		PC loaded with Power point and connected to OHP	components of a computer system	identify the various components of a computer system	components	Assignments Examination
General Objective 3: Know the concept of computer software						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Explain software and its various types 1.2 Distinguish between the low - level and high - level languages. 1.3 Explain source and object programmes.		White Board. PC loaded with Power point and connected to	3.6 Load computer packages on computer system	Demonstrate how to load various computer packages on computer systems and	Networked PCs Different computer packages for loading	Quiz Test Assignments Examination

1.4 Explain computer packages and its various types.		OHP		supervise the student to do same		
General Objective 4: Understand computer data processing systems.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Explain different data processing techniques 4.2 Explain offline and online concepts 4.3 Define batch processing, real time, time sharing and distributed processing 4.4 Differentiate between batch processing, real time processing, time-sharing and distributed processing system.		WhiteBoard. PC loaded with Power pointand connected to OHP	4.5 Identify real life problems requiring the application of the various data processing techniques. 4.6 Apply the various data processing techniques listed in 4.1	Guide the students on how to identify real life problems requiring the various data processing techniques	Networked PCs loaded with different computer packages	Quiz Test Assignments Examination
General Objective 5: Know the procedures for computer and data preparation.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Explain how to operate a computer system 5.2 Initialize and format storage media.	Explain the principles and procedures of operating the computer system, the fix up, start up	White Board. PC loaded with Power point and connected to OHP	5.3 Boot and shut down computer system 5.5 Format diskettes	Guide the students on how to operate the computer. Show different storage media to students	Networked PCs and storage media such as diskette.	Quiz Test Assignments Examination

	and shut-down systems Explain initialization and formatting of storage devices such as disks and diskettes	Diskettes				
General Objective 6: Understand security and safety procedures within a computer environment						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Describe data control techniques, operating procedure of a computer installation, safety regulation in computer installation, method of preventing hazards such as fire, flooding and sabotage 6.2 Describe security methods in computer installation and the need for users passwords 6.3 Explain the need for computer room security. 6.4 Explain computer system auditing		White Board PC loaded with relevant software packages and connected to OHP	6.6 Formulate passwords	Guide students on how to formulate simple password that they could easily remember	Networked PCs and storage media such as diskette	Quiz Test Assignments Examination

6.5 Explain the need for file security in computer installation.						
General Objective 7: Understand the concept of a computer network						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 Define network 7.2 Describe different types of network organization such as star, ring and bus 7.3 Explain LAN and WAN	Lecture	White Board PC loaded with power point and connected to OHP	7.4 Identify the various computer topologies 7.5 Identify different organizations using the different topologies.	Guide the students on how to identify various network topologies.	Networked PCs and storage media such as diskette.	Quiz Test Assignments Examination
General Objective 8: Understand the use of the internet.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
8.1 Define internet 8.2 Describe its resources 8.3 Explain the processes involved in browsing and searching the internet for materials. 8.4 Explain the meaning of ISP. 8.5 Explain the concept of e-mail address. 8.6 Describe the processes of acquiring an e-mail address. 8.7 Describe the process of sending and receiving an e- mail.	Define internet Describe resources of internet Explain the processes involved in browsing and searching the internet.	White Board. PC loaded with power point and	8.8 Compose and send e- mail.	Demonstrate how to compose and send E-mail.	Networked PCs connected to the internet. internet browser connected to OHP	Quiz Test Assignments Examination

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)		
COURSE:	USE OF ENGLISH I		
CODE:	GNS 101		
DURATION (Hours/Week) Lecture: 2 Hour	**Tutorial: 0**	**Practical: - 0**	**Total: 2 (30hrs/semester)**
UNITS:	2		

GOAL: This course is designed to provide the student with the necessary language skills which enable him to cope effectively with the challenges of his course, to use English Language effectively in the practice of his chosen profession as well as interact with others in the society.

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

1.0 Develop appropriate study skills.

2.0 Know the nature of language.

3.0 Understand the basic rules of grammar.

4.0 Know the essential qualities of paragraph.

5.0 Appreciate literacy works in English.

COURSE SPECIFICATION: Theoretical Contents:				**Practical Contents:**.		
	General Objective: 1.0 Develop **appropriate study skills.**					
WEEK	**Specific Learning Objective** Theory	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**
1	**Study Skills** 1.1 Explain the necessity for acquiring good note taking/making techniques. 1.2 List the methods of note-taking/making. 1.3 Use the dictionary correctly	• Explain the necessity for acquiring good note taking/making techniques. • List the methods of note-taking/making. • Use the dictionary correctly	•	•	•	
2	1.4 List information sources in the Library. 1.5 Locate information in the sources listed in 1.4 above. 1.6 Identity good reading habits.	• List information sources in the Library. • Locate information in the sources listed in 1.4 above. • Identity good reading habits.	•	•	•	
3	1.7 Explain the different methods of reading, viz, scan, skim, normal and study.	• Explain the different methods of reading, viz, scan, skim, normal	•	•	•	

	1.8 Use the different methods of reading explained in 1.7 above.	and study. • Use the different methods of reading explained in 1.7 above.				
	General Objectives: 2.0 Know the nature of language.					
WEEK	**Specific Learning Objective** Theory	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective**	**Teachers Activities**	
4	**Language** 2.1 Explain the concept of language. 2.2 List the characteristics of language. 2.3 Explain the four language skills, viz, speaking, listening, writing, reading.	• Explain the concept of language. • List the characteristics of language. • Explain the four language skills, viz, speaking, listening, writing, reading.				
5	2.4 Explain the functions of language. 2.5 List the uses of English Language in Nigeria, e.g. as the language of research, government, commerce, etc.	• Explain the functions of language. • List the uses of English Language in Nigeria, e.g. as the language of research,				

		government, commerce, etc.				
	General Objectives: 3.0 Understand the basic rules of grammar.				**General Objectives:**	
WEEK	**Specific Learning Objective** Theory	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**
6	**Grammatical Conventions** 3.1 Explain grammar 3.2 Explain parts of speech.	• Explain grammar • Explain parts of speech.				-
7	3.3 Analyze the use of parts of speech in sentences. 3.4 Correct common errors in the use of parts of speech in sentences. 3.5 Construct sentences with correct syntactic arrangement.	• Analyze the use of parts of speech in sentences. • Correct common errors in the use of parts of speech in sentences. • Construct sentences with correct syntactic arrangement.				
8	3.6 List punctuation marks. 3.7 Enumerate the uses of punctuation marks. 3.8 Punctuate a given passage. 3.9 Explain idioms	• List punctuation marks. • Enumerate the uses of punctuation marks. • Punctuate a given passage. • Explain idioms				

9	3.10 Explain figures of speech. 3.11 Explain affixation. 3.12 Construct sentences to illustrate idioms, figures of speech and affixes.	• Explain figures of speech. • Explain affixation. • Construct sentences to illustrate idioms, figures of speech and affixes.				
General Objectives: 4.0 Know the essential qualities of paragraphs.						
WEEK	**Specific Learning Objective** Theory	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**
10	**Paragraphing** 4.1 Define a paragraph 4.2 Name the parts of paragraph, viz., topic sentence, development, and conclusion/transition.	• Define a paragraph • Name the parts of paragraph, viz., topic sentence, development, and conclusion/transition.	•			
11	4.3 Explain the thematic qualities of a paragraph viz, unity, coherence and emphasis. 4.4 Explain methods of paragraph development, viz, example, definition, comparison and	• Explain the thematic qualities of a paragraph viz, unity, coherence and emphasis. • Explain methods of paragraph development, viz, example, definition,	•			

	contrasts etc.	comparison and contrasts etc.				
12	4.5 Explain methods of ordering details in a paragraph viz, less complex to more complex and vice versa, less important to more important and vice versa, spatial, chronological, etc. 4.6 Write specific paragraphs to illustrate 4.2 to 4.5 above.	• Explain methods of ordering details in a paragraph viz, less complex to more complex and vice versa, less important to more important and vice versa, spatial, chronological, etc. • Write specific paragraphs to illustrate 4.2 to 4.5 above.	•			
	General Objective: **5:Appreciate literacy works in English**.					
WEEK	**Specific Learning Objective** Theory	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective**	**Teachers Activities**	**Learning Resources**
13	**Literature in English** 5.1 Give the meaning of Literature. 5.2 Trace the development of literature.	• Give the meaning of Literature. • Trace the development of				

		literature.				
14	5.3 Differentiate between the literary genres. 5.4 Explain the functions of literature.	• Differentiate between the literary genres. • Explain the functions of literature.				
15	5.5 Explain the terminology of prose fiction, e.g. plot setting, characterization etc. 5.6 Answer an essay question on a given novel.	• Explain the terminology of prose fiction, e.g. plot setting, characterization etc. • Answer an essay question on a given novel.				

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)			
COURSE: CITIZENSHIP EDUCATION I			
CODE: GNS 111			
DURATION (Hours/Week) **Lecture: 2hrs**	**Tutorial: 0**	**Practical: - 1**	**Total: 2 (30hrs/semester)**
UNITS: 2			
GOAL: This course is designed to expose the student to the basic concepts, principles and provisions of the Nigerian Constitution			
GENERAL OBJECTIVES: On completion of this course, the student should be able to:			
1 Understand the constitution of Nigeria. 2 Understand the federal system of government in Nigeria 3 Know the constitutional rights and obligations of Nigerian citizens. 4 Understand citizenship. 5 Know the fundamental objectives and directive principles of state policy of Nigeria.			

General Objective 1: Understand the constitution of Nigeria.

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Explain the term constitution. 1.2 Distinguish the different types of constitutions. 1.3 Highlight some provisions of an international constitution. 1.4 Assess the effectiveness of international						

constitutions. 1.5 Recognize the supremacy of the Nigerian constitution to other laws with emphasis on the 1999 constitution. 1.6 Evaluate the main parts of the Nigerian constitution. 1.7 Draft a constitution for an association. 1.8 Trace the historical development of the Nigerian constitution. 1.9 Discuss the merits and demerits of each of the Nigerian constitutions. 1.10 Explain the concept of "rule of law"						
General Objective 2: Understand the federal system of government in Nigeria						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Describe a Federation 2.2 Distinguish a federation from a confederation. 2.3 Outline the basis for the federal system in Nigeria. 2.4 Examine the evolution, structure and functions of the						

federal system in Nigeria. 2.5 Analyse the relationships among the three tiers of government in Nigeria. 2.6 Evaluate the revenue allocation formula in operation in Nigeria. 2.7 Compare and contrast other Federations with Nigeria.						
General Objective 3: Know the constitutional rights and obligations of Nigerian citizens						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Examine the significance of rights and obligations in Nigeria. 3.2 Assess government's protection of fundamental rights as contained in the Nigeria Constitution			3.3			
General Objective 4: Understand citizenship						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Discuss the significance of citizenship. 4.2 Analyse the principles and benefits of			-			

citizenship. 4.3 Explain the differences in the modes of acquiring citizenship. 4.4 Evaluate the merits and demerits of each type of citizenships, 4.5 Analyse the basis for the acquisition and withdrawal of Nigerian citizenship. 4.6 Examine the benefits derivable from Nigerian citizenship.						
General Objective 5: Know the fundamental objectives and directive principles of state policy of Nigeria						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 State the fundamental obligations of government as provided in the constitution. 5.2 Explain the general provisions of the fundamental objectives and directive principles of state policy. 5.3 Explain the political, economic, social and education policies of Nigeria.						

5.4 Explain the directive principles and policy of the Nigerian government on culture, the mass media, national ethics and duties of the citizen. 5.5 Assess the conformity, observance and application of the fundamental objectives and directive principles of state policy by governments and people of Nigeria. 5.6 Recommend improvements on the provisions, conformity, observance and application of the fundamental objectives and directive principles of state policy.						

LEVEL: YEAR 1 **SEMESTER: II**

PROGRAMME: NATIONAL DIPLOMA (HND) IN ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: INTRODUCTION TO ENVIRONMENTAL MANAGEMENT				
COURSE CODE: EHT 121				
DURATION: 3 HOURS	Lecture: - 2	Tutorial: -	Practical: - 1	Total: 3 HOURS
CREDIT UNITS: 3				
GOAL:The course is designed to provide students with the basic knowledge of the Interaction between Man and the Physical, Chemical, Biological Constituents of the Environment				
GENERAL OBJECTIVES: On completion of the course, the student should be able to:				
1. Know the components of the Environment 2. Know the Objectives of Environmental Management 3. Understand Environmental Resources and Conservation 4. Know Environmental Management Systems and Laws 5. Understand the methods of measuring Environmental Impacts 6. Understand the types, nature and characteristics of Environmental Media 7. Appreciate the use of Geographic Information System in Environmental Management (GIS) 8. Understand Basic Concept of Environmental Remediation				

General Objective 1: Know the components of the Environment						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define Environment 1.2 Define Environmental Management 1.3 Identify components of the Environment • Physical • Chemical • Biological 1.4 Explain the relationship between the components of the environment 1.5 Understand the functions of components of the Environment 1.6 Explain the term 'Environmental Management' 1.7 Analyze Environmental Management Systems 1.8 Know the main components of the earth system • The geosphere • The atmosphere • The hydrosphere • The biosphere	• Lecture • Discuss • Brainstorm	• Lecture notes • Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player		•		• Assignment • Class Test • Presentation • Examination

General Objective 2: Know the Objectives of Environmental Management						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Comprehend Objectives of Environmental Management • To identify the environmental problem and to find its solution • To restrict and regulate the exploitation and utilization of natural resources • To regenerate degraded environment and to renew natural resources (renewable) • To control environmental pollution and gradation • To reduce the impacts of extreme events and natural disaster • To make optimum utilization of natural resources • To assess the impacts of proposed projects and activities on environment • To review and revise the existing technologies and make them eco-friendly • To formulate laws for the implementation of environmental protection and conservation programmes.	• Lecture • Discuss • Brainstorm	• Lecture notes • Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player		•		• Assignment • Class Test • Presentation • Examination

General Objective 3: Understand Environmental Resources and Conservation						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Explain Environmental Resources 3.2 Discuss Water Resources • Oceans and Freshwater Resources • Land-Based Resources: Forests, Minerals, Soils, Agriculture, and Rural Development • Energy Resources 3.3 Discuss Natural Resource Management 3.4 Know Environmental Conservation 3.5 Classify Environmental protection • Air Quality • Noise Control • Land Quality • Built Environment 3.6 Explain Environmental Conservation 3.7 Discuss Biodiversity • Types of Biodiversity • Threats to Biodiversity ▪ Population, ▪ Consumption, and ▪ Technology 3.8 Explain Sustainability • Sustainable Development framework • Sustainable Development Theory	• Lecture • Discuss • Brainstorm	• Lecture notes • Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player		•		• Assignment • Class Test • Presentation • Examination

GENERAL OBJECTIVE 4: Know Environmental Management Systems and Laws						
4.1 Understand Environmental Management Systems (EMS) 4.2 Know International Environmental agreements; Protocols; conventions etc. • United Nations Framework Convention on Climate Change • United Nations Convention to Combat Desertification • Basel Convention on the control of Transboundary Movements of Hazardous Wastes and their Disposal • Kyoto Protocol on greenhouse gas emission reductions 4.3 Analyse the implementation of International agreements; Protocols; conventions etc. 4.4 Understand Environmental Management principles 4.5 Evaluate Environmental Management Tools and their application 4.6 Know National Environmental Laws and their Applications e.g. • Harmful (toxic) waste criminal Provision decree 42 of 1988; • Federal Environmental Protection Agency (FEPA) decree no.58 of 1988 and No.59of1992 as amended; • National Policy on Environment (1989&1999) as amended;	• Lecture • Discuss • Brainstorm	• Lecture notes • Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player	• Review the impact of International Environmental Statutes • Review National Environmental Laws and Policies	• Locate • Guide • Demonstrate	• Projector • Maps • Charts • GIS Kit • Digital Camera • A4 Paper	• Assignment • Class Test • Presentation • Examination

• National Environmental Protection (Effluent limitation) Regulations S.I. 8 of 1991 mandatory for industries to install anti-pollution equipment and for effluent treatment; • National Environmental Protection (Pollution Abatement in Industries and facilities Generating Wastes) Regulations S.I.9 of 1991;6 4.7 Explain Environmental Policy						
GENERAL OBJECTIVE 5: Understand the methods of measuring Environmental Impacts						
5.1 Discuss Environmental Impacts 5.2 State types of Environmental Impacts according to human activity: • Mining • Building/Construction • Agriculture • Transportation • Manufacturing etc. 5.3 Explain methods of measuring Impacts • Environmental Impact Assessment • Environmental Audit • Economic Impact Analysis • Social Impact Analysis • Health Impact Assessment • Environmental Monitoring 5.4 Discuss Type of Mitigation measures: • Prevention and control • Compensatory	• Lecture • Discuss • Brainstorm	• Lecture notes • Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player	• Visit some sites of human activity to visualize environmental impacts • Read reports of EIA/EA/HIA	• Locate • Guide • Demonstrate	• Projector • Maps • Charts • GIS Kit • Digital Camera • A4 Paper	• Assignment • Class Test • Presentation • Examination

• Remediation/Corrective 5.5 Discuss Environmental Impact Mitigation Strategies • Reforestation • Carbon sinks • Low carbon energy • Renewable energy • Nuclear energy • Energy efficiency 5.6 Discuss the roles of Public/Private Institutions in EIA 5.7 Identify professionals and other stakeholders involved in EIA						
General Objective 6: Understand the types, nature and characteristics of Environmental Media						
6.1 Know the types of Environmental Media: • Air • Water • Soil • Biota 6.2 Discuss Pollutants of Environmental Media • Chemical: Toxic; wastes; Pesticides; VOCs • Biological: Disease Organisms; Allergens (Arthropods & Insects); • Physical: Noise; Radiation (Ionizing & Non-ionizing) etc. • Socioeconomic i.e.Access to safe	• Lecture • Discuss • Brainstorm	• Lecture notes • Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player				• Assignment • Class Test • Presentation • Examination

and sufficient health care						
General Objective 7: Appreciate the use of Geographic Information System in Environmental Management (GIS)						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 Define Geographic Information System 7.2 Discuss the basic principles of Geographic Information Systems 7.3 Use GIS Technology 7.4 Understand the Global Positioning System (GPS) 7.5 Understand the procedure for collection, organizing and storage of spatial data 7.6 Appreciate the process of map production 7.7 Understand the methods applied in photo interpretation 7.8 Understand the rudiments of Remote Sensing techniques	• Lecture • Discuss • Brainstorm	• Lecture notes • Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player	7.1 Read maps 7.2 Operate a GIS kit	• Locate • Guide • Demonstrate	• Projector • Maps • Charts • GIS Kit • Digital Camera • A4 Paper	• Assignment • Class Test • Presentation • Examination
GENERAL OBJECTIVE 8: Discuss various forms of Environmental Degradation and Remediation						
8.1 Define Environmental Degradation 8.2 Know the forms of Environmental Degradation • Degraded air quality • Degraded water quality • Land contamination (Oil spill etc.) • Deforestation • Soil erosion • Land use change and habitat loss • Biodiversity loss 8.3 Identify Causes of Changes in	• Lecture • Discuss • Brainstorm	• Lecture notes • Pictures • Charts • Books • Journals • Computer • Projector • DVD/Multimedia Player		•		• Assignment • Class Test • Presentation • Examination

ecosystems • Wood logging • Overgrazing • Bush burning • Land tilling • Construction • Population growth • Urbanisation • Poverty • Food insecurity • Disease • Peak oil and energy security • Conflict and displacement • Greenhouse Gases 8.4 Explain the consequences of Environmental Degradation • Ozone layer depletion • Famine • Global warming 8.5 Know the basics of spill and its prevention 8.6 Discuss Spill response 8.7 Explain Environmental Remediation 8.8 Outline Site remediation options 8.9 Explain contingency planning 8.10 Discuss Site assessment process 8.11 Discuss decommissioning strategy						

COURSE TITLE: ENVIRONMENTAL HEALTH 11				
COURSE CODE: EHT 122				
DURATION:	Lecture: - 2	Tutorial: -	Practical: -	Total: 30hrs
CREDIT UNITS: 2CU				
GOAL: This is designed to provide students with the knowledge of environmental health practice.				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:				
1.0 Understand the concept of environmental health. 2.0 Know environmental problems affecting man. 3.0 Understand the hazards associated with environmental conditions. 4.0 understand various methods of sewage management. 5.0 Understand the relationship between housing and health. 6.0 know environmental pollution control laws.				

COURSE SPECIFICATION: Theoretical Content Practical Content						
GENERAL OBJECTIVE 1: Understand the concept of environmental health						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define – Environment – Health – Environmental health 1.2 Explain the components of • the environment • Environmental health 1.3 Describe the relationship between the components of environment and health	Lecture Demonstration Discussion	Projector, Text Books, Lecture notes, Charts.				Test, Assignment, Examination Quiz.
GENERAL OBJECTIVE 2: Know environmental problems affecting man						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Identify biological, physical and social environment 2.2 Explain problems associated with Industrialization Disasters Erosion Pollution etc. 2.3 Describe environmental control measures	Lecture Demonstration Discussion	Projector, Charts, Lecture notes, Text Books.				Test, Assignment, Examination Quiz.
GENERAL OBJECTIVE 3: Understand the hazard associated with environmental health conditions						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1. Identify physical, biological, chemical agents 3.2. Identify various hazard associated with agents in 3.1 above	Discuss Explain Brainstorm	Projector, Lecture note, Flow			Camera, video recorder, jotter.	Test, Examination Assignment.

