

**NATIONAL BOARD FOR TECHNICAL EDUCATION**



**CURRICULUM AND COURSE SPECIFICATION  
FOR  
HIGHER 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**

Higher National Diploma (HND) in Environmental Health Technology

### **2.0 PROGRAMME GOAL**

The Higher National Diploma in Environmental Health Technology is designed to produce middle level Environmental Health personnel i.e. Environmental Health Technologists who will be supervisors in organizing and ensuring 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) Carry out Environmental Health Technologist duties/functions.
- ii) Organize Environmental Health Services at Service Delivery Points
- iii) Maintain records, Statistics on Environmental Health Services
- iv) Initiate Programmes and Projects in various aspects of Environmental Health
- v) Maintain relevant Environmental Health equipment and machinery
- vi) Participate in carrying out environmental health –related Primary Health care activities
- vii) Relate with other Professionals in disciplines that collaborate in the delivery of Environmental Health services
- viii) Plan and Supervise Environmental Health Programmes and Activities

#### **4.0 ENTRY REQUIREMENTS**

The minimum entry requirements into the HND Environmental Health Technology are:

- i) ND Environmental Health Technology Certificate (with CGPA not less than 2.50) from accredited programme/institution.
- ii) Must have undergone one year supervised field experience (SUPFE), in an acceptable Environmental Health Practice Area.

#### **5.0 STRUCTURE/DURATION OF THE PROGRAMME**

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

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 HND 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) Project Report

## 7.0 ASSESSMENT CRITERIA

Aspect	Classwork/Practical, Trip & Laboratory Works	Field Examinations	Semester Examinations	Total
Theory	10		30	40
Practical	20		40	60
Total	30		70	100

## 8.0 AWARD OF HIGHER NATIONAL DIPLOMA

The Higher National Diploma certificate shall be awarded by the authority of the Academic Board of the Institution.

The conditions for the award of Higher National Diploma in Environmental Health Technology Certificate include the following:

- i) Satisfactory performance in all prescribed course work/assignments, tests/quizzes, workshop practice, laboratory work field trip etc.
- ii) Satisfactory performance in all semester examinations.
- iii) Satisfactory completion of written project/seminar papers.
- iv) Satisfactory performance in supervised field experience (SUPFE).
- v) The candidate should have completed a minimum of between 72 and 80 semester credit units.

Additionally, Candidates must pass the Professional Certification examination to be administered by the Environmental Health Officers Registration Council of Nigeria (EHORECON) in the second semester of HND II (Year Four). This will enable the graduate to be inducted into and be temporarily licensed to practice the profession as a Supervisee EHT pending the completion of the one-year mandatory Supervised Field Experience (SUPFE) preparatory to the National Youth Service.

The Professional Certification examination shall involve the following papers:

Paper 1 VIVA: Practical knowledge of some pictures of interest in Environmental Health including ability to interpret building and site plans

Paper 2: Sanitary Inspection of Premises: Practical knowledge of issues and steps involved in the sanitary inspection of living house, factory, or any other facility or premises of interest in Environmental Health.

Paper 3 Multi-Choice

Questions (MCQ): Knowledge of theory and practice of Environmental Health (50 to 100 questions, 30 seconds per question).

Paper 4 Oral

Examination: Ability to interact and explain issues in Environmental Health to people of different educational and socio-economic backgrounds

Paper 5 Theoretical

Examination: In depth knowledge of the theory and practice of Environmental Health.

The Higher 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 in conjunction with EHORECON 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](http://www.nbte.gov.ng) or through correspondence to: The Executive Secretary, Attention – Monotechnics Programmes 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 Technologist for the entry of their daily/weekly Field Experience work in the Environmental Health Department/Unit of 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 (only 2 per group). The project topics should as much as possible be related to the programme and serve as useful tools 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****HND 1 FIRST SEMESTER (YEAR THREE)**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>Lecture</b>	<b>Tutorial</b>	<b>Practical</b>	<b>CU/CHR per week</b>	<b>Total hours per semesters</b>	<b>Prerequisite</b>
<b>GNS 302</b>	Communication in English III	<b>2</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>30</b>	
<b>COM 002</b>	Computer Applications II	<b>1</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>45</b>	
<b>EHT 311</b>	Environmental Epidemiology	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 312</b>	Meat Hygiene and Inspection	<b>1</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>45</b>	
<b>EHT 313</b>	Ecology II	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>15</b>	
<b>EHT 314</b>	Biostatistics	<b>2</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>30</b>	
<b>EHT 315</b>	Health Economics	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>15</b>	
<b>EHT 316</b>	Communicable/Non Communicable Diseases I	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 317</b>	Environmental Sanitation	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 318</b>	Waste Management II	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
	<b>Total</b>	<b>17</b>		<b>9</b>	<b>26</b>	<b>390</b>	

**HND 1 SECOND SEMESTER (YEAR THREE)**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>Lecture</b>	<b>Tutorial</b>	<b>Practical</b>	<b>CU/CHR per week</b>	<b>Total hours per semesters</b>	<b>Prerequisite</b>
<b>