3.3. Describe the control measures in 3.2 above		Charts, Text-Books.				
GENERAL OBJECTIVE 4: Understand various method of sewage management						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Explain sewage Sewerages Sullage and Sewers. 4.2 Identify methods of sewage disposal such as - Trickling filters - Oxidation pond etc. 4.3 Explain the merit and demerit of these methods in 4.2 above	Discussion Demonstration Lectures	Projector, Text Books, Lecture notes, Charts.				Test Examination
GENERAL OBJECTIVE 5: Understand the relationship between housing and health						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1. Define 'housing', Shelter and health 5.2. State the qualities of a good housing 5.3 Identify diseases associated with poor housing	Discussion Demonstration Lectures	Projector, Text Books, Lecture notes, Charts.				Test Assignment, Examination
GENERAL OBJECTIVE 6: Know environmental pollution control laws /regulation						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1. Identify major environmental control laws in Nigeria 6.2. Explain the provision of environmental	Discussion Demonstration	Projector, Text Books, Lecture				Test, Examination

practice regulation. 2016		notes, Charts.				

PROGRAMME: NATIONAL DIPLOMA (ND) IN ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: BUILDING SANITATION I				
COURSE CODE: EHT 123				
DURATION:	Lecture: - 2	Tutorial: -	Practical: - 1	Total: 45HR
CREDIT UNITS: 3				
GOAL: The course is designed to enable students to acquire knowledge and skills in building sanitation.				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:				
1.0 Know building, its components and their functional requirements. 2.0 Understand the general principles of site selection. 3.0 Understand the principles of damp proofing in building. 4.0 Know the nuisances commonly found in a building. 5.0 Know the importance of provision of sanitary facilities. 6.0 Know the relevant laws and regulations in building sanitation.				

GENERAL OBJECTIVE: 1.0 Know building, its component and functional requirements						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define building. 1.2 List the major components of a building: - Floors - Foundation - Wall - Roof - Doors - Windows - Celling etc. 1.3 State the functional requirements of the building components. 1.4 Sketch the components in 1.2 above. 1.4 State the qualities of a good house - Portable water supply - Waste disposal facilities - Adequate ventilation/lighting - Building with durable materials - Separate apartment for adults of opposite sexes etc. 1.5 Explain each quality listed in 1.4 above.	Discuss Brainstorm Lecture	Text books Journals Charts Lecture notes. Text books Internet Lecture notes	Students identify the components of a building, Sketch the building components	Point at each component. For students to identity them, Supervise and guide the students in sketching		Text Assignments Assignment Texts

GENERAL OBJECTIVE: 2. 0 Understand the general principles of site selection						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Explain the principles of site selection - Accessibility - Topography - Drainage - Water supply - Town planning regulations etc. 2.2 List site activities that precede the actual building construction. 2.3 State factors to be considered in site organization and layout.	Discussion Brainstorming Lecture	Text books Internet Lecture notes.	2.1 Visit building site to see the activities going on	Guide students while on visit	Building plan	End of semester examination. Assignment Tests
GENERAL OBJECTIVE: 3.0 Understand the principles of damp proofing in building						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Explain damp proof course DPC. 3.2 Explain the importance of DPC in a building. 3.3 List various DPC materials. 3.4 Explain the process of damp proofing.	Explain Brainstorm Discussion Lecture	Text books Journals Lecture notes.	Identification of various DPC materials. Students to identify various DPC materials Students to observe process of damp proofing	Guides students to identify and observe damp proofing process		Test Quiz End of term examination

GENERAL OBJECTIVE: 4.0 Know the nuisances commonly found in a building						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 List nuisances that are found on the various components of a building - Roof, wall, floor, window, ceiling etc. 4.2 Differentiate between structural and non-structural nuisances in a building. 4.3 Describe abatement notice 4.4 Explain the format for report writing in building inspection	Brainstorm Lecture Explain Discussion	Text books Journals Internet Lecture notes	4.1 Carryout inspection of a building, through - Detection of nuisances - Health education - Service of abatement notice - Verification of compliance etc - 4.2 Prepare abatement notice to abate nuisances detected. 4.3 Write report of the inspection carried	Supervise students while on inspection		Assignments Tests. Assignments

GENERAL OBJECTIVE: 5.0 Know the importance of provision of Sanitary facilities in a building						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Explain Sanitary facilities. 5.2 Describe the importance of the following sanitary facilities to building. - Portable water. - Kitchen - Toilets/bathrooms - Waste disposal facilities. - Drainage systems etc. 5.3 Describe the public health importance of:-	Discussion Lecture Brainstorming	Text books Lecture notes.				Assignment Quiz End of semester examination

-adequate lighting - ventilation -standard sizes of living rooms. -standard waste receptacle.						
GENERAL OBJECTIVE: 6.0 Know the relevant laws and regulations in building sanitation						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Define laws and regulations. 6.2 List and explain the following. i. Public health laws. ii. National Environmental Health practice regulation 2016. iii. EHORECON Act No. 11 of 2002. iv. Building sanitation bye-law. v. National Building Code etc. 6.4 Describe the roles of professionals involved in building. i. Architect. ii. Quantity Surveyor iii. Building/Structural Engineer iv. Electrical Engineer etc.	Discussion Lecture Explain	Text books Lecture notes Internet Samples of various Laws & Regulations.				Text Quiz Assignments

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY [NATIONAL DIPLOMA]
COURSE TITLE: ECOLOGY

COURSE CODE: EHT 124				
DURATION:	Lecture: - 2	Tutorial: -	Practical: -	Total: 30HRS.
CREDIT UNITS: 2				
GOAL: This course is designed to acquaint students with knowledge of Interdependency between Man and his Ecosystem.				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:-				
1.0 Understand the concept of Ecology. 2.0 Comprehend the principles of matter and energy. 3.0 Understand Biochemical cycles. 4.0 Understand Biomes and Biodiversity. 4.0 Understand the effects of Human activities on the Ecosystem. 5.0 Comprehend different aspects of Environmental conservation.				

GENERAL OBJECTIVE: 1.0 Understand the concepts of Ecology.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Explain the term Ecology.	Explain Question	Projection Text				Test Assignment

1.2 state the levels of Ecology e.g.: -Biodiversity -Habitat -Niche -Individual Ecology -Population Ecology. 1.3 Describe the Ecosystem.	Chart Give Assignment	Books Internet Lecture Notes, Charts Pictures.				Examination.
GENERAL OBJECTIVE: 2.0 Comprehend the Principles of Matter and Energy						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Explain the terms matter and energy. 2.2 List states of Matter: - Solid - Liquid - Gas. 2.3 Explain thermodynamics and energy transfer. 2.4 Analyze the relationship between matter and energy in the environment. 2.6 Explain food chain, food Webs, and tropic levels.	The teacher explain brain storm ask questions	Projection Text Books Internet Lecture Notes, Charts Pictures.				Test Assignment Examination.
GENERAL OBJECTIVE: 3.0 Understand Biogeochemical cycles						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**

3.9 Explain Biogeochemical Cycles. 3.10 List types of Biogeochemical Cycles. e.g. -Water Cycle -Rock Cycle - hydrologic cycles - carbon cycle -nitrogen cycle - phosphorus cycle - sulphur cycle. Etc. 3.3 Discuss the significance of Biogeochemical cycle.	The teacher explain	Projection Text Books Internet Lecture Notes, Charts Pictures tutorial.				Test Examination.
GENERAL OBJECTIVE: 4.0 Understand Biomes and Biodiversity Cycles.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Explain climate and biomes. 4.2 Describe the vegetative covers of the earth. 4.3 Evaluate fresh Water ecosystems and media ecosystem. 4.4 Explain the concept of biodiversity. 4.5 State the benefits of biodiversity 4.6 Identify threats to biodiversity.	The teacher explain elicit give assignment ask question	Projection Text Books Internet Lecture Notes, Charts Pictures.				Test Examination.

GENERAL OBJECTIVE: 5.0 Understand the effects of Human activities on the Ecosystem.

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
5.1List the various human activities impacting on the ecosystems. 5.2 Analyze the effects of human activities on the eco-system e.g. -Mining -Physical Development -Agricultural activities -Industrialization. 5.3Explain effects of natural disasters on the ecosystems. 5.4 Describe soil organisms, soil profile and soil types. 5.5 Discuss Land resources and Land degradation. 5.6 discuss soil erosion.	The teacher discuss Brainstorm ask question	Projection Text Books Internet Lecture Notes, Charts Pictures tutorial.				Test Examination.
GENERAL OBJECTIVE: 6.0 Comprehend different aspects of Environmental Conservation.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Describe range Management. 6.2 Explain preservation of Parts. 6.3 Discuss Conservation and economic development.	The teacher explain discuss brainstorm.	Projection Text Books Internet Lecture Notes, Charts Pictures tutorial.				Test Examination.

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)		
COURSE:	HUMAN ANATOMY AND PHYSIOLOGY II (INTERNAL ORGANS AND SYSTEMS)		
COURSE CODE:	DTH 216		
DURATION (Hours/Week) **Lecture: 1hrs**	**Tutorial: 0**	**Practical: - 2**	**Total: 3 (45hrs/semester)**
UNITS:	3		
GOAL:	This course is designed to enable the student acquire the knowledge of human internal organs and systems.		
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:		

1 Know the functions of the Internal Organs of man

2 Know the structure of the abdomen

3 Know the urinary system

4 Know the structure of the skin

5 Know the endocrine system

6 Know hormones and their actions

General Objective 1: Know the functions of the Internal Organs of man						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define digestive system 1.2 Describe the structure of digestive system i.e.Alimentary canal i.e. mouth, Oesophagus, stomach, intestines, anus. 1.3 Identify the enzymes present in the digestive system. 1.4 Explain the process of digestion and absorption of foods: fats, proteins and carbohydrates in the intestine. 1.5 List the basic principles of gastro-intestinal absorption. 1.6 Explain nutrition to the body metabolism. 1.7 Explain basic metabolic rate, diet and calorific values. 1.8 List gastrointestinal disorder e.g. disorders of swallowing and of		Chart/Picture	1.11 Use model to identify various parts of the digestive system 1.12 Locate areas of possible disorder.	Guide and supervise students to carry out the activities in 1.11 and 1.12	Simulators and models,	Quiz Test Assignment Examination

the oesophogys, disorders of the stomach e.g. peptic ulcer, etc. 1.9 List the disorders of the small and large intestine e.g. diarrhea, constipation, etc. 1.10 List the general disorders of the gastrointestinal tract i.e. vomiting nausea						
General Objective 2: Know the structure of the abdomen						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Describe the abdominal and pelvic regions. 2.2 Describe the structure of the abdomen i.e. peritoneum,stomach and intestine. 2.3 Describe the structure and functions of the liver and pancreas			2.4 Use model or preserved specimen to locate the various parts of the stomach.	Guide and supervise student to perform the task in 2.4	Models	Quiz Test Assignment Examination
General Objective 3: Know the urinary system						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Define the urinary			3.4 Use model to	Guide and	Models.	Quiz

system. 3.2 Describe the general disposition of the organs of excretion e.g. kidneys, urethras, urinary bladder. 3.3 Describe process of excretion by the urinary system.			identify parts and explain functioning of the urinary system.	supervise student to perform the task in 3.4		Test Assignment Examination
General Objective 4: Know the structure of the skin						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Describe the structure of the skin. 4.2 List the functions of the skin. 4.3 Explain the process of absorption on the skin. 4.4 Explain excretion through the skin.			4.5 Identify the various parts of the skin using models.	Guide and supervise student to perform the task in 4.5	Models	Quiz Test Assignment Examination
General Objective 5: Know the endocrine system.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Explain the endocrine system structure. 5.2 Describe the structure of the endocrine system with emphasis on pituitary gland,			5.4 Locate the glands mentioned in 5.2 on a model	Guide students to locate the glands on a model	Models	Quiz Test Assignment Examination

pineal body, thymus, parathyroid glands etc. 5.3 Explain the function of the endocrine system.						
General Objective 6: Know hormones and their actions						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Define hormones 6.2 List some hormones in the body system e.g. growth hormones, thyrotrophins, cortico-throphic hormones. 6.3 Describe the structure of endocrine gland. 6.4 List the hormones that act on the endocrine a glands			6.5 Locate the glands that produce the hormones listed in 6.2 on a model.	Guide students to locate hormones on a model	Models	Quiz Test Assignment Examination

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY [NATIONAL DIPLOMA]				
COURSE TITLE: PHARMACOLOGY I				
COURSE CODE: EHS 125				
DURATION:(Hours/Week)	**Lecture: 2hrs.**	**Tutorial: 0**	**Practical: 1hr.**	**Total Contact Hours: 3 (45 Hours)**
CREDIT UNITS: 3				
GOAL: This course is designed to provide the students with the basic knowledge of drugs and their applications.				
GENERAL OBJECTIVES: At the end of this course, the students should be able to:				
1.0 Understand the history, terminologies, abbreviations and importance of pharmacology in Nursing. 2.0 Know the sources and classification of drugs 3.0 Know the calculation, preparation and routes of drug administration 4.0 Know the application of safety measures in drug administration 5.0 Understand the mechanism of drug action and interaction.				

GENERAL OBJECTIVE 1.0: Understand the history, terminologies, abbreviations and importance of Pharmacology in Nursing						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
1.1 Outline the history of Pharmacology. 1.2 Define the following terms: • Pharmacology • Pharmacokinetics • Pharmacogenetics	• Lectures • Discussion	• Textbooks • Charts • Samples of drugs/Drug leaflets • White board/Markers • Prescription notes				Assignment Test Examination

• Pharmacodynamic • Idiosyncrasies • Pharmacognosy • Pharmacovigilance etc. 1.3 Explain the various abbreviations used in pharmacology/ drug prescription e.g. bid, bd, tds, qid, prn etc: 3/7, 5/7, 7/7etc 1.4 State the generic (Pharmaceutical-chemical/ biological) and brand (trade) names of drugs. 1.5 Describe the importance of pharmacology in nursing practice. 1.6 Explain complementary therapy and its implications to nursing practice in Nigeria.		• Multimedia projector/Laptops				

GENERAL OBJECTIVE 2.0: Know the sources and classification of drugs						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
2.1 State the sources of drugs 2.2 Explain each source listed in 2.1 above 2.3 Classify drug types according to their: functions and forms (mode of storage, similarity in composition, etc) 2.4 Define Controlled Drug Act (CDA) 2.5 List types of drugs in CDA 2.6 Explain the National Drug Policy	• Lecture • Discussion • Brain storming	• Samples of drugs • Drug charts/leaflet • Textbooks • White board/ Marker • Copy of Controlled Drugs Acts • Controlled Drug Act cupboard • Video clips on sources of drugs				Assignment Test Examination

2.7 Describe the concept of Essential Drugs and Controlled Drugs Act.						

General Objective 3.0: Know the calculation, preparation and routes of drug administration						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
3.1 Explain drug calculation, preparation, drug administration, drug overdose/ under dose 3.2 Describe basic drug calculations in relation to: - Unit conversions - Tablets - Mixtures and solutions - Infusion rates - Required drug volume from stock strength - Weight related doses - **Concentrations (mg/ml) from solutions** - **Concentrations from weight to volume**	• Lecture • Discussion	• Laboratory • Drugs samples • Charts • Textbooks • Water solutions • Drug administration records/forms • Syringes • Needles • Video clips on drug preparation, calculation and administration • Tray for drug administration	3.1 Perform the various calculations in 3.1 3.2 Prepare diluted solutions of lotions and oral suspensions from stock strength 3.3 Calculate required doses of drugs from stock strength	• Demonstrate how to prepare diluted strength of lotions /solutions. • Demonstrate how to calculate required doses of drugs for different age groups from a stock strength. • Demonstrate how to administer various forms of drugs. • Observe students recording activity	• Text books • Charts • White / marker • Video clips • Multimedia projectors • Laptops	Assignment Test Examination

ratios 3.3 Explain how to maintain accuracy in calculation 3.4 List methods of drug preparation 3.5 Explain the different methods of preparation listed in 3.4 above. 3.6 Describe various dilution factors of drug solutions from stocks. 3.7 Outline various ways of calculating drug dosages from stock strength 3.8 Describe the principles of administration of drugs e.g. dosages, routes and forms e.g. tablets, lotions, solutions, emulsions,			3.8 Administer drugs in their various forms to clients/ patients as listed in 3.8			

injections etc. 3.9 Describe drug over dosage and the use of general and specific antidotes. 3.10 Discuss drug abuse, dependence and addiction: - Definition and scope 3.11 Explain the legal implications of the storage, administration and record keeping of drugs 3.12 Describe the various routes of drug administration e.g. oral, intravenous, intramuscular, subcutaneous, intradermal, sublingual, intrathecal, etc.						

3.13 Describe the Nurse's responsibilities in the calculation, preparation and administration of drugs						
General Objective 4.0: Know the application of safety measures in drug administration						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**

4.1. Explain safety measures in storage and administration of drugs 4.1 Explain drug abuse, drug addition, drug resistance, drug tolerance and habituation 4.2 State the control measure to be adopted in administration of drug, drug abuse, addiction and habituation 4.4 Explain the legal implications of drug storage, administration and record keeping 4.5 Describe the nurse's responsibility in drug administration, storage and record keeping	• Lecture • Discussion	• Patient's record forms • Drug administration charts/records • Drug tray/trolley • Cup/water jug • Spoon/drug administration shaker				Assignment Test Examination
General Objective 5.0: Know the mechanism of drug action and interaction						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives**	**Teacher's Activities**	**Resources**	**Evaluation**

			(Practical)			
5.1 Explain components of pharmacokinetics i.e. absorption, distribution, metabolism and excretion of drugs. 5.2 Describe the components, of pharmaco-dynamics: - Actions - Interactions: synergism, antagonism - Adverse reaction: types, manifestations, identification and management. 5.3 Explain idiosyncrasies 5.4 Describe effects of age, diet, occupation and diseases on drug: absorption, disposition, distribution and elimination.	• Lecture • Discussion • Brain storming	• Pharmacology Laboratory • Textbooks • Drugs • Whiteboard/markers. • Multimedia projectors/Laptops • Video clips				Assignment Test Examination

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY [NATIONAL DIPLOMA]				
COURSE TITLE: INTRODUCTION TO SOCIOLOGY				
COURSE CODE: GNS 115				
DURATION: (Hours/Week)	**Lecture: 2hrs**	**Tutorial: 0**	**Practical: 0**	**Total Contact Hours: 2 (30 hours)**
CREDIT UNITS: 2				
GOAL: This course is intended to provide the students with knowledge of the basic elements of sociology and the relationship between sociology and other social sciences				
GENERAL OBJECTIVES: At the end of this course, the student should be able to:				
1.0 Understand Sociology as a body of scientific knowledge 2.0 Understand social groups 3.0 Know social institutions and their impacts on the society 4.0 Understand culture and its influence on the individual, the group and the society in general 5.0 Understand the process of socialization and its impact on the personality of the individual. 6.0 Understand the structure and the importance of the family as a basic social institution. 7.0 Know the meaning of social stratification and the variables associated with it. 8.0 Understand deviant behaviour and the consequences of such behaviour on social order. 9.0 Understand the mechanism of social control and the roles of the individual in the control process.				

GENERAL OBJECTIVE 1.0:Understand sociology as a body of scientific knowledge						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives**	**Teacher's Activities**	**Resources**	**Evaluation**

			(Practical)			
1.1 Define Sociology 1.2 Define the scope of sociology and its methods 1.3Summarize the historical development of sociology 1.4 Analyze the inter relationship of sociology and the other social sciences	• Lecture • Discussion • Brain storming	• Whiteboard/ Marker • Text books • Multimedia projector/Laptops				Assignment Test Examination
General Objective 2.0: Understand social groups						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
2.1 Define Society 2.2 Identify the basic groups of society, e.g. aggregate, category, social or formal groups. 2.3 Differentiate Between (a) Voluntary and involuntary groups (b) In-groups and out-groups	• Lecture • Discussion • Brain storming	• White Board / Marker • Text books • Multimedia/laptops				Assignment Test Examination

2.4 State the characteristics of reference groups						
General Objective 3.0: Know social institutions and their impacts on the society						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
3.1 Define social Institutions 3.2 Identify few basic social institutions 3.3 Delineate the most important characteristics of institutions in 3.2 3.4 Enumerate the specific functions of social institutions 3.5 Explain the concepts of : (a) transfer of functions (b) competition and cooperation among institutions and (c) institutional universality and variation	• Lectures • Discussions	• Whiteboard/ Marker • Textbooks • Multimedia project/Laptops				• Assignment • Text • Examination
General Objective 4.0:Understand culture and its influence on the individual, the group and the society in general						
Specific Learning	**Teacher's**	**Resources**	**Specific Learning**	**Teacher's**	**Resources**	**Evaluation**

Objectives (Theory)	**Activities**		**Objectives (Practical)**	**Activities**		
4.1 Define culture 4.2 Distinguish between material and non-material aspects of culture. 4.3 Analyze culture as a mode of communication 4.4 Describe cultural norms, values, folkways, and mores.	• Lecture • Discussion • Small group discussion	• White board /Marker • Textbooks • Multimedia projector/Laptops				Assignment Test Examination
General Objective 5.0:Understand the process of socialization and its impact on the personality of the individual						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
5.1 Define socialization 5.2 List four basic goals of socialization 5.3 Identify the major agents of socialization:: - the family - the school - peer groups - mass media etc.	• Lecture • Discussion • Brain storming	• Whiteboard /Markers • Text books • Multimedia projector/Laptops				Assignment Test Examination

5.4 Define personality 5.5 Analyze the effects of nature and nurture on the personality of an individual.						
General Objective 6.0:Understand the structure and the importance of the family as a basic social Institution						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
6.1 Define Family 6.2 Describe the types of family grouping, e.g. - nuclear family, - extended family, - compound family, - family of procreation - family of orientation. 6.3 Outline the variations in marital forms - monogamy - polygamy - polyandry - polygyny - group marriage and ghost marriage 6.4 Enumerate the	• Lecture • Discussion	• White board / Markers • Textbooks • Multimedia projector/Laptops				Assignment Test Examination

functions of the family, e.g. sexual, reproduction, socialization, economic.						
General Objective 7.0: Know the meaning of social stratification and the variables associated with it.						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
7.1 Define social class 7.2 Define social mobility 7.3 Identify the basic indicators of social class and their roles in social mobility – income, occupation education, race, religion, nationality, sex, location of residence, family background. 7.4 Examine the impact of the variables in 7.3 on groups and inter-personal relationship	• Lecture • Discussion • Brain storming	• Whiteboard / Markers • Text books • Multimedia projector/Laptops				Assignment Test Examination

7.5 Distinguish social stratification from social differentiation.						
General Objective 8.0: Understand deviant behaviour and the consequences of such behaviour on social order.						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
8.1 Define deviant Behaviour 8.2 Enumerate the various conditions that can give rise to deviant behaviour e.g. - relative deprivation - anomie - alienation - role conflict - absence of rules and regulations - influence of peer group - defence mechanism 8.3 State the characteristics of a deviant 8.4 Explain the consequences of deviant behaviour in	• Lecture • Discussion	• Whiteboard / Marker • Text books / Journals • Audiovisual				Assignment Test Examination

relation to social organisation.						
General Objective 9.0:Understand the mechanism of social control and the roles of the individual in the control process.						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
9.1 Define: control, social control, rules, regulation, sanctions, reward and punishment 9.2 Explain the functions of rules and regulations in the society as mechanism for social control and order. 9.3 Explain the various uses of sanctions in social control e.g. reward and punishment etc.	• Lecture • Discussion	• White board/ Marker • Text books /Journals • Audiovisual				Assignment Test Examination

PROGRAMME:	**ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)**		
COURSE:	**INTRODUCTION TO BIOCHEMISTRY**		
CODE:	**EHS121**		
DURATION (Hours/Week)	**Tutorial: 0**	**Practical: - 0**	**Total: 30 hrs.**

Lecture: 2 hrs			
UNITS: 3			
GOAL:	Thiscourseisdesigned toenablestudentstoacquireabasicknowledgeof the interaction between human body and chemical constituents.		
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:		

1.0 Understandthemolecular organization ofthelivingcell andits topochemistry

2.0 Understandtheimportanceofwaterandthe concepts of pHand buffers

3.0 Understandtheproperties,sources, uses andstructureofcarbohydrates

4.0 Understand nature,biological , Medical andindustrial importanceoflipids

5.0 Understandthestructure, properties, behaviorand functions of proteins

6.0 Understandtheclassification ofaminoacids

7.0 Understandthenature and functions ofenzymes

8.0 Understand vitamins andminerals foundinLivingcells

	GeneralObjective1.0: Understandthemolecularorganizationofthelivingcellanditstopochemistry					
Week/S	**SpecificLearningOutcomes**	**Teacher'sactivities**	**Resources**	**SpecificLearning Outcomes**	**Teacher's activities**	**Resources**
1	Oncompletionofthiscourse, thestudentshouldbeableto: **MolecularOrganisation of thelivingcells** 1.1 Listcellorganelles 1.2 Explaincentrifugation 1.3 Explainthestructure,functionsandfractionsofintracellularorganelles. 1.4 Describechemicalcompositionofthe (i.e.carhohydrate,protein,lipids,DNA,RNAnucleoproteinsetc.)	Lectures	Classroom	Centrifugationof fractions.	Demonstrate practicaloncellfractionation	BlackBoardCentrifugea. experimentalanimalb..Dissectingsetc. .Homogeniserd...Glasseware
	GeneralObjective2.0: Understandtheimportanceofwaterandtheconceptsofp Handbuffers					
2	1.4 Explaintheimportanceof waterasamajor cellularcomponent. 1.5 Listthepropertiesofwaterwhichmakesitsuitableastheliquidoflivingsystems. 1.6 Listthecommonlaboratoryandphysiologicalbuffersystemswiththeircomponents. 1.7 Explainhowthebuffersabovefunctiontoresistp Hchangesparticularlyinphysiologicalsystems.	Lecture	Blackboard	Choosethe appropriateacidanditssalts(baseanditssalt) forabuffersystematagivenpH fromalistof weakacids/bases. MeasurethepH ofsystemsusing lovibond	Demonstratetheuseofthep Hmetre .Conductpracticalsonthemeasurementofp H ofsolutions	Lovibond comparatorIndicatorpaperspHmetreIndicatorsolutions.Glassware's/Tiles

				comparatororpH meter.		
	GeneralObjective3.0: Understandtheproperties,sources,usesandstructureofcarbohydrates					
3	**Carbohydrates** 2.1 Explaincarbohydratesaspolyhydroxyketonesof polyhydroxyaldehidesandtheirderivatives. 2.2 Listthegeneralpropertiesofcarbohydrates. 2.3 Explainthegeneralpropertiesofcarbohydrates. 2.4 Listcommonsourcesofcarbohydrates. 2.5 Listdomesticandindustrialuse sofcarbohydrates 2.6 Classifycarbohydratesasmono-di-oligoandpolysaccharides	Lecture	Blackboard	Testfor carbohydrates inthelaboratorybye.g.meishtestFehling'setc.	Conduct practicaltestforcarbohydrates	GlasswaresReagentssuchasmolish,Fehling'setc.
	GeneralObjective4.0: Understandnature,biological, Medicalandindustrialimportanceoflipids					
6	**Lipids** 4.1 Definelipidsasfatsandfatlikesubstance. 4.2 Definefatasmono-di-andtri–carboxylicestersofglyceridese.g.monoglycerides,diglyceridesandtriglycerides. 4.3 Listnaturalsourcesoffats.	Lecture	Classroom	Testfor fatsinthelaboratorye.g.bysolubilitytest.	Assist studentstocarryoutlaboratoryassignment.	GlasswaresBunsenburnerWaterbathSaturatedandunsaturatedfat

	4.4 4.5 Listmembersofclassesin6.5above. 4.6 Drawstructuresofnamedsaturatedand unsaturatedfattyacidsmostabundantin acylglycerols. 4.7 arealmostalwaysevennumberedcarbon atoms. 4.8 Distinguishbetweenessentialandnon-fattyacids. 4.9 di-andtriacylglycerols. 4.10 namedtriacylglycerols. 4.11 Writethestructureofmono-di-and triacylglcerols. 4.12 Statephysicalpropertiesandusesof Triglycerides			Practicaltestfor fats Carryoutsimple chemicaltestsfo triacylglyceride s		Liquidand solidfats.
7	4. 13 Describewithequationthehydrolysisof triglycerides. 4.14 Describethehydrolysisoftriacylglycent swithalkalitoyielda mixtureofsoapand glycerol–(saponification) 4.15 Definesaponificationnumber,iodinenu mberandfreefattyacids(FFA)valueof fatsandoils(acylglycerols) 4.16 Explainthesignificanceofthe valueoflistedin4.15above. 4.17 Explainthehardeningofoils. Relate18tocommercialproductionoffa tsasmargarine. 4.18	Lecture	Blackboar d			

	Phosphatidylethanolaime Phosphatidylcholine Phosphatidylserine Phosphadidylglycerol 4.21 Listotherimportantglycerophosphatides. 4.22 Statethecellularlocationorsource sofglycerophosphatides. 4.23 Explainthesignificanceofthe variationsinthesize,shape,polarityandel ectricchargeofthepolarheadsofglycerop hosphatides. 4.24 Enumeratethefunctionsofglycerophos					
	• List theproducts ofhydrolysis of glycerophosphatidesby: • alkaline • acidand • Enzymes					
	GeneralObjective6.0: Understandthestructure,properties, behaviorandfunctionsofproteins					
8	**Proteins** 8.1 Classifyproteinsasglobularorfibro us. 8.2 Listnaturalcoursesofproteins 8.3 Statethecharacteristicspropertiesofthecl assesin5.1above. 8.4 Explainwithexamplestheroleofdifferentp roteinsinthefunctioningoflivingmattere. g.transport,structuralcatalytic,regulatory defenceetc. 8.5 Defineprostheticgroupasanon-proteinmoietyofacomplexprotein. 8.6 Describeproteinsintermsoftheirprosthetic groupse.g.hemoproteins,glycoproteins,li poproteinsetc. 8.7 Describethestructureofaproteinasachainof	Lecture	Blackboar d	Identify proteinsinth elaboratory Isolatealbumi nfromeggwhi tebysizeexclu sionchromato graphy Denaturethe albuminpuri fiedaboyean	Practical identificati onofprotei n	Protein sample ,:Millo n'sreag entBiu retreag enttiles .droper s. Glassware Colorimete rorSpectrop hotometer Waterbath

	groupsonaminoacids(Co-NH) 6.7 Drawthegeneralstructuralformularforal phaamino			precipitation fromsolution		
	GeneralObjective7.0: UnderstandtheClassificationofAminoAcidsandtheirstructures					
9	7.3 Classifyaminoacidsonthebasisofthechemical natureofthesidegroups. 7.4 Describethehydrolysisofproteintogiveamino acidsastheir finalproduct. 7.5 Placegivenstructuralformulaofanyaminoacidinthecorrectclassasin5.11above. 7.6 ExplainDandLisomerswithintheaminoacids. 7.7 Explaintheamphoterismofaminoacids. 7.8 Writeequationstoshowtheionizationofanamedaminoacidinsolutions. 7.9 Interpretagiventitrationcurveforagiven aminoacid 7.10 Definethetermisoelectricpoint. 7.11 Determinetheisoelectricpointfromagiventitrationcurve. 7.12 Statethe solubilityofanaminoacidoneithersideof theisoelectricpoint. 7.13 Explainwhyproteinsareprecipitatedatth eirisoelectricpoints. 7.14 Explaintheapplicationof5.18aboveinthe separationofaminoacids. 7.15 Explainthegeneralreactionsofaminoacids dueto(a)NH2groupand(b)–CooHgroup. 7.16 Describethespecificreactionsofaminoacidsduetothesidegroups. 7.17 Explainthatpeptidesareformedbyconden sationofaminoacidsandhydrolysisofprot			Identifyamino acidgenerally andspecifically. Aminoacidstandardsandtest samples,Ninhydrin.		Aminoacid analyzerchromatographictanks Glassplate andchromatographic columns

	eins. 7.18 Writeanequationtoshowtheformation ofdipeptide.					
	GeneralObjective8.0: Understandthestructureandbehaviourof Proteins					
10	8.1 Explaintheprimary,secondary,tertiaryandquaternary structureofproteins.	Lecture	Blackboard	precipitatea		

	2.1 Listthetypesofinteractionsinvolved in:- • Secondary • Tertiaryand • Quaternarystructuresofproteins. 2.2 Listexamplestoillustratet hestructuralorganizationi n5.27above. 2.3 Describedenaturationofproteinswithexampl es. 2.4 Explainthatthedenaturationistheresultof anunfoldingofthenaturalstructureofthepr oteinmoleculeandmayormaynotberevers ible. 2.5 Expainwhy 2.6 proteinsareprecipitatedat 2.7 2.8 theirisoelectricpoint.			proteinfrom solutionatitsI EPandshowt hatatotherpH valuesitrema insinsolution		
	GeneralObjective9.0: Understandthenature and functions ofenzymes					
11-13	**Enzymes** 9.1 Defineenzymesasproteinsspecializedto catalysebiologicalreactionsatarapidrate withinanarrowrangeoftemperatureand$_p$ H. 9.2 Definesubstrateasthesubstanceonwhichthee nzymeacts. 9.3 Defineactivesiteasthatregionoftheenzyme moleculewheresubstratetransformationoc curs. 9.4 Explainthedistinctivefeaturesofenzyme si.e.specificity,highcatalyticrateanddire ctiveeffect.	Lecture	Blackboard	Investigatethe rateofacataly sedreaction(c atalaseandH$_2$ O$_2$)at different concentration sofsubstratea ndatdifferent pHandtemper atures		yeastas sourceof catalase, hydroge nperoxid eburettef ormeasur inggaspr oductions topclock glasswar eetc.

	9.5 Illustratewithexamplesthedistinctivefeaturesin6.4above. 9.6 Classifyenzymesasoxido-reductases,Transferases,Hydrolases,Lyases,isomerasesandligases. 9.7 Listexamplesofenzymesbelongingtoeachtheclassesin9.6above					
14	9.8 Explainthatmanyenzymesrequiremetalionsand/ororganicmoleculeswhichactascofactors. 9.9 ExplainthattheefficiencyofenzymeactionisdependentonsuchfactorsasP^H,temperature,	Lecture	Classroom	DeterminetheeffectofP^Hofthevelocityofenzymecatalysesreaction.	Explaineachoftheexperimentalsteps	
	substrateconcentration,ionicenvironment activatorsandinhibitors. 3.1 DrawprofilestoshowtheeffectofP^H,temperature andsubstrateconcentrationonthe rateofenzymeactivity 3.2 DefinethetermsoptimumP^Handoptimumtemperature.			Determinetheeffectoftemperatureonthevelocityofenzymecatalysedreaction.		
	GeneralObjective11.0: Understandvitaminsandmineralsfoundin theLivingcell					
15	**Vitamins** 11.1 Explaintheimportanceofvitaminsupplements 11.2 Definethewatersolublevitamins 11.3 Explainthegeneral functionsofwatersolublevitamins. 11.4 Listthedeficiencydiseases. 11.5 Define fatsoluble vitamins 11.6 Explainthegeneral functionsandthedeficiencydiseasesoffatsolublevitamins.	Lecturewithchartsand drawing	Overhead projector	DeterminationofAscorbicaciddusingtitration\colorimetricmethod.	Assiststudents tocarryoutheeexperiment.	Ascorbic acidstandard,Burette,Colorimeterandaccessories.

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)		
COURSE:	INTRODUCTION TO STATISTICS		
CODE:	**STA111**		
DURATION (Hours/Week) **Lecture: 2 hrs**	**Tutorial: 0**	**Practical: -**	**Total: 30 hrs.**
UNITS: 3			
GOAL:	Thiscourseisdesigned toenablestudentstoacquireabasicknowledgeofdescriptivestatistics.		
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:		

1. Understandthenatureofstatisticaldata,theirtypesanduses
2. Understandtheproceduresforcollectionofstatisticaldata.
3. Understandthedifferencebetweentotalcoverageandpartialcoverageindatacollection
4. Understandthemethodsofdatacompilation
5. Understandthemethodsofdatapresentation

	TheoreticalCont			PracticalContent		
	GeneralObjective1(STA111): Understandthenatureofstatisticaldata,theirtypesand uses					
Week	**SpecificLearningOutcomes**	**Teacher'sactivities**	**Resources**	**SpecificLearning Outcomes**	**Teacher'sactivities**	**Resources**
1	1.1DefineStatistics 1.2Identifyvarioussourcesofstatisticaldata 1.3Stateimportantusesofstatistics	Explainthenatureof statistics Introducevarious sourcesanddiscussho theyare economic,health, biological,demograp andindustrial)	Booksof recorded statistics Internet	Locatesourceso statisticaldata Identifysources forspecificneed s	Encourage investigatin sources Encourage useof Internet	Booksof recorded statistics Internet Textbooks
2	1.4 Stateusesofstatisticaldata 1.5 Explainquantitativedata 1.6 Identifyvariousscalesofmeasurement	ExplainusesofdataEx plainnatureof quantitativedata Discussvariousscales (e.g.nominal,interval,r atioandordinal).	Books ofrecor dedstat istics Intern et	Decideonuse ofdatafound Determinesc aleofmeasure mentofdatafo und Commentoneff ectiveness	Encourag einvestigat ingsources Encourage useofInter net	Books ofrecor dedstat istics InternetTe xtbooks
	GeneralObjective2(STA111): Understandtheproceduresforcollectionofstatisticaldata					
3	2.1 Describebasicsamplingtechniques: 2.2 Distinguishbetweenthefollowingmethodso fdatacollection	Discusssimpleran domsampling, Discusssystematicsam pling	Textbooks Lectureno tes	Determinethec onceptofrando msamplingusi ngsimpledata	Discusssi mplerand omsampl ing,	Textbooks Lecture

		Discussstratified sampling Discussquotasampling.				
4	2.3 Designquestionnairesandformatsfor datacollection 2.4 Identifytheproblemsandtypesoferrorsthatariseindatacollection.	Explainanddiscussthe processofcarryingoutfieldworktocollectdata.	Textbooks	Identifytypesoferrorsindatacollection	Encourage studentsto carryoutfieldworkto collectdata	Textbooks
5	2.5 Collectdataonvarioussourceslistedin1.2above. 2.6 Collectprimaryandsecondarydata	Explainanddiscussthe processofcarryingoutfieldworktocollectdata.	Textbooks	Identifytypesoferrorsindatacollection	Encourage studentsto carryoutfieldworkto	Textbooks
6	2.7Collectprimaryandsecondarydata	Explainanddiscussthe processofcarryingoutfieldworktocollectdata.	TextbooksFieldtripRandomnumbertable	Classifydatain toprimary/secondary	Encourage studentsto carryoutfieldworkto	Textbooks
	GeneralObjective3(STA111): Understandthedifferencebetweentotalcoverageandpartialcoverageindatacollection					
7	3.1 Distinguishbetweencensusandsamplingsurveys. 3.2 Explainthemeaningandpurposeofpilot enquires. 3.3 Identifytheadvantagesanddisadvantagesofsampling.	Explainanddiscussthe processofundertaking astatisticalsample	Fieldtrip	Useexamplestoillustratetheoreticalcontents	Encourage studentsto collectastatisticalsample	Fieldtrip

8	3.4 Distinguishbetweenprobabilityand non-probabilitymethods 3.5 Explainthevariousprobability-samplingmethods	Explainanddiscussthe conceptscovered	Fieldtrip	Useexamplestoillustratetheoreticalcontents	Encouragestudentstocollectastatisticalsample	Fieldtrip
9	3.6 Explainthevariousnon-probabilitysamplingmethodpurpose,judgementandquota) 3.7 Explaintheuseofpostenumerationsurveys. 3.8 Collectdataapplyingthesamplingmethodsin3.5above	Explainanddiscussthe conceptscovered	Randomnumbertable	Useexamplestoillustratetheoreticalcontents	Encouragestudentstocollectstatisticalsample	Randomnumbertable
	GeneralObjective4(STA111): Understandmethodsofdatacompilation					
10	4.1 Identifythedifferentcategoriesofcollecteddata 4.2 Classifythedataintothe variouscategories	Explainanddiscussthe conceptscovered	Statistical kits	Showabilitytocategorisevariousdatacollected	Explainandsupervisestudentexercisesandassessstudentwork	Statisticalkits
11	4.3 Verifythesorteddata 4.4 Identifythedifferentdatastoragemethods	Explainanddiscussthe conceptscovered	Statistical kits	Useexamplestoillustratetheoreticalcontents	Explainandsupervisestudentexercisesandassessstudentwork	Statisticalkits

12	4.5Compileofdiscreteandcontinuousdata	Explainanddiscussth econceptscovered	Textbooks	Useexamplest oillustratetheo reticalcontents	Explainan dsupervise studentexe rcisesanda ssessstude	Textbooks
	GeneralObjective5(STA111): Understandthemethodsofdatapresentation					
13	5.1 Identifythe varioustypesofstatisticaltable(frequencyandc ontingencytables,simpleinformativetables,tab leforreference,complextables) 5.2 Explainvariousmethodsofdatapresent	Explainanddiscussth econceptscovered	Textbooks Statistical tables	Demonstrate,u singexamples, variousmethod sofdatapresent ation	Explainan dsupervise studentexe rcisesanda ssessstude ntwork	Textbooks Statistical tables
14	5.3 Constructscatterdiagramsfrequencyt ables,andgraphs. 5.4 Explain meritsanddemeritsofchart/diagramsabove.	Explainanddiscussth econceptscovered	Statisticalt ables	Demonstrate byexamples,c hartsandtable s	Explainan dsupervise studentexe rcisesanda ssessstude	Statisticalt ables
15	5.5Presentlifedata	Explainanddiscussth econceptscovered	Drawing materials	Demonstrate byexamples,c hartsandtable s	Explainan dsupervise studentexe rcisesanda ssessstude	Drawing materials

COURSE:	TECHNICAL DRAWING		
CODE:	**MEC 112**		
DURATION (Hours/Week) **Lecture: 1 hrs**	**Tutorial: 0**	**Practical: - 2**	**Total: 30 hrs.**
UNITS: 3			
GOAL:	Thiscourseisdesigned toenablestudentstoacquireabasicknowledgeofEngineering Drawings with a view to applying the skills to Environmental Health practice.		
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:		

1. Know different drawing instruments, equipment and materials used in technical drawing.
2. Know Graphical Communication.
3. Know the construction of simple geometrical figures and shapes.
4. Know Isometric and Oblique Projections.
5. Know single orthographic projections.
6. Understand the intersections of regular solids.

	General Objective 1: Know different drawing instruments, equipment and materials used in technical drawing.					
Week/s	**Specific Learning Outcomes**	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
1 – 2	1.1Identify the different types of drawing instruments, equipment and materials. 1.2 State the uses of the various instruments, equipment and materials. 1.3 State the precautions necessary 1.4 Use each of the items in 1.1 above. 1.5 Maintain the various instruments and equipment.	• Show the students all drawing instruments: Drawing set; T-Square; Drawing board; Set squares; Types of pencils (H to B). • Explain the uses of drawing instruments.	Instructional Manual. Recommended textbooks, e-books, lecture notes, Whiteboard, PowerPoint Projector, Screen, Magnetic Board, flip charts, etc.	Use each of the items in 1.1. Maintain the various instruments and equipment	Carryout the use of the items in 1.1. Carryout the maintenance of the various instruments and equipment.	Black board ruler (1m) Black board Tee-Square Black board compass Blackboard protector Adjustable set-square 60 set square 45 set square French curve set Templates Complete drawing table.
	General Objective 2: Know Graphical Communication					
	2.1 Explain graphics and different types of graphic presentation. 2.2 Illustrate the various convention present in graphical productions of construction lines, finished lines, hidden and overhead details projections, centre lines, break lines, dimensioning of plane,	▪ Explain technical lettering in capital and small letters, using, free hand and using letter stencils. ▪ Identify the various standard sheets A0 –A4	Instructional Manual. Recommended textbooks, e-books, lecture notes, Whiteboard, PowerPoint Projector, Screen, Magnetic board, flip	Layout of drawing sheets with the following (a) Margins (b) Title block etc Illustrate in drawing the various types of lines based	Carryout layout of drawing sheets Carryout drawing of various types of lines based	Black board ruler (1m) Black board Tee-Square Black board compass Blackboard protector Adjustable set-square 60 set square 45 set square French curve set Templates Complete drawing table

	elevation and sections of objects. 2.3 State the various standards of drawing sheets. 2.4Print letters and figures of various forms and characters. 2.5Illustrate conventional signs, symbols and appropriate lettering characters.		charts, etc.	on BS 308 1972 Part 2. Set drawing area on A1 paper with a title block and the boarder lines. Draw conventional signs and symbols	on BS 308 1972 Demonstrate drawing area on A1 paper with a title block and the boarder lines. Carryout drawing of conventional signs and symbols.	
General Objective 3: Know the construction of simple geometrical figures and shapes.						
3 – 6	3.1 Explain the purpose of geometrical construction in drawing.	▪ Discuss the various types of information required for writing technical report. ▪ Use questions and answer technique ▪ Give examples ▪ Give assignments	Instructional Manual. Recommended textbooks, e-books, lecture notes, Whiteboard, PowerPoint Projector, Screen, Magnetic Board, flip charts, etc.	▪	▪	▪

	General Objective 4: Know Isometric and Oblique Projections.					
7 - 10	4.1 Mention main sources of data. 4.2 Discuss techniques of data collection: • Laboratory. • Field survey/measurement. • Questionnaire. • Oral interviews.	▪ Guide student on techniques involved in sourcing data ▪ Use questions and answer technique ▪ Give examples ▪ Give assignments	Instructional Manual. Recommended textbooks, e-books, lecture notes, Whiteboard, PowerPoint Projector, Screen, Magnetic board, flip charts, etc.	▪	▪	▪
	General Objective 5: Know single orthographic projections.					
11 - 12	5.1 Explain how to present data in a manner suitable for writing technical report in the following form: Tables, Graphs, Charts, bars. 5.2 Input information into computer. 5.3 Print out results.	▪ Guide student on techniques involved in presenting information/ data ▪ Use questions and answer technique ▪ Give examples ▪ Give assignments	Instructional Manual. Recommended textbooks, e-books, lecture notes, Whiteboard, PowerPoint Projector, Screen, Magnetic Board, flip charts, etc.	▪	▪	▪
	General Objective 6: Understand the intersections of regular solids.					

13 - 15	6.1 Explain interpretation or intersections of solids. 6.2 Draw the lines of intersections of the following regular solids and planes in both first and third angles. a. Two square-prisms meeting at right angles. b. Two dissimilar square prisms meeting at an angle. c. Two dissimilar square prisms meeting to an angle d. A hexagonal prism meeting a square prism at right angles. e. Two dissimilar cylinders meeting at an angle. f. Two dissimilar cylinders meeting at right angle, their centres not being in the same vertical plane.	Ask students to give examples of intersection of solids Ask students to construct: a.Two square-prisms meeting at right angles b. Two dissimilar square prisms merely at “ c. Two dissimilar square prisms meeting 60 d. An hexagonal prism meeting a square prism e. Two dissimilar cylinders meeting at an angle f. Two dismal cylinders meeting at right angle, then centres at long in the same vertical place. g. As in 6.2	Recommended textbooks. Whiteboard, dust, Marker, lecture notes, drawing sets	▪	▪	▪

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)		
COURSE:	ENTREPRENEURSHIP		
CODE:	EED 126		
DURATION (Hours/Week) **Lecture: 1hrs**	**Tutorial: 0**	**Practical: - 2**	**Total: 45hrs.**
UNITS: 3			
GOAL:	This course is designed to create an entrepreneurial mindset and awareness to the student.		
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:		

1.0 Understand the meaning and scope of Enterprise and Entrepreneurship

2.0 Understand the history and Government Policy measures at promoting Entrepreneurship in Nigeria

3.0 Understand the types, characteristics and rationale of Entrepreneurship

4.0 Understand the role of Entrepreneurship in economic development

5.0 Understand Entrepreneurial characteristics and attitude

6.0 Understand the key competencies and determining factors for success in Entrepreneurship

7.0 Know the motivational pattern of Entrepreneurs.

General Objective 1.0: Understand the meaning and scope of Enterprise and Entrepreneurship						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define an Enterprise in its narrower and wider contexts. 1.2 Explain different forms of Enterprises 1.3 Classify the different forms of Enterprises into small, medium and large enterprises 1.4 Explain the terms: Entrepreneur, Entrepreneurship, Wage Employment, and self-employment, explain clearly the business terrain in Nigeria.	I. Explain the terms: Enterprise, Entrepreneur Entrepreneurship II. List the different types of enterprises and group them into small, medium and large enterprise III. Compare and contrast wage employment and self-employment. IV. Explain clearly the business terrain in Nigeria.	Text Books	1.1 Identify features of the types of enterprises identified 1.2 Identify the facilities and opportunities available for self-employment. 1.3 Identify successful entrepreneurs in Nigeria. 1.4 Evaluate the role of entrepreneurship in wealth creation.	Guide students to research into different forms of enterprises. Guide students to research and identify criteria for successful entrepreneurship. Establish competitive groups. Students to make formal presentations of their findings. Students to undertake enquiry learning on selected entrepreneur and enterprise.	Successful Entrepreneur to speak on the role and importance of Entrepreneurship. Use of internet and relevant video clips.	Quiz Test Assignment
General Objective 2.0: Understand the history and Government Policy measures at promoting Entrepreneurship in Nigeria						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Trace the evolution of entrepreneurship development. 2.2 Compare	I. Explain the historical development and role of entrepreneurship	Text Books Journals	Obtain the required information from the net.	Guide students to search the web for historical evolution of entrepreneurship in other parts of the	Internet.	Quiz Test Assignment

Entrepreneurship in Nigeria with Japan, India, China, Malaysia, South Korea, etc. 2.3 Explain Nigeria's values in relation to Entrepreneurship. 2.4 Describe the role of Entrepreneurship In the development of enterprises.	in the development of enterprises in Nigeria. II. Compare Entrepreneurship in Nigeria with other countries of the world. Japan, India, China, Malaysia, South Korea. III. Show students video film on Entrepreneurship development in any of the countries mentioned above. IV. Explain Nigeria's values and Entrepreneurship.	Publications Video Film TV & VCR		world. Research and list various Government Measures on SME's and Industrial Development from 1960 to date.		
General Objective 3.0: Understand the types, characteristics and rationale of Entrepreneurship						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Explain types of Entrepreneurs and their characteristics.	I. Explain types of Entrepreneurs. II. Explain types of Entrepreneurship.	Text Books. K.A.B. Journals	3.5 Analyze life situations people may find themselves	Guide students to identify opportunities from the environment.	Internet. Textbooks Journals	Quiz Test Assignment

3.2 Compare and contrast Technological and Social Entrepreneurship. 3.3 Identify the different types of Entrepreneurs: self-employed, opportunistic, Inventors, Pattern multipliers etc. 3.4 Identify the role of Entrepreneurship in business, society and in self-employment.	III. Explain features of Entrepreneurship in business. IV. Explain the rewards and efforts Entrepreneurship in business. V. Describe the different types of Entrepreneurs VI. Describe the role of entrepreneurship in business, society employment generation and wealth creation. VII. Explain the benefits of self-employment.	Publications Video Film TV & VCR	3.6 Enumerate the benefits to be derived from the above situation.			
General Objective 4.0: Understand the role of Entrepreneurship in economic development						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Identify resources and constraints of Entrepreneurshi	I. Explain resources and constraints of Entrepreneur.	Text Books. Journals	4.5 Classify the resources into	Show transparency of resources needed by an entrepreneur.	Computer or Overhead Projector SME's	Quiz Test Assignment

p. 4.2 Explain how Entrepreneurship leads to import substitution and utilization of local resources. 4.3 Explain how Entrepreneurship leads to socio-economic development. 4.4 Explain the role of an entrepreneur in grassroot/local economic development.	II. Relate import substitution to utilization of local resources.dd III. Explain equitable distribution of industries and the role of entrepreneurship. IV. Explain how entrepreneurship leads to job creation.	Publications Video Film TV & VCR	economic, human, knowledge and time. 4.6 Distinguish between economic development and growth.	Guide students to visit selected enterprise/community projects. Guide students on the use of local raw materials for value addition.		
GENERAL OBJECTIVE 5.0: Understand Entrepreneurial characteristics and attitude						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Explain the philosophy, values, scope, need and characteristic of Entrepreneurship. 5.2 Explain the profiles of	I. Using slide or PowerPoint explain personal characteristics and attitude of an Entrepreneur II. List Entrepreneurial traits citing relevant cases.	Textbooks Journals Computer Projector	5.9 Evaluate the opportunities identifying corresponding self-employment opportunities.	Guide students to identify as many job/employment opportunities as possible. Guide students to visit a successful enterprise, and evaluate its resources to identify its	Computer Projector Guest Speakers (Female/Male) Internet search.	Quiz Test Assignment

	local Entrepreneurs. 5.3 Demonstrate high sense of innovation, creativity and independence. 5.4 Explain the process of acquiring high sense of information seeking and ability in operating an enterprise. 5.5 Identify various risks and remedies involved in operating an enterprise. 5.6 Evaluate pilot project considering resources, time,	III. Explain the aspiration, determination and efficiency of an Entrepreneur. IV. Explain how to demonstrate high sense of innovation creativity and independence. V. Describe how to evaluate a private project. VI. Describe how to mobilize resources for establishing an enterprise. VII. Describe how to solve problems involving internal and external constraints.		5.10 Evaluate a project considering its resources: management of time, personnel, equipment and money. 5.11 Explain constraints and problem solving techniques.	contribution to economy, its internal and external constraints and available problem solving techniques. Group students to survey and interview Entrepreneurs. Evaluate a sample project with the students, then give them assignment to assess one.		

personnel, equipment, money, materials etc. 5.7 Demonstrate leadership and leadership skills by mobilizing resources for establishing an enterprise. 5.8 Demonstrate high level problem solving techniques in overcoming internal and external constraints.						
General Objective 6.0: Understand the key competencies and determining factors for success in Entrepreneurship						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Identify the key competencies required in	I. Explain major competencies required for	Text Books. Journals	6.7 Describe: Data collection about self,	Guide students to demonstrate knowledge of themselves, goals,	Computer and accessories, internet and visitations.	Quiz Test Assignment

	setting up a successful small business; knowledge, skill and Traits. 6.2 Identify key success factors in setting a small business: Resources, Ability, Motivation and Determination, Idea and Market etc. 6.3 Define individual life goal and link it to Entrepreneurship. 6.4 Identify the strengths and weaknesses in 6.3 above. 6.5 Explain business	successful Entrepreneurship II. Explain key success factors in setting up small business. III. Explain individual life goal of an Entrepreneur IV. Explain relevant business games and their behavioral patterns.	Publications Video Film TV & VCR		who am I (personal efficacy). Rating of concept, self-knowledge. 6.8 Play a relevant business game and observe the behavioral pattern in relation to moderate risk taking, goal setting etc. 6.9 Identify core skills, competencies, and success factors required for entrepreneurship.	Entrepreneurship strengths and weaknesses. Give practical assignment to students on personal efficacy, goal and link to Entrepreneurship strength and weaknesses. Demonstrate how to play business game. Visit a small business enterprise.	Blocks Rings Papers	

games. 6.6 Explain the behavioral pattern observed in 6.5 above on: Moderate risk taking, goal setting, Learning from feedback. Taking personal responsibility. Confidence and self-reliance.						
General Objective 7.0: Know the motivational pattern of Entrepreneurs.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 Define motivation. 7.2 List the objectives of motivation. 7.3 Identify barriers to motivation and achievement	I. Explain motivation, objectives, merit and demerit. II. Explain TAT scores. III. Explain how to carryout analysis on motive strength	Text Books Journals Publications	7.7 Analyze motive strength from TAT score using a given case.	Illustrate how to carryout analysis on motive strength from TAT scores using related case studies.	Computer And Internet facilities	Quiz Test Assignment

. 7.4 Explain Thematic Appreciation Test (TAT) scores. 7.5 Explain how to analyze motive strength from TAT score 7.6 Explain the spirit of Achievement Motivation Test (AMT)	from TAT scores. IV. Explain spirit of AMT.					

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)

PROGRAMME: NATIONAL DIPLOMA (ND) IN ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: PUBLIC HEALTH PEST MANAGEMENT I				
COURSE CODE: EHT 211				
DURATION:	Lecture: - 1	Tutorial: -	Practical: - 2	Total: 45 HRS
CREDIT UNITS: 3				
GOAL: This course is designed to enable students acquire knowledge in Public Health Pest management				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:				
1.0 Understand the concept of pest management on public Health **2.0 Understand the methods of pests prevention (exclusion) in pest management and the limitations** **3.0 Understand the principles pest management by eradication**				

GENERAL OBJECTIVE:	**1.0 Understand the concept of pest management on public Health**					
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

1.1 Define the following: • Pests • Pest Management • Public Health 1.2 Discuss the types of Pests associated with the following. • Field Crops • Stored Agricultural Produce • Human Body, • House-hold • Livestock. 1.3 Explain the process of Pest identification 1.4 Discuss the importance of Pest Management on Public Health 1.5 Classify Pests according to target organism and nature of damage. 1.6 Discuss different methods of Pest Classification as follows : • By host • Biological classification • Nature of damage	Teacher explains definition of Pest management Teacher should identifies various parts of the pest	Projector Text book Internet Lecture notes Charts Pictures Tutorials	1.1 Collect samples of all common pests of human body, stored product, livestock, house-hold, Field crops. 1.2Collect samples of common pests from -Human body, -Stored products, -Livestock, -House-hold, -Field crops, -Catering establishments etc.	Group Students into pairs for collection of samples	Projector Video/Audio devices Models	• Test • Examination

• Geography 1.7 Classify all common Pests according to the following: • Human body, • Stored products, • Livestock, • House-hold, • Field crops, • Catering establishments etc.						
GENERAL OBJECTIVE2. 0 Understand the methods of pests prevention techniques (exclusion) in pest management and the limitations						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Discuss the various methods of Pest Prevention techniques (Exclusion) as follow: • Quantitative • Seed and Plant certification • Treatment of Propagative Organs • Selection of Disease free or Elimination of Infective Organs	The Teacher should describe the various methods of Exclusion Also explain the limits of each method	Projector Text book Internet Lecture notes Charts Pictures Tutorials				Test Examination

• Sealing and securing all possible points of entry into building. • Minimize possible traffic routes for insects and critters • Keeping any organic matter away from the exterior of the building • Removing inviting food, water, nesting and breeding sources						
GENERAL OBJECTIVE: 3.0 Understand eradication as a method of pest management control						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Discuss eradication as a pest management controls under the following: • Rouging of Diseased individual • Eradicating Campaigns • Destruction of Suspects • Destruction of diseased	The Teacher should explain Principles of Pest Management by Eradication and also describe the various methods of Eradication	Projector Text book Internet Lecture notes Charts Pictures Tutorials				Test Examination Assignment

• parts of Suspects • Disinfestations • Treatment of Refuse.						
4.1 Explain Manipulation of the Environment as a Method of Pest Management as follows: • selection of Sites and Changing of planting dates • Significance of timely interference/destruction with monocular agents • Use of chemicals as protectants.	The Teacher should discuss manipulation of the environment as a method of pest management	Projector Text book Internet Lecture notes Charts Pictures Tutorials				Assignment Quiz Test Examination
5.1 Analyze biological Control such as • History of biological control • Various methods of biological control of pest – Use of Predator, Pathogen and Parasite • Characteristics of	The Teacher should explain the term biological control, its methods and advantage and disadvantage	Projection Textbook Internet Chart Lecture notes Pictures Tutorial				Test Examination

effective natural enemies/predators • describe significant success in the use of Control of Pest. • Advantages and disadvantages						
6.1 Explain Cultural control 6.2 Discuss different methods of Cultural control of Pest e.g. • Soil cultivation • Flooding • Mixed cropping • Crop rotation • Trap cropping • Early date sowing and harvesting practices 6.3 Explain the advantages and disadvantages of Cultural cultivation	• Lecture • Discuss • Explain • Brainstorm	Projection Textbook Internet Chart Lecture notes Pictures Tutorial				Test Assignment Examination
7.1 Define and discuss Integrated Pest Management 7.2 Explain the procedure of Integrated Pest Control such	• Lecture • Discuss • Explain • Brainstorm	Charts Picture Projector Board/Marker	• Mixing and loading of pesticide formulation			Assignment Quiz Test Examination

as • Ecosystem • establishing economic threshold • sampling • predicting population, • developing selective pesticide application 7.3 Explain the advantages and disadvantages of Integrated Pest Management			• Demonstrate operation techniques of various equipment			
8.1 Explain the term Chemical Control. 8.2 Identify and classify the various types of Chemicals used e.g. • Pesticides • Insecticides • Nematicide • Fungicide • Rodenticide, • Larvicide • Herbicides etc. 8.3 Classify and discuss Pesticides according to the mode of action: • Carbamides • Pyretroids	• Lecture • Discuss • Explain • Brainstorm					Assignment Quiz Test Examination.

• Organophosphates • Organochlorides. 8.4 Describe various Pesticides formulation e.g. • Smoke, • solid, • aerosol and • liquid						

PROGRAMME: NATIONAL DIPLOMA (ND) IN ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: PRINCIPLES OF EPIDEMIOLOGY AND DISEASE CONTROL				
COURSE CODE: EHT 212				
DURATION:	Lecture: - 2	Tutorial: -	Practical: - 1	Total: 45 HRS
CREDIT UNITS: 3				
GOAL: This course is designed to enable students acquire knowledge in diseases causation, distribution, prevention and control in human population and control.				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:				
1.0 Understand the concept of Epidemiology and infectious diseases. 2.0 Know the various methods of diseases transmission. 3.0 Understand the principles of prevention and control of common communicable and non communicable diseases. 4.0 Know the general principles of investigation of epidemics, surveillance and notification. 5.0 Know how to organize programmes of diseases control. 6.0 Know the epidemiology of neglected tropical diseases and other common diseases.				

GENERAL OBJECTIVE: 1.0 Understand the Concepts of Epidemiology and infectious diseases.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

1.1Definethe following: • Epidemiology. • Incidence • prevalence • communicability • epidemicity • endemicity • pandemicity • antibodies • immunity • surveillance • causative agent • reservoir • disinfection control • prevention • Susceptibility • antigen • virulence etc 1.2 Discuss infectious disease processes. 1.3 Describe the theories of diseases e.g. • Demonic • Punitive, • Miasma and • Germ theory of diseases. 1.4 Enumerates common communicable and non-communicable diseases and their epidemiology	Explain the following terms in 1.1, 1.2, 1.3	Projection Text Books Internet Lecture Notes Charts				Test

GENERAL OBJECTIVE: 2.0 Know the various methods of diseases transmission						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

2.1 Discuss diseases transmission 2.2 Explain the various reservoirs of infections e.g. • Man, • Animal, • Non-living things. 2.3 Explain the following modes of transmission of communicable diseases. • Contact • Inhalation • Ingestion • Penetration of skin • Trans- placental 2.4 Explain routes of disease transmission	Teachers asks questions and modified the answers	Text Books Charts Internet Lecture Notes				Assignment
GENERAL OBJECTIVE: 3.0 Understand the Principles of Control of Communicable Diseases.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 State the principles of control of communicable diseases in the community e.g. • Notification • Surveillance • Observation • Diagnosis • Isolation • Quarantine etc. 3.2 Describe the general methods of controlling	Teachers discusses the principles and general methods of controlling communicable diseases	Projection Text Books Internet Lecture Notes Charts				Test Assignments

communicable diseases such as a. Protect the host • Immunization • Chemoprophylaxis • Protective clothing • Health education • Proper nutrition b. Interrupt the pathway • Disinfection • Disinfestation • Vector control • Environmental sanitation						
GENERAL OBJECTIVE: 4.0 Know the general Principles of Investigating epidemics.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Describe the principle of investigation of an epidemic in the community in terms of:- - Person - Place - Time - Cause - Route 4.2 Describe the process of collecting epidemiological data using the following tools:- - Birth and death Registers. - Disease notification registers - Laboratory Investigations reports - Index register - Disease vector distribution data - Epidemiological survey reports	Teachers to discuss the principles of investigating epidemics in a community and the process of collecting epidemiological data	Text books charts lecture notes internet References	1. Visit to epidemiological and diseases control units in the state to know the processes involved. 2. Visit birth/death registration centers and laboratories, 3. Carry out investigation of epidemics	Supervise and guide students while on practical	Birth registration centres. References Logistics for the visits	Assignment Test quiz

- Demographic and environmental data.			4. Carry out other form of survey to collect environmental data and data relating to distribution of animals.			

GENERAL OBJECTIVE: 5.0 Know the procedure of disease surveillance and notification.

Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Define disease surveillance and notification 5.2 Explain the procedure for disease surveillance and notification. 5.3 Discuss the Integrated Disease Surveillance and Response [IDSR] system. 5.4 Explain the roles of various stake holders in IDSR. 5.5 Enumerate sources of disease surveillance and notification data. 5.6 Describe the reporting pattern for disease surveillance and notification. 5.7 Identify types of data collection forms used in IDSR.	Ask questions from students, brainstorming and discussion	Text books charts lecture notes internet	Visit to diseases surveillance and notification unit to understand Integrated Disease Surveillance and Response system and immunizations procedures and documentation 5.1 Keep records of immunization processes. 5.2Generate and keep immunization records. 5.3Write report of disease surveillance and notification	Guide and supervise the students. Supervise the record keeping	Various data forms	Assignment Test Assignment

GENERAL OBJECTIVE: 6.0 Know how to organize disease control programmes

Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

6.1 Explain disease control programme 6.2 Outline the resources required for disease control programmes. 6.3 List types of programmes applicable in disease control. • Mass Immunization • Campaigns • Health Talk • Focus group discussion • Meetings • Mass media programmes etc. 6.4 Describe how to organize campaign for disease control programme 6.5 Explain the strategies for diseases control and prevention: • Training and Retraining of human resource • Health Education • Carrying out survey of an area. • Environmental Sanitation • Research and Development etc.	Describe how to organize a campaign Explain common strategies for disease control	Text books charts lecture notes internet	6.1 Plan a campaign for the purpose of one of the i. Health education ii. Mass vaccination in a. Static centers b. Mobile centers c. Out-reach centers d. Home to home e. Village to village etc. 6.2. Plan a campaign for mass vaccination. 6.3 Take students to disease control prevention unit of Ministry of Health and Local Government Health office.	Visit to Health offices.		Texts Assignment

GENERAL OBJECTIVE: 7.0 Know the epidemiology of neglected tropical diseases.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 List and Define tropical diseases. 7.2 Discuss neglected tropical diseases.	Explain the epidemiology and control	Text books charts	7.1 Visit birth/death registration			Assignment Quiz Test

7.3 Explain the epidemiology and control of the following neglected tropical diseases : • Ascariasis • Trichuriasis, • Anchylostomiasis, • Schistosomiasis, • Lymphatic filariasis, • Trachoma, • River Blindness • Leishmaniasis, • Trypanosomiasis, • Leprosy • Rabies etc.	of the neglected tropical diseases and other tropical diseases.	lecture notes internet	centers and Laboratories. 7.2 Carryout Investigation of epidemics 7.3 carryout other forms of survey to collect environmental data. 7.4 Identify tropical parasites causing diseases. 7.5 Plan a campaign for mass vaccination. 7.6 Keep records of immunization processes.			

PROGRAMME: NATIONAL DIPLOMA (ND) ENVIRONMENTAL HEALTH TECHNOLGY				
COURSE TITLE: INTRODUCTION TO ENTOMOLOGY				
COURSE CODE: EHT 213				
DURATION:	Lecture- 2	Tutorial: -	Practical: 1	Total: 45 hrs.
CREDIT UNITS: 3				

GOAL: The Course is designed to acquaint the student with the knowledge of concepts of entomology, Insects of Agricultural and Public Health Significance and their Methods of Control.

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

1.0 Understand the concepts of Entomology

2.0 Know Insects of Agricultural and Public health significance

3.0 Know the anatomy and physiology of Insects.

4.0 Understand the life - cycle of Insects.

5.0 Know the various order of the Apterygota and Pterygota

6.0 Understand the damages caused by insects

7.0 Know methods for the control of Insects.

PROGRAMME: NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY

COURSE TITLE: INTRODUCTION TO ENTOMOLOGY **Course Code: EHT 213**
Contact Hours: 45 HR

COURSE SPECIFICATION: **Theoretical Content:** **Practical Content:**

GENERAL OBJECTIVE: 1.0.Understand the concepts of Entomology

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Define Entomology 1.2 List branches of entomology 1.3 Explain the branches listed in 1.2 above 1.4 Explain the relevance of entomology in Public Health	Teacher discusses and Explains.	Projector, Text books Internet, lecture note charts/ posters, Picture,				Classroom Test Examination.

		tutorial.				
GENERAL OBJECTIVE: 2.0Know the Insects of Agricultural and Public Health Significance						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define Insects and types in relation to: • Agriculture • Public Health 1.2 Discuss damages caused on stored grains and other food stuff by Insects. 1.3 Explain diseases caused by insects.	Teacher discusses and Explains.	Projector, Text books Internet, lecture note charts/ posters, Picture, tutorial.				Classroom Test Examination.
GENERAL OBJECTIVE: 3.0 Know the anatomy and physiology of Insects						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Draw and Label a typical Insect. 2.2 Explain the functions of each of the Insect parts such as • Mouth, • Head, • Thorax,	Teacher Explains, discusses, brainstorm on the functions and all the	Projector, Text books Internet, charts/posters Lecture notes Picture.	2.1Collect samples of Insects. 2.2 Dissect a typical Insect and view the internal organs using a microscope	Group students to collect samples of insects and perform	Samples of insects, microscope, chart/ posters, sweep nets	Test Assignment Examination.

• Abdomen, • Legs, and • Wings 2.3 Describe the digestive system of a named Insect. 2.4 Describe the various modification of the digestive track of various Insects. 2.5 Explain the reproductive system of a typical Insect. 2.6 Describe the Insect circulatory system, their modification and functions. 2.7 Describe the respiratory system of a typical Insect. 2.8 Describe the nervous system and neuron-muscular, coordination in a typical Insect.	systems of insects			simple dissection.		

GENERAL OBJECTIVE: 4.0 Understand the Life - Cycle of Insects						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Describe the life Cycle of Insects. 4.2 Describe process of development of Insects: • Complete Metamorphosis. • Incomplete Metamorphosis. 4.3 Explain how the life cycle of	Teacher discusses and Explains.	Sample of insects, Charts, posters, drawings	4.1 Collect, draw and label life stage of Insect in complete and incomplete Metamorphosis.	Group Students in pairs to carry out activity	Sample of insects, Charts, posters, drawings	Test Examination.

Insects[e.g. Locusts, army worms Mosquito and housefly] affects • Disease causation • Economic significance						
GENERAL OBJECTIVE: 5.0 Know the various order of the Apterygota and Pterygota						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objective (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1Define Apterygota and Pterygota 5.2 Classify and discuss Insects into Apterygota and Pterygota 5.3 Enumerate the major diagnostic features used in Insect classification 5.4 Classify Insects into the Main orders 5.5 Identify and discuss Insects responsible for causation of common diseases and Pestilence e.g. • Myiasis, • Yellow Fever, • Malaria, • Sleeping Sickness, • River blindness and • Filariasis.	Teacher Discusses, Explains and brainstorms Tutorial	Projector, Text books Internet, lecture notes, charts, Picture,	Identifying insect of the class: • Apterygota • Pterygota • Main orders and explain their major diagnostic features	Assists students to identify insects.	Projector, Text books Internet, lecture notes, charts, Picture	Test Examination.
General objective 6.0 Understand the damages caused by insects						
Specific Learning Objectives	**Teachers**	**Learning**	**Specific Learning Objectives**	**Teachers**	**Learning**	**Evaluation**

	Activities	**Resources**		**Activities**	**Resources**	
6.1 Enumerate Insects that cause damages in the: • Household • Farm • Warehouse • Food industry • School • Hospital etc 6.2 Discuss the nature of damages caused by insects in the places listed in 6.1 above 6.3 Explain the factors that aid in the occurrence of the damages	Teacher Discusses Explains and gives Assignments	Projector, Text books Internet, lecture notes, charts, Pictures	6.1 identify Insects that cause damages.	Assists students to identify various insects that cause damages	Projector, Text books Internet, lecture notes, charts, Pictures	Test Quiz Examination.
GENERAL OBJECTIVES: 7.0 Know methods for the control of Insects.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
List methods for the control of insects: • Biological • Chemical • Physical • Traditional 7.2 Explain each of the methods listed in 7.1 above. 7.3 State factors that influence selection of the control methods: • Temperature • Weather	Teacher Discusses Explains and gives Assignments	Projector, Text books Internet, lecture notes, charts, Pictures	Analyzing the methods of the control of insects Teacher to demonstrate the use of each equipment	Teacher describes use of each equipment	Projector, Text books Internet, lecture notes, charts, Pictures Sample of equipment	Test Quiz Examination

• Economy • Culture 7.4 Discuss merits and demerits of each control method. 7.5 Describe the equipment used in the control of insects.						

PROGRAMME: NATIONAL DIPLOMA (ND) ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: ENVIRONMENTAL PARASITOLOGY I				
COURSE CODE: EHT 214				
DURATION:	Lecture: - 2HRS	Tutorial: -	Practical: -	Total: 30 HRS
CREDIT UNITS: 2				

GOAL: The course is designed to provide learners with the knowledge of some common Human Parasites in the environment.
GENERAL OBJECTIVE: On completion of the course, the student should be able to:
1.0 Know the definition of basic concepts in parasitology. 2.0 Understand the Classification of Parasites. 3.0 Understand the scope of parasitology and distinguishing characteristic of lower vertebrates (Pisces, amphibian, Aves, reptiles). 4.0 Know the diagnostic features of invertebrates, e.g. protozoa, protists, helminthes, mollies etc 5.0 Know the life cycle of common trematodes, cestodes, Nematodes in West Africa. 6.0 Know some common animal parasites e.g. Eimeria spp. in poultry 7.0 Understand pathogenicity and mode of adaptation of pathogenic parasites. 8.0 Know various parasitic insects of Public Health importance. 9.0 Understand the measures for the control of growth and multiplication of parasites.

GENERAL OBJECTIVE: 1.0 Know the definition of basic concepts in parasitology						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define and explain the following: • Parasitology • Parasite • Host • Intermediate Host • Definitive Host • Cyst etc.	Lecture Discuss Explain	- Charts - Diagrams - Projector - Text books				- Assignment - Quiz - Class test - Examination

1.2 Explain the characteristics of parasites and their adaptation features. 1.3 Discuss the conditions that favor the parasite growth						
GENERAL OBJECTIVE: 2.0 Understand the Classification of Parasites.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Explain the two major classes of parasites: • Ectoparasites (Ectozoa) • Endoparasites (Entozoa) 2.2 Classify parasites according to their means of survival • Temporary Parasites • Permanent Parasites • Facultative Parasites • Obligatory Parasites • Occasional/Accidental Parasites • Wandering/Aberrant Parasites 2.3 Classify parasites according to their hosts. • Definitive host • Intermediate host • Paratenic host.	Discuss Explain Ask Question	- Charts - Text books - Pictures - Projector				- Assignment - Quiz - Test - Examination
GENERAL OBJECTIVE: 3.0 Understand the scope of Parasitology and the distinguishing features						

Specific Learning Objectives (Theory)	Teachers Activities	Learning Resources	Specific Learning Objectives (Practical)	Teachers Activities	Learning Resources	Evaluation
3.1 Classify parasitology into:- • Protozoology (Sacrimastigiphora, Apicomplexa, ciliophora] • Helminthology (Nematodes, Cestodes and trematodes) • Entomology (Arthropoda, Arachinda) etc. 3.2 Identify features of the class of the vertebrates: • Pisces (Fish) • Amphibians, • reptiles • birds and • Mammals 3.3 State clearly the features of each phylum 3.4 Describe the morphology and shape of each phylum	Lecture Discussion Question and Answer Lecture Explain Discuss	- Charts - Pictures - Text books - Projector - Charts - Pictures - Text books - Projector - White board and marker				- Assignment - Continuous assessment test - Examination - Assignment - Quiz - Examination
GENERAL OBJECTIVE: 4.1 Know the diagnostic features of invertebrates						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

4.1 Enumerate the distinguishing features of each Phylum of the invertebrates: • Protozoa • Annelida • Arthropoda • Nematoda • Mollusca • Platyhelminths • Anthropoda 4.2 Explain the functions of the features listed in 4.1 above	Explain Ask Question Discussion	- Charts - Projector - Pictures - Text books - White board maker	4.1 Draw and label common parasitic insects e.g. (Housefly, Louse) Protozoa (Entamoeba Histolytica) Nematodes Ascarislumbricois etc.			- Assignment - Quiz - Examination
GENERAL OBJECTIVE: 5.0 Know the life cycle of some common parasitic helminthes						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Describe the life cycle of the following: • *Entamoeba Histolytica,* • *AscarisLumbricoides,* • *DracunculusMedinensis,* • *Enterobiavermicularis,* • *AnkylostomaDeudenale,* • *TrichuriTrichura,* • Plasmodium spp. Etc. 5.2 Explain the functions of the features listed in 5.1 above. 5.3 2 Explain the Public Health	Discuss Explain Ask Question Explain Discussion Ask Question	- Charts - Text books - Projector - Pictures - Charts - Pictures - Projection - Visuals - Board and marker	5.1 Draw and label the life cycle of common helminthic parasites as listed in 5.1 above.			- Assignment - Quiz - Examination - Assignment - Class Quiz - Examination

importance of the parasites in 5.1 above.						
GENERAL OBJECTIVE: 6.0 Know some common animal Parasites Zoonotic to man						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Describe the life cycle of the sheep and pig tapeworm • *TaeniaSaginata,* • *TaeniaSolium* • *Emeriaspp in poultry,* • *Fasciola hepatica,* • *Trypanosoma* spp. • Babesiaanaplasia. 6.2 Explain the Public Health importance of the parasites in 6.1 above.	Explain Lecture Ask Question	- Charts - Pictures - Board marker - Text books				- Assignment - Quiz
GENERAL OBJECTIVE: 7.0 Understand pathogenicity and mode of adaptation of parasites.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 Define and explain: • Pathogenicity • Adaptation 7.2 Explain mode of adaptation of parasites e.g. adherence, penetration etc., 7.3 Explain forms of symbiosis relationship:	Lecture Explain Ask Question Brain Storm	- Charts - Projector - Pictures - Text books				- Assignment - Examination - Quiz

• Mutualism, • parasitism, • Commensalism • Amensalism etc. 7.4 Explain parasite resistance. 7.5 List the diseases caused by parasites: • Ectoparasitic – scabies • Helmintic – Ascariasis, Onchocrciasis • Protozoa - Amoebiasis, Malaria, sleeping sickness, etc. 7.7 Describe the diseases listed in 7.6 above.						

GENERAL OBJECTIVE: 8.0 Know various parasitic Insects of medical importance .						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
8.1 Identify Insect arthropods of Public health importance. 8.2 Explain the life cycle of common Insect Vectors and parasites.	Lecture Explain Brain storm Ask Question	- Charts - Pictures - Realia - Projector - Board marker - Internet				- Assignment - Examination - Quiz

8.3 Describe the control of Insect Vector/Parasites e.g. Housefly, Simulium.						
GENERAL OBJECTIVE: 9.0 Understand the measures for the control of growth and multiplication of parasites .						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
9.1 State reasons for control and prevention of parasitic growth. 9.2 State clearly the physical measures for prevention of parasitic growth. 9.3 Explain prophylactic, hygiene and drug treatment of parasitic infestation.	Lecture Explain Ask Questions	- Charts - Visuals - Internet				- Assignment - Quiz - Test
PROGRAMME: NATIONAL DIPLOMA (ND) IN ENVIRONMENT HEALTH TECHOLOGY						
COURSE TITLE: WASTE MANAGEMENT I						
COURSE CODE: EHT 215						

DURATION:	Lecture: - 1	Tutorial: -	Practical: - 2	Total: 60 Hrs
CREDIT UNITS: 4				
GOAL: This course is designed to enable student acquire knowledge and skills in Waste Management.				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:				

1.0 Know the concepts of Waste and waste management.

2.0 Understand the principles of Waste Management.

3.0 Know the sources of wastes.

4.0 Understand the types and classification of wastes.

5.0 Discuss the methods of Waste Management.

6.0 Know the problems associated with Poor Waste Management.

GENERAL OBJECTIVE 1.0 Know the concepts of Waste and Waste Management

Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define and explain the following: • Waste and waste management 1.2 Explain the following: • Types of waste (Solid, Liquid, Atmospheric, Hazard, Chemical, Radioactive, Medical etc) • Components of each type • Waste management • Hazards associated with waste management 1.2 Discuss waste management in relation to the following in Nigeria: • Policies , • Laws - Public Health Laws, States Environmental Sanitation Laws • Regulations - National Environmental Health Practice Regulation. • Act - EHORECON Establishment Act,	Define Waste. Identify types of wastes.. State component of Waste. States the characteristics of health hazards associated with different types of Waste.	Marker Board Charts Charts. Charts Maker Board and projector				Tests, Continues Assessment Assignment

NESREA • Constitution of Federal Republic of Nigeria. 1.3 Mention institutional arrangement for waste management.						

GENERAL OBJECTIVE 2.0 Understand the principles of Waste Management

Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Explain the principles of Waste Management. 2.2 Explain waste management hierarchy.	.Analyses the principle of Waste Management.	Charts Maker Board Projector Text Books	2.1 Apply the principles listed in 2.2 In management of wastes.		Incinerator, compost pit, sanitary landfill, integrated waste management site.	Tests, Continuous Assessment, Assignments, Practicals, Examination

GENERAL OBJECTIVE 3.0 Know the sources of wastes.

Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 List and discuss the various sources of wastes as stated below • Agricultural • Domestic • Commercial • Industrial • Health Care • Nuclear etc.						

GENERAL OBJECTIVE 4.0 Understand the types and classification of wastes.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Classify wastes according to their forms: • Solid wastes • Liquid wastes • Gaseous wastes 4.3 List types of Wastes under each classification in 4.1 above. 4.3 Explain the characteristics of wastes listed in 4.1 above	Explains the classes of Wastes.	Charts, Maker Board/ marker, Projector, Text Books				

GENERAL OBJECTIVE 5.0 Discuss the processes of Waste Management.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Discuss the processes of Waste Management: • Solid wastes • Liquid wastes 5.2. Explain ways of monitoring wastes management	Teacher explains the processes of Waste management..	Charts, Marker Board, Projector, Text Books	5.1 Draw and label management flow chart for: - Solid wastes - Liquid wastes	Assist students to carry out activities in 5.1	Wastes Dump sites	

GENERAL OBJECTIVE 6.0 Know the problems associated with Poor Waste Management.

Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Explain poor waste management 6.2 Enumerate problems associated with poor waste management. 6.3 Explain the effects of the problems on health. 6.4 List and discuss the diseases caused by poor waste management. 6.5 Solutions to the problems associated with poor waste management.	Teacher explains the effects of the problems. Discussion Brainstorm Tutorials.	Charts, Maker Board / marker, Projector, Text Books	6.1 Proffer practical solutions to the problems listed. 6.2 Carry out Field trips to: i. Refuse depots. ii. Sources of HCW&E. iii. Waste dump sites. 6.3 Assess Construction of incinerators and compost pits. 6.4Make models of incinerators and refuse bins.	Arrange and Execute Field Tripscarryout Demonstration, Take students to waste management sites.	Incinerator, Composting sites, Waste stabilization pond, landfill sites, models of incinerators and refuse bins.	

PROGRAMME: NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY						
COURSE TITLE: ENVIRONMENTAL APPRAISAL						
COURSE CODE: EHT 216						
DURATION:	**Lecture – 2 hrs**	**Tutorial:-**	**Practical:- 1 hour**	**Total: (45)**		
CREDIT UNITS: 3 CU						
GOAL: This course is designed to provide the students with the knowledge and skills for appraisal and diagnosis of the Environment at Community level						
GENERAL OBJECTIVES: On completion of the Course, the Student should be able to:						
1.0 Understand the basic concept and principles of Environmental Appraisal 2.0 Understand the relationships between health status and health behaviour 3. 0 Know how to prioritize Community problems 4. 0 Know how to mobilize Community for change of behaviour 5. 0 Know how to mobilize Community towards positive health intervention activities.						
GENERAL OBJECTIVE 1: 0 Understand the basic concepts and principles of Environmental Appraisal.						
1.1 Explain the basic concepts of Environmental Appraisal e.g. • Community, • Community mobilization, • Appraisal, • Information analysis, • Critical self-awareness, • Knowledge sharing responsibility and acceptance. 1.2 Discuss Data collection techniques. 1.3 Identify different stakeholders with interest in Environmental Appraisal e.g.		Projector Text book Internet Lecture notes Charts Pictures Tutorials			Projector Video/Audio devices Models	• Test • Examination

• Community leaders, • members, • Environmental Health Officers and • Natural leaders. 1.4 Explain Visual techniques for Assessing Community resources. 1.5 Discus the following: • Problem identification, • prioritization and • strategies for solving them 1.1 Discuss Community mobilization 1.2 Explain the Principles of Environmental Appraisal using - Optimal Ignorance - Offsetting bias. Describe Characteristics of Environmental Appraisal viz: • Group participation • Open processing of Information • Presenting information in visual form • Transparency *1.10* Describe features of Environmental Appraisal: • Triangulation • Direct/Indirect Learning • Rapid/Progressive Learning						

GENERAL OBJECTIVE 2: Understand the Relationships between health status and health behaviour**.**						
2.1 Explain the term Health Status. 2.2 Describe Health Status Assessment. 2.3 Discuss Measures of Health Status. 2.4 Explain the term Health Behaviour 2.5 Explain context of Health behaviour 2.6 Explain Behavior Theories and Models e.g. • Health Belief Model • Interpersonal Health behaviour • Planned Behaviour Theory • Integrated Behavioral Model • Theory of Reasoned Action etc. 2.7 Explain Community Organization		Projector Text book Internet Lecture notes Charts Pictures Tutorials				Test Examination
GENERAL OBJECTIVE 3.0: Know how to prioritize Community problems						
3.1 Explain community problems. 3.2 Describe methods of Problem identification as follows: • Community Needs Assessment • Survey 3.3 Explain Problem Prioritization 3.4 Discuss criteria for Prioritization of problems such as: • Scale of the problem • Health Risks • Costs	Teacher explains Principles of Pest Management various methods of Eradication	Projector Text book Internet Lecture notes Charts Pictures Tutorials				Test Examination Assignment

• Appropriateness of community Intervention 3.5 Describe the Steps involved in Problem solving as follows: • Define Problem • Identify potential causes • Propose/Evaluate alternative solutions • Select an alternative • Implement the solution • Follow up • Verify						
GENERAL OBJECTIVE 4.0: Understand the basics of Behavioural Change.						
4.1 Explain the term Behavioural Change 4.2Describe the levels of Behavioural Change such as: • Cognitive • Normative 4.3 Explain the stages in Health behavioural Change: • Pre-contemplation • Contemplation • Preparation • Action • Maintenance 4.4 Explain the key elements of	The Teacher should explain as in 4.1, 4.2, 4.3 & 4.4	Projector Text book Internet Lecture notes Charts Pictures Tutorials				Assignment Quiz Test Examination

Behavioural Change as follows: • Threat • Fear • Response Efficacy • Self-Efficacy etc.						
GENERAL OBJECTIVE 5: Know how to mobilize Community towards positive health intervention activities.						
5.1 Define community mobilization. 5.2 Explain the Principles of Community Mobilization. 5.3 Describe the procedure for Community Mobilization. 5.4 Identify Enhancers for Community Mobilization 5.5 Discuss the impact of Community Mobilization on environmental appraisal. 5.6 Discuss behavioural change communication.		Projection Textbook Internet Chart Lecture notes Pictures Tutorial				Test Examination

PROGRAMME: NATIONAL DIPLOMA (ND) ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: TECHNICAL REPORT WRITING				
COURSE CODE: EHS 211				
DURATION:	Lecture: - 1 HOUR	Tutorial: -	Practical: - 1 HR	Total: 30 Hrs
CREDIT UNITS: 2				
GOAL: This course is designed to provide students with the knowledge and skills required to read, interpret and write comprehensive report.				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:				
1.0 Understand the meaning and use of reports. 2.0 Understand the techniques for gathering data for report writing. 3.0 Know how to present oral and written reports in clear and concise manner. 4.0 Investigate and prepare reports of inspection and other Health actions/measures. 5.0 Interpret and analyze any given report.				

GENERAL OBJECTIVE: 1.0 Understand the meaning and uses of Reports.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define report, report writing. 1.2 List types of report e.g. • Progress reports, • Memorandum, • Laboratory reports, • Inspection reports, • Project reports etc.	-Discussion Explanation Lectures Brain storm	Charts Projector Board and maker				Assignments Question and Answer Test.

1.2 State the uses of reports.						
GENERAL OBJECTIVE: 2.0 Understand the Techniques for gathering data for report writing						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Define data, data collection 2.2 Identify methods of data collection • Interview • Observation • Questionnaire • Internet • Newspapers, • magazine, • Gazette , • electronic media 2.3. Explain each of the methods listed in 2.2 above 2.4 Select relevant materials for writing reports.	-Lecture -Discuss -Explain.	Charts Journals Board and maker	2.1 Observe and prepare for report writing. 2.3 Access internet to get information.	Teacher Demonstration Explanation .	Projector Board	Assignments Test
GENERAL OBJECTIVE: 3.0 Know how to present Oral and written reports in clear and concise manner						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Explain oral reports, Written reports 3.2 Explain the mechanics and styles in writing report such as: • Punctuation • Symbols,	-Lecture -Explain -Discussion-Brain Storm	-Charts -Sample reports -Board and maker	3.1. Observe sample of a written report 3.2. Write report on a familiar topic using a simple and clear language.	-Demonstration - Explain	Projector Chart	Assignment Test

• Hyphenation, • Paragraphing, and • Capitalization etc. 3.3 Discuss report layout e.g. • Title , • Table of contents , • Introduction , • Body of the report, • Summary • Conclusion, • Recommendation and • Bibliography etc.						

GENERAL OBJECTIVE: 4.0 Investigate and prepare reports of inspection and other Health actions/measures.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1. Explain the methods of investigating a situation. 4.2. Carry out field investigations.	-Discussion -Lecture -Brain storm.	-Chair - Projector -Board and maker	4.1 Carry out on the spot observation of any situation/phenomena that requires report writing. 4.2. Prepare reports of observation made in the field. 4.3. Write report, conclusion and recommendation from observations carried out.	-Demonstration -Explanation	Charts Projector.	Assignments Quiz

GENERAL OBJECTIVE: 5.0 Interpret and analyze a given report						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**

			(Practical)			
5.1. Explain analysis of a report. 5.2 Describe how analyze a simple report. 5.3 Describe how to interpret a report	Explain Discuss	Projector Chart Board and Marker.	5.1 Analyze a simple written report	Supervision Demonstrate.	-Chart -projector	Assignment Examination Tests

PROGRAMME: NATIONAL DIPLOMA (ND) ENVIRONMENTAL HEALTH TECHNOLOGY

COURSE TITLE: PRIMARY HEALTH CARE (PHC) I

COURSE CODE: CHO 111

DURATION:	Lecture: 2 HRS	Tutorial: -	Practical: -	Total: 30 HRS

CREDIT UNITS: 2

GOAL: The course is designed to provide the students with knowledge and skills to enable them appreciate the principles and practice of primary health care and to function effectively in a multi-disciplinary Health environment.

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

1.0 Understand the concept/principles of Primary Health Care in Nigeria

2.0 Know the theories of health and diseases causation.

3.0 Understand the components and strategies of primary health care

4.0 Understand the roles of Environmental Health Officer in Primary Health Care.

GENERAL OBJECTIVE 1: 0 Understand the concept/principles of PHC in Nigeria

Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define the following terms • PHC	Explain List	i. White maker board ii. Projector				i. Continuous assessment

• Essential Health Care • Scientifically sound methods and techniques • Social acceptability of the service 1.2 Discuss the Origin, history and development of primary health care services in the country (alma-Ata declaration) 1.3 Explain the following principles of PHC: • Equity • Prevention • Inter-sectoral collaboration • Appropriate Technology • Community participation 1.4 Explain the levels of Health care delivery system in Nigeria as follows: • PHC level i.e. Health posts, mobile heath and PHC centres. • Secondary health care level i.e. General Hospital, Cottage	Describe	iii. Reference books iv. Internet/computer				ii. Oral interview iii. Assignment

Hospitals, Private Hospitals. • Tertiary health care level i.e. Teaching Hospital, Specialist Hospital and Federal Medical Centres. 1.5 Explain the problems facing the implementation of PHC at the local government areas in Nigeria.						
GENERAL OBJECTIVE 2: 0 Know the Theories of Health and diseases causation .						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Define theories of diseases. 2.2 Explain the concept of health and disease. 2.3 Explain the social, cultural and psychological causes of disease. 2.4 Discuss the implication of cultural practices on the causes of diseases. 2.5 Discuss the cycle of poverty and deprivation. 2.6 Enumerate methods of prevention and control of health	Explain List Describe	i. White maker board ii. Projector iii. Reference books iv. Internet/computer				i. Continuous assessment ii. Oral interview iii. Assignment iv. Quizzes

problems in the community.						

GENERAL OBJECTIVE 3: Understand the principles and strategies of primary health care.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Explain the aims and objectives of PHC 3.2 Explain components of PHC and their significances to health. 3.3 Explain the following strategies of PHC: • Community based approach • Comprehensive services • Polyvalent services • Entry point through health education • Team work approach • Integrated services 3.5 Describe The referral system in PHC: • Special cases that require referral • Reasons for referring a	Define Explain List Enumerate State	i. White maker board ii. Projector iii. Reference books iv. Internet/computer				v. Continuous assessment vi. Oral interview vii. Term paper viii. Group work

patient • Advantages of referral services • Factors affecting success of referral service.						

GENERAL OBJECTIVE 4:0 Understand the roles of Environmental Health Officer in PHC.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Explain the role of Environmental Health personnel in PHC. 4.2 Discuss the relationship between health care professionals in PHC. 4.3 Describe team work approach in the delivery of primary health care services.	Explain State Discuss	i. White maker board ii. Projector iii. Reference books iv. Internet/computer				i. Test ii. Oral interview iii. Assignment

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY [ND].				
COURSE TITLE:HUMAN NUTRITION				
COURSE CODE:NUD 124				
DURATION: (Hours/Week)	**Lecture:2hrs**	**Tutorial**:	**Practicals:**1**hr**	**Total Contact Hours: 45 hours)**
CREDIT UNITS:3				
GOAL: This course is designed to provide students with basic knowledge of human nutrition and its application to Environmental Health services.				
GENERAL OBJECTIVES: At the end of this course, the student should be able to:				
1.0 Understand the fundamentals of Human Nutrition 2.0 Understand man's need for food and nutrients 3.0 Know the sources, basic chemistry and functions of nutrients 4.0 Understand Nutritional Management 5.0 Discuss the role of food in different health conditions				

GENERAL OBJECTIVE 1.0: Understand the fundamentals of Human Nutrition.						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
1.1 Define the following terms • Nutrition • Food • Nutrients • Nutritionist • Nutritional care • Nutrition education	• Lecture • Discussion	• Text books • Charts • White board/ marker • Multimedia Projector/Laptops • Compact disk showing the				Assignment Test Examination

1.2 Outline the history of nutrition. 1.1 Classify foods in terms of their constituents and nutrients. 1.2 Explain digestion, absorption and utilization of nutrients. 1.5 Enumerate the roles of a nurse in the promotion of good nutrition in the hospital and community. 1.6 Explain the roles of professional bodies in the field of Nutrition 1.7 Explain the importance of nutrition education at primary, secondary and tertiary health		various aspects of Nutrition.				

care levels.						
General Objective 2.0: Understand man's need for food and nutrients						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
2.1 State the need for food and nutrients. 2.2 Describe an adequate diet 2.3 Describe the metabolism of nutrients in terms of: - Metabolic rate - Body Mass Index (BMI) etc. 2.4 Outline how to modify nutritional intake to meet special needs of all age groups. 2.5 Explain the effect of nutrition on growth and development 2.6 Describe how to	• Lecture • Discussion • Demonstrate usage of Shaker's strip on the upper arm for BMI	• Chart, • Films • White board/ Markers • Samples of different food types and water • Shaker's strip • Hydrometer	2.6 Monitor the effect of nutrition on the growth and development of human beings over a period of time	• Assist students to carry out the activity in 2.6	• Weighing scale • Growth Monitoring Chart • Shakers strip	Assignment Test Examination

monitor the effects of nutrition on growth and development. 2.7 Explain the factors that affect nutrition, food selection and habits e.g. - Body needs - Culture and ethnic factors (food taboos, myths and fads). - Religion - Socio-economic status - Availability of food - Geographical factors - Health status. 2.8Explain the inter relationship of the factors listed in 2.7 above:						

General Objective 3.0: Know the sources, basic chemistry and functions of nutrients.

Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
3.1 Define carbohydrates, proteins, fats/ oil, water, minerals and	• Lecture • Discussion	• Charts • Films • Books	3.12 Demonstrate purification of	Teacher demonstrates simple		Assignment Test Examination

vitamins 3.2 Classify carbohydrates into i.e. - Mono-saccharides, - Disaccharides and - Polysaccharides 3.3 Describe carbohydrates namely: glucose, fructose, sucrose, cellulose etc. under the following headings: - Structure - Functions - Food sources 3.4 Classify proteins into animal, plant, origin, types giving examples of each. 3.5 Explain proteinsunder the followingheadings: - Structure - Amino acid contents - Functions - Protein qualities - Protein balance 3.6 Classify fats and oils into saturated and unsaturated, giving examples of each. 3.7 Explain fats and oil under the following	SAME AS ABOVE	• Slides • Multimedia projector/Laptops • White board/ marker • Samples of protein, carbohydrate, fats/ oil foods • Samples of foods containing vitamins and minerals • Water SAME AS ABOVE	water using various methods:	purification of water at homes		

headings: - Structure - Essential fatty acid - Functions - Food sources and give examples of each. 3.8 Classify and give examples of minerals under the following headings: - Minor Elements - Major Elements - Trace Elements 3.9 Describe minerals under the following headings: - Chemical structure - Functions - Food sources 3.10 Classify Vitamins under the following headings:- - Fat soluble vitamins - Water soluble vitamins - Substance with vitamin-like properties 3.11Explain Vitamins under the following headings:		• Sample of well water and tap water • Water test kit				

- Structure - Function - Food sources 3.12 Classify Water under the following headings - Hard water - Soft water - Spring water - Aerated water 3.13 Explain Water under the following headings - Structure - Functions - Water balance 3.14 Differentiate between well water and tap water						

General Objective 4.0: Understand nutritional management						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning Objectives (Practical)**	**Teacher's Activities**	**Resources**	**Evaluation**
4.1 Explain the distribution of food, price and effect of consumption on individuals and families. 4.2 Explain the following:	• Lecture • Discussion • Guide students to budget and	• Charts, • Films, • Books. • Multimedia projectors • White board/ markers	4.3 Budget, plan menu and purchase food for a family 4.5 Produce, preserve and	• Assists students to carry out the activities in 4.3, 4.5 and 4.8 • Demonstrate how to	• Sample of an adequate diet chart • Samples of	Assignment Test Examination

- Budgeting - Menu planning - Purchasing of food 4.3 Explain food production 4.4 Outline the different methods of food preservation and storage 4.5 Explain the need for proper handling of food to prevent food contamination. 4.7 Explain the importance of education and supervision of food handlers/ peddlers at homes, hospitals, schools and public places. 4.8 Describe how to plan an adequate diet. 4.9 Explain the roles of government, organization, communities and families in food supply, Preservation and intake.	plan food for a family • Guide students to produce, preserve and store a named food. • Demonstrate proper methods of handling food	• Samples of food types • Samples of family budget and menu	store a named food 4.8 Plan an adequate diet for individuals and families. 4.9 Prepare a named food	combine food types to give an adequate diet • Demonstrate preparation of adequate diet.	different food stuffs and water • Other ingredients, cooking utensils, refrigerator, cooker/ stove.	
General Objective 5.0: Discuss the role of food in various health conditions.						
Specific Learning Objectives (Theory)	**Teacher's Activities**	**Resources**	**Specific Learning**	**Teacher's Activities**	**Resources**	**Evaluation**

			Objectives (Practical)			
5.1 Describe the relationship between Nutrition and Health. 5.2 List common nutrition related diseases e.g. - Protein - energy malnutrition (kwashiorkor/ marasmus) - Scurvy - Rickets etc. 5.3 Explain the causes of the diseases listed in 5.2 above. 5.4 Explain the preventive measures against the occurrence of the diseases listed in 5.2 above.	• Lecture • Discussion	• Textbooks • Multimedia projector/Laptops • Chart showing nutrition related disease • White board/Marker				Assignment Test Examination

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)			
COURSE TITTLE :	RESEARCH METHODS			
COURSE CODE:	GNS 228			
DURATION (Hours/Week)	**Lecture: 2hrs**	**Tutorial: 0**	**Practical: - 0**	**Total: (30hrs)**
UNITS: 2				
GOAL:	This course is designed to enable the students carry out independent research projects.			
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:			

1.0 Understand the meaning and scope of a library.

2.0 Know how to use a library

3.0 Know what a research is and how to carry it out

4.0 Understand basic principles of probability

5.0 Understand the use and importance of some measures of central tendency and measures of dispersion in summarizing data

6.0 Know the methodology applied in research

7.0 Know the various methods of data collection

8.0 Know the various methods of processing data

9.0 Understand the presentation of research report.

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)					
COURSE:	Introduction toResearch Methods	**Course Code:**	GNS 228	**Contact Hours:**	30	
COURSE SPECIFICATION:	Theoretical Content: 2		Practical Content: 0			
General Objective:	1: Understand the meaning and scope of a library.					
Specific Learning Objectives	**Teachers**	**Learning**	**Specific Learning**	**Teachers**	**Learning**	**Evaluation**

	Activities	Resources	Objectives	Activities	Resources	
1.1 Explain a Library 1.2 Explain the role of a library in learning and research 1.3 State the various kinds of library stock. 1.4 Identify the different sections of a typical library. 1.5 Explain the different types of libraries.						
General Objective: 2: Know how to use a library						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Explain classification. 2.2 Explain the different types of classification scheme (DDC and LC). 2.3 Identify reference sources. 2.4 Identify types of serials. 2.5 Explain indexing and abstracting. 2.6 Describe the use of card catalogues. 2.7 Explain back of book indexes. 2.8 Describe how the library is used in research						
General Objective: 3:Know what is a research and how to carry it out						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
Define the following: • Research,			3.1			Quiz Test

• Scientific method, • Theory, • Hypotheses. 3.2 Describe various types of research e.g. • Descriptive, • Exploratory • Casual, • Experimental and • Comparative etc. 3.3 Explain the stages involved in research: • Formulation of a research problem • Literature Review • Hypothesis • Justification of the research • Data collection and analysis • Findings etc.						Assignment
General Objective: 4: Understand basic principles of probability.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Define random variable 4.2 Explain the concept of randomness 4.3 Define probability 4.4 State the laws of probability 4.5 Define conditional probability 4.6 Solve simple problems involving the laws of probability as they relate to their disciplines.			-			Quiz Test Assignment

General Objective: 5: Understand the use and importance of some measures of central tendency and measures of dispersion in summarizing data						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Explain the following: • arithmetic mean, • geometric mean, • median mode and • Harmonic mean. 5.2 Compute the measures in 5.1 above: (a) ungrouped data (b) grouped data 5.3 Explain the uses of geometric and harmonic mean 5.4 Calculate the following in a given set of data: • quartiles • deciles • percentiles 5.5 List the merits and demerits of the above measures of central tendency 5.6 Define measures of dispersion 5.7 State the importance of the measures of dispersion 5.8 Calculate the following • mean deviation • Semi Interquartile range • Variance and • standard deviation 5.9 Calculate the measures of the			6.1			Quiz Test Assignment

dispersion listed in 5.8 given in a sets of data						
General Objective: 6: Know the methodology applied in research						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Explain sampling methods 6.2 Discuss the two major types of sampling: • probability sampling and • Non-probability 6.2 (a) Explain each of the method in probability sampling such as random, • systematic, • stratified and • clusters 6.2 (b) Non-probability sampling such as: • accidental, • quotas and • Purposive. 6.3 Explain the uses of sampling in research. 6.4 State the advantages and disadvantages of 6.2 (a) and 6.2 (b) above.			6.1			Quiz Test Assignment
General Objective: 7: Know the various methods of data collection						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 Define data 7.2 State the types of data:			7.2			Quiz Test

• primary, and • secondary data 7.3 Explain the methods of collecting data: • observation, • questionnaire, • interview 7.4 Describe how to design questionnaires for research. 7.5 Explain how to administer questionnaires and interviews. 7.6 Design sample questionnaires for research. 7.7 Administer the questionnaires in 7.6 above.						Assignment
General Objective: 8:Know the various methods of processing data						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
8.1 Explain organization of data. 8.2 Explain the grouping of data 8.3 Explain tabulation of data 8.4 Analyzing the data result obtained in 7.6 above 8.5 Present the result of the analysis in 8.4 above			8.1			Quiz Test Assignment
General Objective: 9: Understand the presentation of research report						
Specific Learning Objectives	**Teachers**	**Learning**	**Specific Learning**	**Teachers**	**Learning**	**Evaluation**

	Activities	Resources	Objectives	Activities	Resources	
9.1 Explain the general format of a research report, e.g. Preliminaries: • preface • foreword • Approval page • Title page • Dedication • Acknowledgement • Table of contents • List of illustrations e.g. maps/pictures, diagrams, figures and tables Main part • Introduction • Aims and Objectives • Limitations and Delineations • Main text • Conclusions and Recommendations • The Appendix • Glossary • Bibliography/References 9.2 Explain the use of footnotes references and bibliography 9.3 Outline the use of abbreviations in citation			9.1			Quiz Test Assignment

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY [NATIONAL DIPLOMA]				
COURSE TITLE: FOOD HYGIENE AND INSPECTION				
Course Code: EHT 221				
DURATION: (Hour/week)	**Lecture: 2**	**Tutorial: 0**	**Practical: 1**	**Total Contact Hours: 45 hours**
CREDIT UNITS: 3				
GOAL: This course is designed to provide the students with the knowledge of food hygiene and inspection.				
GENERAL OBJECTIVES: At the end of the course, the students should be able to:-				
1.0 Know the basic concepts in food hygiene and inspection 2.0 Understand the principles of food hygiene 3.0 Know the general classification of food 4.0 Know Food borne diseases 5.0 Understand the basic concepts in meat Hygiene. 6.0 Understand the principles of food and food premises Inspection				

GENERAL OBJECTIVE: 1.0 Know the basic concepts in food hygiene and inspection.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

1.1 Define food, Hygiene, Food Hygiene, Inspection, regulated food premises, food vendor, food handler, food poisoning, food hawker, squatters etc. 1.2 Explain the importance of food hygiene.	Explain Lecture Discuss	- Charts - Board and maker - Projector - Textbook				Assignment Test Examination
GENERAL OBJECTIVE: 2.0 Understand the principles of food hygiene.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1. State the guiding rules/ principles of Food hygiene. 2.2 List measures to prevent food contamination. 2.3 State dirty habits of food handlers.	Discussion Explanation Brainstorm	- Charts - Visual aids - Textbooks - Journals				Assignment Text Quiz
GENERAL OBJECTIVE: 3.0 Know the general classification of food						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 State the general classification of food. 3.2 Explain the functions of the food classes. 3.3 List deficiency diseases associated with each class in 3.1 above.	Lecture Discussion Brainstorm	- Flip - Charts - Textbooks - Board and maker	3.1 Identify the different classes of food.	Describe different classes of food	- Chart Board and maker	- Assignment - Test - Quiz

GENERAL OBJECTIVE: 4.0 Know Food borne diseases						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Define food borne disease. 4.2 List the causes of food bone. Diseases. 4.3 Mention diseases that can be transmitted through contaminated food items. 4.4 Explain how food items can be contaminated. 4.5 List measures of preventing food contamination. 4.6 Enumerate methods and techniques of food preservation.	Discussion Explanation Brainstorming	- Flip chart - Textbooks - Journal - Board and maker				- Assignments - Quiz - Test
GENERAL OBJECTIVE: 5.0 Understand basic concepts in meat Hygiene						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Define the following - Meat Hygiene - Meat and meat products - Dairy - Lairage - Slaughter slab - Abattoir - Offal	Define Explain Discuss Brainstorm	- Flip chart - Textbooks - Journals				Assignment Text Examination

- Ante – Mortem Inspection - Postmortem Inspection - In – Situ - Fore – quarter - Hind – quarter - Emergency slaughter - Measly meat etc.						

GENERAL OBJECTIVE: 6.0 Understand the principles of food and food premises Inspection						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 State the methods and techniques of food inspection. 6.2 State the requirements of food preparation and eating premises. 6.3 Enumerate food laws and regulations e.g. food adoptive bye-law.	Lecture Discussion Field trip Brainstorm	- Flip - Charts - Textbooks - Journals	6.1 Apply methods and techniques of food inspection	Demonstrate the methods and techniques of food inspection	- Board and maker - Flip chart	- Assignment - Text - Quiz - Class attendance

PROGRAMME: NATIONAL DIPLOMA (ND) IN ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: PUBLIC/ENVIRONMENTAL HEALTH LAWS.				
COURSE CODE: EHT 222				
DURATION:	Lecture: - 1	Tutorial: -	Practical: - 1	Total: 30HRS
CREDIT UNITS: 2.				
GOAL: This Course is designed to enable the students have knowledge of Public/Environmental health Laws in Nigeria.				
GENERAL OBJECTIVE: On completion of the course, the student should be able to:				
1.0 Understand the National Legal system. 2.0 Understand the origin of National Public Health Law. 3.0 Know the procedure for detection/Abatement of nuisance 4.0 Know Court Procedure. 5.0 Know Public Health/Environmental health Laws. 6.0 Understand the classification of criminal and civil Procedure. 7.0 Know the relevant Environmental Health regulations.				

GENERAL OBJECTIVE: 1.0 Understand the National Legal System						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define Law, Legal system, Constitution, Court , etc. 1.2 Explain the Nature of Law. 1.3 Enumerate Sources of Law. 1.4 Discuss the National Legal system.	The teacher Explains, discusses and asks questions.	Projector Text Books Internet Lecture Note, Charts, Pictures Tutorial.				Test Assignment Examination
GENERAL OBJECTIVE: 2.0 Understand the Origin of National Public/Environmental Health Laws						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Define Public Health and Environmental Health Law, 2.2 Explain Public Heath Law. 2.3 Outline the history of International Public health Laws. 2.4 Outline the history of National Public health Laws. 2.5 Discuss the scope of public health laws: -Public health laws of Northern Nigeria of 1963 - Public health laws of Western Nigeria of1958 -Public health laws of Eastern Nigeria. 2.6 Discuss the evolution of environmental sanitation laws in Nigeria.	The teacher Explain, ask questions	Projector Text Books Internet Lecture Note, Charts, Pictures Tutorial.				Test Assignment Examination

GENERAL OBJECTIVE: 3.0 Know the procedure for detection/Abatement of nuisance						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Define Nuisance and Abatement Notice. 3.2 Describe the procedure for detecting nuisances. • Inspection • Detection • Awareness Creation 3.3 Describe the procedure for Abating nuisances. • Serving of Abatement notice • Verification • Service of court summons • Prosecution 3.4 Explain procedure for documentation.	The teacher describes the procedures for abating nuisance..	Projector Text Books Internet Lecture Note, Charts, internet Tutorial.	3.2 Demonstrate Detect and abate nuisances.	Demonstrate how to detect and abate nuisances	Premises for inspection, writing material.	Test Examination

GENERAL OBJECTIVE 4.0 Know Court Procedures						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Outline hierarchy of courts in Nigeria. - Customary/Area/Sharia Court - Upper Customary/Area/Sharia Court - Magistrate Court - State High court - Federal High Court. - Special Courts e.g. Tribunals, Industrial	Teacher should discuss Explain transform	Projector Text Books Internet Lecture Note, Charts, Pictures Tutorial.				Test Assignment Examination

- Appeal Court - Supreme. 4.2 Explain the Composition of Courts, 4.3 State the functions of Judicial officers: - e.g. i. Court bailiff. ii. Court Registrar. iii. President/Members (Customary/Alkali courts. iv. Magistrates. v. Chief Judge vi. President, Court of Appeal vii. Chief Justice of Nigeria viii. Attorney/Solicitor General. 4.3 State the procedure for filling of case. 4.4 Explain the procedure for appearance in court. 4.5 Explain Injunction, Ruling, Judgment. 4.5 Explain the process of Appeal, 4.6 Explain court orders: - Nuisance order - Prohibition Order - Locus inquest - Order of mandamus, etc.						
GENERAL OBJECTIVE: 5.0 Know Public Health Laws						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Define a. Adult b. Child	Teacher define, Explain					Assignment Test Examination

c. Competent Council d. Milk shop e. Health Officer f. Medical Officer of Health g. Appropriate Medical officer of health. 5.2 Explain the terms: a. Bye Law b. Adoptive bye law c. Applicable bye law d. State Laws/Edicts e. National Law/ Decree 5.3 Explain the process of making Public health Law as applicable to 4.1 above. 5.4 Describe Delegation of Authority.						
GENERAL OBJECTIVE: 6.0 Understand the Classification of Criminal and Civil Procedure						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
6.1 Define Criminal procedure. 6.2 Explain the nature of Criminal Procedure e.g. i. Criminal Code. ii. Penal Code. 6.3 Define Civil Procedure. 6.4 Explain the nature of Civil Procedure.	Teacher explains criminal and civil procedures.	Projector Text Books Internet Lecture Note, Charts, Pictures Tutorial.				Test Assignment Examination

GENERAL OBJECTIVE: 7.0 Know the Relevant Environmental Health Regulations.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 Explain Environmental Health regulations in Nigeria. 7.2 List types of Environmental Health Regulations. i. Public Health Laws 2007. ii. Environmental Health Practice regulation 2016 revise edition. iii. EHORECON ACT NO. 11 OF 2002 iv. Nigeria Criminal Code Act Cap '77', LFN 2004 v. Environmental Impact Assessment Act. of 1988 vi. NESREA Act etc.	Explains Environmental Health Regulations					

PROGRAMME: NATIONAL DIPLOMA (ND) ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: CONTEMPORARY ENVIRONMENTAL HEALTH ISSUES				
COURSE CODE: EHT 223				
DURATION:	Lecture: - 2HRS	Tutorial: -	Practical: -	Total: 3O HRS
CREDIT UNITS: 2				
GOAL: This course is designed to provide students with the knowledge of basic contemporary issues in the environment				
GENERAL OBJECTIVE: On completion of the course, the students should be able to:				
1.0 Understand contemporary issues in Environmental Health. 2.0 Know the relationship between environment, emerging and re-emerging diseases. 3.0 Know chemicals and how they constitute hazards in the environment. 4.0 Understand private sector participation in Environmental Health services. 5.0 Know Sustainable Development Goals [SDGs].				

GENERAL OBJECTIVE: 1.0 Understand contemporary issues in Environmental Health						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Explain contemporary issues in Health services. 1.2 List basic contemporary issues e.g. - Climate change - Ozone layer depletion - Global warming	Teacher Lists, Enumerates Defines and Discusses Contemporary Environmental issues	White maker Board Computer Projector Reference books				-Continuous Assessment -Assignment -Test -Examination -Term paper

- Environmental degradation - Acid precipitation - Flooding - Desertification - Drought and farming - Air, water and soil pollutions - Erosions - Natural and Artificial disasters - Emergency and re-emergency diseases etc. - Waste management 1.2 Explain each issue listed in 1.2 above						
GENERAL OBJECTIVE: 2.0 Know the relationship between environment, emerging and re-emergency diseases						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Explain - Emerging and - Re-emerging diseases. 2.2 Identify types of Emerging and re-emerging diseases 2.3 Describe the - Aetiology - Route of spread - Signs and symptoms of each disease listed in 2.2 2.4 State the control of the spread of these diseases.	Lists, classifies, states and explains emerging diseases	1. White maker Board 2. Computer 3. Projector 4. Reference books				1. Text 2. Oral interview 3. Assignment 4. Small group discussion

2.5 Describe the effects of these diseases on the human health.						
GENERAL OBJECTIVE: 3.0 Know Chemicals and how they constitute hazards in the environment.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Define chemicals and chemical agents. 3.2 Identify chemicals agents within the environment that can constitute hazards. 3.3 List banned chemicals and obsolete pesticides. 3.4 State measures for control of banned chemicals and obsolete Pesticides.	Define List State	1. White maker Board 2. Computer 3. Projector 4. Reference books				1. Continue Assessment 2. Assignment 3. Oral interview 4. Small group discuss
GENERAL OBJECTIVE: 4.0 Understand Private sector participation in Environmental Health services						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Explain the term PSP. 4.2 Identify Institutional arrangement for PSP. 4.3 Highlight strategies for effective PSP in policy formulation. 4.4 Highlight strategies for	Explain List Identify Highlight State	1. White maker Board 2. Computer 3. Projector 4. Reference books				1. Text 2. Oral interview 3. Assignment 4. Small group discussion

precision of soft wan for PSP. 4.5 Mobilize for local monitoring of environmental equipment. 4.6 State the merits and de-merit of PSP.						
GENERAL OBJECTIVE: 5.0: Know Sustainable Development Goals [SDGs].						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Explain SDGs. 5.2 Enumerate SDGs. 5.3 Describe the institutional framework for the implementation of the SDGs 5.4 Identify SDGs related to Environmental Health. 5.5 Discuss the targets in the goals identified in 5.3 above 5.5 State factors that may hinder the attainment of SDGs in Nigeria. 5.6 Mention steps to be taken to ensure attainment of the SDGs in Nigeria.	Discusses SDGs	1. White maker Board 2. Computer 3. Projector 4. Reference books				1. Text 2. Oral interview 3. assignment 4. quiz 5. term paper

PROGRAMME: NATIONAL DIPLOMA (ND) IN ENVIRONMENTAL HEALTH TECHNOLGY				
COURSE TITLE: SANITARY INSPECTION OF PREMISES				
COURSE CODE: EHT 224				
DURATION:	Lecture: - 1	Tutorial: -	Practical: - 2	Total: 45 Hrs
CREDIT UNITS: 3				
GOAL: This course is designed to enable the students acquire knowledge and skills on inspection of premises				
GENERAL OBJECTIVE: On completion of the course, the students should be able to:				
1.0 Understand premises and Inspection. 2.0 Know the procedure for inspection of premises. 3.0 Know how to write report in premises inspection. 4.0 Know how to sketch a typical layout.				

GENERAL OBJECTIVE:. 1.0 Understand Premises and Inspection						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define Premises and Inspection. 1.2 Explain types of premises A,B,C, and D 1.3 Define Inspection types e.g. -routine -Incidental 1.3 State different classes of Premises:	Lecture Discuss Brainstorm Explain	Projector Text Books Internet Lecture Notes Charts.	Carryout inspection of different types of premises.	Carry students to premises for inspection	Residential Recreational Institutional Mole Food Premises	Test

- Residential - Recreational - Institutional - Hospitality - Food premises etc						
GENERAL OBJECTIVE: 2.0 Know Procedure for Inspection of Premises.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 State the systematic procedures adopted during inspection of premises : - Inspection - Detection of nuisances - Health Education - Preparation and serving of abatement notice etc.	Lectures Discuss Brainstorm	Projector Text Books Internet Lecture Notes Charts.	Carryout inspection of various premises. Describe how to serve an abatement notice	Demonstrate how to serve an abatement notice		Oral Assessment
GENERAL OBJECTIVE:. 3.0 Know how to write report in Premises Inspection						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 State the procedure of writing down the report of an inspection. 3.2 Explain how to write a report of inspection.	Discussion Lecture Brainstorm	Books Lecture Notes.	3.1 Carryout inspection of various premises. 3.2 Write a report of various premises inspected.	Guide and Observe Students during inspection of premises.	Premises to be inspected Drawing material.	Assignment Test
GENERAL OBJECTIVE: 4.0 Know how to sketch a typical layout						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Describe a typical layout.	Brainstorm Lecture	Text books	4.1 Visit a Layout. 4.2 Sketch a typical layout.	Supervise Show	Drawing paper and	Assignment. Exams

4.2 Explain how to Sketch a typical layout.	Discussion Explain	Lecture Notes Internet.	4.3 Demonstrate how to sketch a typical layout 4.4 Write report.		materials.	Test Group Presentation

PROGRAMME: NATIONAL DIPLOMA (ND) ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: WATER SANITATION I				
COURSE CODE: EHT 225				
DURATION:	Lecture: 1 HR	Tutorial: -	Practical: 1 HR	Total: 30 HRS
CREDIT UNITS: 2				
GOAL: The course is designed to provide the students with knowledge and skills to enable them appreciate water wholesomeness, water sources and treatment techniques				
GENERAL OBJECTIVE: On completion of the course, the students should be able to:				
1.0 Know wholesome water 1.0. Understand the concept of water sanitation. 2.0. Know various sources of water supply within the community 3.0. Understand methods of water treatment and sanitation 4.0. Know how to analyze water				

GENERAL OBJECTIVE: 1 Know wholesome water						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Differentiate between	Define	i. White				i. Continuous

wholesome and unwholesome water 1.2 State the characteristics of wholesome (potable) water -Turbidity -Colour -Taste -Odour -Pathogens 1.4 List water pollutant, toxic chemical, radioactive substance, pathogens, leachate and solid waste in water etc 1.5 identify sources of water pollution -Industry -Sewage -Agricultural activities -Institution like hospital, school -Transportation:- Automobile waste and maritime waste 1.6 Sanitation as it affects water sources -Safe handling and disposal of excreta -Liquid and leachates from dump site	Explain List Describe Classify	maker board ii. Projector iii. Reference books iv. Charts v. Pictures vi. Internet/computer				assessment ii. Quizzes iii. Oral interview iv. Assignment v. Term paper vi. Semester examination
GENERAL OBJECTIVE 2: Know various sources of water supply within the community						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 List sources of water supply to a community	Explain List	I) White maker				i. Continuous

i. Rain water ii. Borehole iii. Pipe borne water iv wells v. Streams vi. Springs Rivers 2.2 Describe the hydrological cycle 2.3 Classify the sources of water listed on 2.1 above, note the three (3) categories:- Surface water -Underground water -Rain water 2.4 Describe the characteristics of a sanitary well in a community 2.5 Explain the terms; shallow well, deep well etc 2.6 List the advantages of deep well 2.7 List the disadvantages of a shallow well 2.8 Disinfect well 2.9 Explain how to protect the various sources of water from contaminations	Describe Classify	board II) Projector III) Reference books IV) Charts V) Pictures VI) Internet/computer				assessment ii. Quizzes iii. Oral interview iv. Assignment
GENERAL OBJECTIVE 3: Understand various methods of water purification						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Identify water that may need purification 3.2 Explain the objective of water purification	Explain List Describe	i. White maker board ii. Projector	3.1 Demonstrate methods of water treatment	Teacher use water instrument	i. Water container ii. Filters	i. Demonstration by students ii. Group

3.3 Describe various methods of water treatment in the home viz: • Boiling • Filtration (various methods) • Sedimentation by chlorination, sodium, hypochlorite etc. 3.4 identify various type of house hold filters 3.5 Improvise water filters for the home 3.6 disinfect and sediment water for domestic and rural use. 3.7 store domestic water to reduce/prevent contamination 3.8 describe the outlay of water treatment plant 3.9 Explain the various steps in water treatment in a conventional plant -source -screening -aeration -filtration -sedimentation -coagulation -disinfection -storage -distribution 3.10 identify the characteristics of a water treatment condiment area 3.11 Explain		iii. Reference books iv. Charts v. Pictures vi. Internet/computer		to demonstrate water treatment	iii. Disinfectants e.g. chlorine, coagulants iv. The steps of water treatment plant in the demonstration ground	discussion by students iii. Assignment to students iv. Term paper to students

-Biological Oxygen Demand (BOD) -Chemical Oxygen Demand (COD) and other water quality parameters						

GENERAL OBJECTIVE 4: Know water analysis						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Identify appropriate materials for collecting water samples 4,2 prepare sampling bottles for water collection 4.3 collect water samples 4.4 dispatch sample bottles to the laboratory for analysis 4.5. package and label sample bottles for transportation 4.6. explain indicator organisms 4.7. culture water samples for indicator organisms 4.8. identify other organism e.g. protozoa etc. in water samples from under the microscope. 4.9. Identify hard water by its characteristics 4.10. Remove water hardness 4.11. Treat water for odor	Explain List Describe	i. White maker board ii. Projector iii. Reference books iv. Charts v. Pictures vi. Internet/computer	1.1 demonstrate laboratory analysis of bottle samples containing water	Teacher use sampling bottles to demonstrate water analysis in the laboratory	i. Sampling bottles ii. Water iii. Laboratory iv. Tagged bottles v. Transportation vi. Water containers	i. Demonstration by student ii. Assignment iii. Group discussion iv. Projects

PROGRAMME: NATIONAL DIPLOMA (ND) IN ENVIRONMENTAL HEALTH TECHNOLOGY				
COURSE TITLE: PRINCIPLES OF ENVIRONMENTAL HEALTH ADMINISTRATION				
COURSE CODE: EHT 226				
DURATION:	Lecture: - 2	Tutorial: -	Practical: -	Total: 30 Hrs
CREDIT UNITS: 2				
GOAL: This course is designed to equip the students with the knowledge of Administering Environmental Health services.				
GENERAL OBJECTIVE: On completion of the course, the students should be able to:				
1.0 Understand Administration and Management. 2.0 Know the basic Principles and Concepts in Health Administration. 3.0 Know the qualities of an Administrator. 4.0 Know the principles of Environmental Health Administration.				

GENERAL OBJECTIVE: 1.0 Understand Administration and Management.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define - Management - Administration - Manager - Administrator	Discussion Brainstorming Lecture	Lecture notes Books Internet				Assignment Test Quiz

1.2 List theories of administration 1.3 Explain each theory listed in 1.2 above. 1.4 Differentiate between management and administration. 1.4 Explain the functions of administration. 1.5 Outline the qualities of an administrator 1.6 State the purpose of administration in environmental health services.						
GENERAL OBJECTIVE: 2.0 Know the basic principles and concepts in Health Administration						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 List principles of administration. 2.2 Explain each principle mentioned in 2.1 above. 2.3 List the levels of administration -Central level -Intermediate level -Local level. 2.4 Discuss the elements of administration: -Planning -Organization -Staffing -Directing -Coordinating -Reporting -Budgeting -Supervising -Evaluation 2.5 Describe organizational structure of a typical health care facility.	Discussion Explanation Brainstorm	Lecture notes Books Journals Internet				Assignment Test

GENERAL OBJECTIVE: 3.0 Know the Qualities of an Administrator						
Specific Learning Objective (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Describe an administrator. 3.2 State and explain the qualities of an effective administrator. 3.3 State and explain leadership styles: -Autocratic -Consultative -Democratic -Participative -Laisser-faire /Free rein 3.4 Explain motivation and communication in Environmental Health management. 3.4 Describe the process of Environmental Health manpower planning, development and recruitment. 3.5 Explain the relationship between Environmental Health professional and other health related professionals.	Brainstorming Lecture Discussion	Text books Journals Internet Lecture notes.				Assignment Tests

GENERAL OBJECTIVE: 4.0 Know the principles of Environmental Health Administration						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Define Environmental health administration. 4.2 List and explain the components of Environmental Health. 4.3 Apply system approach in Environmental Health administration. 4.4 Explain Environmental Health Policy	Brainstorm Discussion Lecture	Text books Lecture notes Books Internet Text				Assignment Test Examinations

and implementation 4.5 Discuss environmental health programme planning. 4.6 State the steps in Environmental Health programme(EHP) and administration. a. EHP Planning b. EHP Implementation c. EHP Monitoring and evaluation d. EHP Information management 4.7 Discuss the application of technology in Environmental Health Programme Administration.		books Lecture notes Internet Journals				Assignment Quiz Text Examination

PROGRAMME: NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH				
COURSE TITLE: INTRODUCTION TO IMMUNITY & IMMUNOLOGY				
COURSE CODE: EHT 227				
DURATION	**Lecture – 2hrs**	**Tutorial:-**	**Practical:-**	**Total: (30)**
CREDIT UNITS: 2				
GOAL: This course is designed to provide the students with the basic knowledge of Immunology in Public Health.				
GENERAL OBJECTIVE: On completion of the Course, the Student should be able to:				
1.0 Know the basic concepts in Immunology and Immunization 2.0 Understand the functions and components of the Immune System 3.0 Know the various factors affecting Host defenses 4.0 Understand Types and Sources of Immunity 5.0 Understand Antibodies, Antigens and Allergic reactions 6.0 Know Vaccines and Immunization methods and procedures 7.0 Understand Auto-immunity and diseases 8. 0 Know the nature of toxins and complement fixation 9.0 Understand Immunization in Public Health				
GENERAL OBJECTIVE 1.0 Know the basic concepts in Immunology				
COURSE SPECIFICATION: THEORETICAL CONTENTS			**PRACTICAL CONTENTS**	

Specific Learning Outcome	**Teacher's Activities**	**Learning Resources**	**Specific Learning Outcome**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define the following terms: • Immunology • Immunization • Immunity • Infection • Infectivity • Host • Organs of Immune System • Serum • Lysis • Phagocytes etc.	Lecture Discussion Explanation Brain storms	Lectures Pictures Charts Books Journals		•	Projector Video/Audio devices Models	• Continuous Assessment • Quiz • Examination
GENERAL OBJECTIVE 2. 0 Understand the functions and components of the Immune System						
2.1 Describe how the Immune system functions 2.2 Explain the Anatomical and Physical barriers of the human body 2.3 Describe the Cells that are involved in cellular immunity 2.4 List the types of white blood cells 2.5 Explain humoral immunity	• Discussion • Explanation • Lecture	Projector White Board Marker Charts Posters	•		Charts Videos Audio tapes Pictures	Class test Quiz Assignment Examination
GENERAL OBJECTIVE 3:.0 Know the factors that affect host defenses						
3.1 List the factors i.e. Age, Sex, Hereditary, Pregnancy etc. which affect host defences 3.2 Explain the factors that affect host defences 3.3 Describe each factor listed in 3.2	• Discussion • Explanation • Lecture	Lectures Pictures Charts Books Journals Projector				Class test Quiz Assignment Examination

above						
GENERAL OBJECTIVE 4: Understand Antigens, Antibodies and Allergic reaction						
4.1 Define Antigens, Antibodies, Allergic reaction, hypersensivity and blood group 4.2 Classify Antigens and Antibodies 4.3 Explain Antigen-Antibody reaction 4.4 Describe the factors that affect Antigen-Antibody reaction 4.5 Explain the ABO blood grouping system	• Discuss • Explain • Lecture • Brainstorm	Lecture notes Charts Pictures Visual Aids				Assignment Quiz Test Examination
GENERAL OBJECTIVE 5: Know Vaccines and Immunization Methods and Procedures						
5.1 Define Vaccine 5.2 Classify Vaccines into live(attenuated), Dead (inactivated), toxoid, combined etc. 5.3 Describe Immunization hazards 5.4 Explain the cold chain system	• Lecture • Discuss • Explain • Brainstorm	Charts Picture Projector Board/Marker	5.1 Identify vaccination sites 5.2 Draw immunization schedule 5.3 Calculate vaccine dosage 5.4 Identify cold chain equipment	Demonstrate how to calculate vaccine dosage and to identify vaccination sites	Chart	Assignment Quiz Test Examination
GENERAL OBJECTIVE 6: Understand Auto Immunity and Auto-Immune diseases						
6.1 Define Auto Immunity 6.2 List Auto-immune diseases 6.3 Explain the causes of Auto-immunity	• Lecture • Discuss • Explain • Brainstorm	Charts Picture Projector Board/Marker				Assignment Quiz Test Examination
GENERAL OBJECTIVE 7: Know the nature of Toxins and Complement fixation						

7.1 Define Toxin, Exotoxin, Endotoxin 7.2 Describe the effects of toxins on living tissues 7.3 Explain compliment fixation, haemolysis and agglutination	• Lecture • Discuss • Explain • Brainstorm	Charts Picture Projector Board/Marker				Assignment Quiz Test Examination
GENERAL OBJECTIVE 8: Understand Types and Sources of Immunity .						
8.1 Define Herd Immunity 8.2 Classify Immunity into: - Natural -Artificial - Acquired -Passive -Active 8.3 Give Examples of each type of Immunity 8.4 List Sources of Immunity	• Lecture • Discuss • Explain • Brainstorm	Charts Picture Projector Board/Marker				Assignment Quiz Test Examination
GENERAL OBJECTIVE 9: Understand Immunization in Public Health						
9.1 Explain the relationship between Immunity and Immunization. 9.2 Explain the impact of immunization on public health status of the community 9.3 List immunizable diseases in Nigeria and their vaccines: -Poliomyelitis -OPV -Tetanus –T.T. -Diphtheria -DPT -Pertuses -DPT -Yellow fever -YFV -Hepatitis –HPV	• Lecture • Discuss • Explain • Brainstorm					Assignment Quiz Test Examination

-Tuberculosis etc.						

PROGRAMME: NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH				
COURSE TITLE: FIRST AID MANAGEMENT				
COURSE CODE: EHS 228				
DURATION:	**Lecture: 1hr**.	**TUTORIAL**	**PRACTICAL 1hr**	**TOTAL: (30)**
CREDIT UNITS: 2				
GOAL: This course is designed to provide the students with knowledge and skills in essential management of victims of accidents and emergencies.				
GENERAL OBJECTIVE: On completion of the course, the students should be able to:				
1.0 Understand the importance of First Aid				

2.0	Know inflammation, inflammatory conditions, causes and management
3.0	Understand basic life support and its applications
4.0	Understand burns, causes and management
5.0	Know common poisonous substances and their effects on human health
6.0	Understand shock conditions, causes and management
7.0	Understand the common causes and management of injuries to bones and joints.
8.0	Know the management of minor wounds.

General Objective: 1.0: Understand the importance of first aid						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define First Aid and First Aider 1.2 State the importance of first aid 1.3 Outline general first aid care given in any emergency condition	States the importance of first aid	- White Board/ Marker - Posters - Projectors - First Aid box	1.4 Identify the contents of a first aid box	-Assist Students in identification of items in a first aid box.	-Sample of First Aid Box with complete contents	Assignment
GENERAL OBJECTIVE: 2.0:Know inflammation, inflammatory conditions, causes and management						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

2.1 Define the term inflammation 2.2 List the causes of inflammation 2.3 Outline the signs and symptoms of inflammation 2.4 State simple inflammatory conditions 2.4 Explain the management of patients with inflammatory condition.	-explains the management of patients with inflammatory conditions	- White Board / marker - Posters - Projectors	2.5 Identify inflammatory conditions	-Assist students in identification of conditions of inflammation	-Life patient with inflammatory condition	Test

General Objectives: 3.0 Understand basic life support and its applications						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 Explain basic life support 3.2 List conditions that require basic life support e.g. respiratory emergencies, choking, shock etc. 3.3 Outline the causes of respiratory emergencies 3.4 List causes of choking	Explains respiratory emergencies and choking -	- Projector - White Board / marker - Posters - Sample of BLS items	3.6 Manage patient with respiratory distress using basic life support	Demonstrate Artificial Respiration of patient	• Oxygen cylinder • Ambu-bag • Suction machine& Sample of BLS items	Assignment

3.5 Explain the preventive measures for respiratory emergencies and choking.						

General Objectives: 4.0 :Understand burns, causes and management						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Define Burns 4.2 Explain the classification of burns according to its degree and/or depth 4.3 State the causes of Burns 4.4 Describe the first aid treatment for burns 4.5 Outline the various preventive measures for burns and its complications	-Discuses burns	- Projector - White board/ marker - Posters	4.6 Treat patients with minor burns	Demonstrate how to dress wounds caused by burns	-First Aid materials for treatment of Burnsi.e. sterile dressing pack, Gloves, Masks, Antiseptic lotion - Dressing Tray	Demonstration by students how to dress wounds caused by burns

General Objectives: 5.0 - Know common poisonous substances and their effects on human health						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
5.1 Define Poison	-states the	- White board/	5.6 Manage cases of	-	- Sample of	Students to

5.2 5.3 5.4 5.5	State the cause(s) of common poisoning Outline the effects of poison in human beings State the objectives for treatment of poisoning Explain the preventive measures for poisoning	effects of poisoning	marker.-Samples of common poisonous substances-Posters	common poisoning	Demonstrate the methods and procedure(s) for treatment of patients with poisoning.	Antidote depending on the type of poison.	demonstrate the methods and procedures for treatment of patients with poisoning.
General Objectives: 6.0 - Understand shock conditions, causes and management							
Specific Learning Objectives (Theory)		**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**

Define Shock 6.1 State the causes of shock 6.2 Outline the signs and symptoms of shock 6.3 Explain the preventive measures of shock 6.4 Describe the management of a patient with shock	Explains the management of patient with shock	- White board /marker - Projector - Charts/ posters	6.6 Give First Aid treatment to a patient with shock	Demonstrate to students, how to manage patients with shock	- Bed - Bed elevators/ blocks - Human model or Dummy	Assignment

General Objectives: 7.0 - Understand the common causes and management of injuries to bones and joints						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
7.1 Explain the terms: injuries, bones and joints 7.2 Identify different injuries of bones and joints e.g. dislocation, fracture, sprain and strain 7.3 Explain the causes of different injuries to bones and joints listed in 7.2	Explains injuries of bones and joints	- Human skeleton - Human model or dummy/ anatomical models - Posters/ Charts - Splints/bandages - Stocked First Aid Box - White board/ marker	7.5 Carryout first aid care of patients with injuries of bones and joints.	Demonstration	-Stocked First Aid Box - Splints/ bandages -Patient or Dummy	Assignment

7.4 Describe the preventive measures of injuries identified in 7.2		- Projectors				
General Objectives: 8.0 - Know the management of minor wounds						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
8.1 Define wounds 8.2 List types of wounds 8.3 Outline causes of wounds 8.4 Describe the treatment of wounds 8.5 Describe the methods for prevention of wound infection(s)	Discusses wounds	- White board/marker - Projector - Posters /Charts	8.6 Carryout Wound Dressing	Demonstrate dressing of wounds in the dressing room	Dressing packs, masks, gloves, lotions, plaster, bandage, wound powder etc.	Test

PROGRAMME: NATIONAL DIPLOMA (ND) ENVIRONMENTAL HEALTH TECHNOLOGY
COURSE TITLE: HEALTH EDUCATION I

COURSE CODE: EHT 228				
DURATION:	Lecture: - 1 HR	Tutorial: -	Practical: - 1HR	Total: 30 HRS
CREDIT UNITS: 2				
GOAL: This course is designed to provide students with the knowledge and skills to help communities appreciate the need for and practice healthful living.				
GENERAL OBJECTIVE: On completion of the course, the students should be able to:				
1.0 Understand the basic concepts and principles of Health Education. 2.0 Know the basic principles and methods of effective communication in Health Education. 3.0 Understand the functions of different Health Officers in Health Education. 4.0 Know the various Barriers to effective Health Education.				

GENERAL OBJECTIVE: 1.0 Understand the basic concept and principles of Health Education						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define Health, Education and Health Education. 1.2 State the aims and objectives of Health Education. 1.3 State the principles of Health Education. 1.4 List the strategies for Health	Define Explain Lecture Explain	- Charts - Internet - Board and maker				- Assignment - Quiz - Test - Assignmen

Education.	Discuss Lecture	- Chart - Text book - Internet - visuals				t - Quiz - Test
GENERAL OBJECTIVE: 2.0 Know the basic principles and methods of effective communication in health education.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Define communication. 2.2 Identify elements of communication. 2.3 Describe the process of communication. 2.4 State the Purpose of communication. 2.5 Identify various communication materials and equipment e.g. Audio, Visuals, Audio-Visuals etc. 2.6 Prepare I.E.C. materials. 2.7 Prepare projectors, film slides for Health talk. 2.9 prepare l for training session.	Define Lecture Discuss Demonstrate Lecture Demonstration Brain Storming	- Charts - Realia - Internet - Text book - White Board maker - Charts - Photographs - Film slides - Internet	2.5 Visit to the Audio – visual laboratory. Learners identify materials and equipment and how to use them. 2.6 Demonstrate how to prepare posters. 2.7 Selecting and using Photographs for Heath/Education 2.9 Preparation of proposals	Demonstration how to conduct a health talk	- Camera - Films - Posters - Film slide - Projector	- Test - Assignment - Examination - Scoring of practical

GENERAL OBJECTIVE: 3.0 Understand the functions of different Health professionals in Health Education						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1. State the function of the different health professionals in Health education.	Lecture Brain Storming Demonstration	- Charts - Books - Internet - Visuals - White Board and maker	3.2 Identify Health problems and plan investigation	Demonstration	- Charts - Projector - Board	- Assignment - Examination - Test

GENERAL OBJECTIVE: 4.0 Know the barriers to effective Health Education.						
Specific Learning Objectives (Theory)	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives (Practical)**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Identify barriers to Health Education e.g. -Communication process [such as Language barriers] -Culture -Equipment -Environmental factors -Poor planning -Health Workers attitude etc. 4.2 Explain how the barriers can affect Health education. 4.3 Explain how each barrier can be overcome.	Lecture Demonstration Discussion	- Charts - Pictures - Leaflets - Text book				- Assignment - Quiz - Test - Examination

PROGRAMME:	ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)		
COURSE:	COMMUNICATION IN ENGLISH I		
CODE:	GNS 102		
DURATION (Hours/Week) Lecture: 2hrs	**Tutorial: 0**	**Practical: - 0**	**Total: 30hrs**
UNITS:	2		
GOAL:	This course is designed to enable students acquire the basic communication skills		
GENERAL OBJECTIVES:	On completion of this course, the student should be able to:		

1.0 Understand the concept of communication

2.0 Know how to make oral presentations.

3.0 Know the essential elements of correspondence.

4.0 Know the rules of comprehension and interpretation.

PROGRAMME: ENVIRONMENTAL HEALTH TECHNOLOGY (NATIONAL DIPLOMA)						
COURSE: Communication in English I **Course Code:** GNS 102 **Contact Hours:** 30						
COURSE SPECIFICATION: Theoretical Content: 2 Practical Content: 0						
General Objective: 1: Understand the concept of communication						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
1.1 Define communication. 1.2 Analyse the process of Communication. 1.3 Analyse the purposes of communication. 1.4 Explain the relationship between communication and language. 1.5 Explain impact of interference on communication at various levels, e.g. phonological, 1.6 Explain code-mixing, code-switching and dissonance in communication.	Teacher explains communication process					Quiz Test Assignment
General Objective: 2: Know how to make oral presentations						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
2.1 Label a diagram of the organs of speech. 2.2 Describe the functions of the	Teacher explains how words are pronounced		Pronounce words correctly	Demonstrate how to pronounce words	Relevant Reading materials	Quiz Test Assignment

organs in 2.1 above in speech production. 2.3 List the phonemes of English. 2.4 Produce correctly each of the phonemes listed in 2.3 above 2.5 Pronounce correctly by making distinctions between the different sound contrasts in the consonantal and vowel systems of English. 2.6 Explain the principles of effective speaking, viz., correct use of stress, rhythm, and intonation patterns. 2.7 Read fluently.	correctly			correctly		
General Objective: 3: Know the essential elements of correspondence.						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
3.1 List the various type of correspondence, e.g., Letter, memo, circular, etc. 3.2 Explain the various	Explains various parts of a letter		3.7			Quiz Test Assignment

parts of a letter. 3.3 Differentiate between formal and informal letter formats. 3.4 Explain the characteristics of styles suitable for formal and informal letters 3.5 Explain the functions of the first, middle and last paragraphs. 3.6 Write a formal and an informal letter.						
General Objective: 4: Know the rules of comprehension and interpretation						
Specific Learning Objectives	**Teachers Activities**	**Learning Resources**	**Specific Learning Objectives**	**Teachers Activities**	**Learning Resources**	**Evaluation**
4.1 Identify main ideas in a given passage. 4.2 Differentiate the main ideas from the details in a passage. 4.3 Use the main idea to anticipate specific details in a passage. 4.4 Use context clues to aid comprehension. 4.5 Identify relationship patterns of ideas in a passage.	Differentiates the main ideas from the details in a passage		-			Quiz Test Assignment

4.6	Use context clues such as definitions, restatements and examples to derive meaning.						
4.7	Explain how affixes modify meanings.						
4.8	Interpret figurative language in a passage.						
4.9	Draw conclusions from available information.						

TYPE OF ASSESSMENT	PURPOSE AND NATURE OF ASSESSMENT	WEIGHTING (%)
Project plan	Students to submit their proposed action plan for their chosen project	10%
Final report	Completed technical report on project	70%
Oral examination	Oral examination on final report and findings	20%
TOTAL		**100**

LIST OF MINIMUM RESOURCES

A. LIST OF PHYSICAL FACILITIES

Programme	Laboratory	Studio/Drawing Room and Other
Environmental Health Technology (**ND/HND**)	1. Basic Science (ND/HND) 2. Environmental Health (ND/HND)	1. Drawing Room 2. Audio Visual Studio 3.Demonstration Ground 4. Museum (Housing models; Pest control equipment; Charts; Posters etc)

LIST OF EQUIPMENT IN DEMONSTRATION GROUND.

S/NO	EQUIPMENT.	QUANTITY REQUIRED.	QUANTITY AVAILABLE.
1.	House Hold Refuse Composter	1	0
2.	Model of Chemical Closet	1	0
3.	Model of Incinerators	1	0
4.	Brick Models for Making Bricks	1	1
5.	Models of Bonding	Varied	Varied
6.	Damp-Proof Courses	1	0
7.	Footings/Foundations	1	0
8.	Conventional water treatment system	1 set	1 set
9.	Conventional sewage treatment system	1	1
10.	Slaughter Slab	1	1
11.	Composting pit [Wilson & indoor processes]	1 each	1 each
12.	Steamer [Fomite Disinfection]	1	0
13.	VIP Latrine [multiple & single compartments]	1 each	1 each
14.	Pit Latrine	1	1
15.	Water Closet	1	1
16.	Biogas Digester	Varied	1
17.	Structures/Types of Houses	1	1
18.	Waste Segregation Chambers	1	1
19.	Bar Incinerator	1	1
20.	Ventilation Opening	1	1
21.	Septic Tank	1	0
22.	Waste Collection Centre	1	0

LIST OF EQUIPMENT IN ENVIRONMENTAL HEALTH LABORATORY

S/N	EQUIPMENT	QUANTITY REQUIRED
1.	Hatch Kit for Chlorine,PH&Oxy.	1
2.	Incubator	1
3.	Thermometer	5
4.	Dosimeter	2
5.	Audiometer	2
6.	PH Meter	2
7.	Anenometer	1
8.	Dual Detector	2
9.	Spring Balance	1
10.	Mechanical Balance	1
11.	Weighing Scale	1
12.	Electronic Balance	1
13.	Cold Box	2
14.	Distiller	1
15	Centrifuge	2
16	Suction Pressure	1
17	Steam Sterilizer	1
18	Autoclave	2
19	Hot Plate	2
20	Water Bottle	2
21	Fog Machine	1
22	Motorizer	1
23	Radiation Monitor	2
24	Rotator	1

25	Water Bath	1
26.	Slide Projector	1
27	Hand Lens	5
28	Dissecting Kit	2

LIST OF EQUIPMENT IN AUDIO VISUAL STUDIO.

S/N	EQUIPMENT	QUANTITY REQIURED
1	Video Recorder	1
2	Overhead projector	1
3	Film projector	1
4	Public address system	1
5	Television set	1
6	Camera	1
7	Computer Systems.	5
8.	DVD players	1
9.	Microphones	5
10.	Scanner	1

LIST OF EQUIPMENT IN TECHNICAL DRAWING STUDIO.

S/N	EQUIPMENT	QUANTITY REQIURED
1	Adjustable Drawing Boards	30
2	T-square	1
3	Drafting Stools.	30
4	Pin-up Boards	1
5	Black Board Pin Square	1
6	Black Board Protractor.	1
7	Black Board Pair of Compass	1
8.	Black Board Pair of Dividers	1

9.	Black Board Set Squares. [45 & 60 degrees].	5

LIST OF EQUIPMENT IN ENVIRONMENTAL HEALTH MUSEUM

S\NO	EQUIPMENT	QUANTITY	QUANTITY
1	Motorized sprayers	3	1
2	Knapsack sprayer	6	10
3	Cp3 mist blower	2	0
4	Catch-alive trap	1	0
5	Hudson sprayer	1	5
6	First aid boxes	6	0
7	Hand held sprayer	4	2
8	Leg trap	2	0
9	Break back	1	0
10	Container for mixing of chemical	1	1
11	Respirator	2	25
12	Eye google	1	5
13	Hand gloves	8 PAIRS	8 PAIRS
14	Glue board trap	7	0
15	Pesticides	5	8
16	Pesticides specimen of various types	22	10
17	Mask	6	6
20	Waste bin bucket (plastic)	20	5
21	Model waste bin (wood)	2	0
22	Model incinerator	1	0
23	Drawing board		1
24	Pvc pipe	1	0
25	Ceramic bath	1	0
26	Wooden table	1	1

27	Plastic tables	2	1
28	Wooden model house (2 roof model)	2	2
29	Voltage regulator	1	0
30	Model of water treatment tank	1	0
31	Layout model	1	0
32	Preserved soil samples	2	0
33	Preserved animal specimen (rat)	1	0
34	Wooden model of a well	1	0
35	Composting model (wooden)	1	0
36	Metal tripod stand	1	0
37	Wooden board	1	1
38	Bag of spoilt cement	HALF	None
39	Ceiling fan	1	1
40	White board	1	1

Metal tripod stand
Composting model
Wooden model of a well
Preserved animal specimen (rat)
Preserved soil samples
Layout model
Model of water treatment tank
Voltage regulator
Ceramic bath
PVC pipe
Model incinerator
Glue board taps
Catch alive trap
Break back trap
Cp3 mist blower

B. HUMAN RESOURCES

Lecturers/Instructors Minimum Qualification

1. **LECTURER (FIRST DEGREE)**
   (This is for Licensed Environmental Health Officer)
   a. Bachelor of Environmental Health Science (B. EHS)/Bachelor of Science (BSc) Environmental Health
   b. Bachelor of Science (BSc) Health Education
   c. Bachelor of Science (BSc) Occupational Health
   d. Bachelor of Science (BSc) Environmental Management

2. **LECTURER (PGD)**
   (This is for Licensed Environmental Health Officer with Higher National Diploma (HND) in Environmental Health)
   a. Post Graduate Diploma (PGD) Environmental Health
   b. Post Graduate Diploma (PGD) in Education
   c. Post Graduate Diploma (PGD) Public Health/Epidemiology
   d. Post Graduate Diploma (PGD) Environmental Management

3. **SENIOR LECTURER**
   (This is for Licensed Environmental Health Officer with either the Qualification in 1 or 2 above)
   a. Master of Science (MSc) in Environmental Health

Technical Staff Minimum Qualification for Laboratory/Workshop/Studio/Museum

- **Technologist – HND or equivalent in Environmental Health Technology**
- **Technician – ND in Environmental Health Technology**

- **Laboratory Assistant – At least SSCE**

For National Diploma

4 no. Core Lecturers as follows:

1no. Senior Lecturer and above

1no. Lecturer II
1 no. Lecturer III/Assistant Lecturer

For Higher National Diploma

2 no. additional Lecturers

LIST OF PARTICIPANTS

S/N	NAME	ADDRESS	DESIGNATION	E-MAIL
1	Dr. Sunday Ojewale	College of Health Technology, Eleyele, Ibadan, Oyo State		
2	Dr. (Mrs.) Olojoba Agnes	College of Health Technology, Ufuoma-Ughelli, Delta State		
3	Alh. IsiakaNdaAliyu	College of Health Technology, Offa, Kwara State		
4	Mr. OmosanyaMusbahu	College of Health Technology, Eleyele-Ibadan, Oyo State		
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10	Mal. AbdullahiBubuche	Kebbi State Agency for Control of Aids, BirninKebbi, Kebbi State		
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13	IsahAdamu	(EHORECON), Abuja	Assistant Chief Environmental Health Officer	
14.	Bright Dowole	(EHORECON), Abuja	Principal Environmental Health Officer	

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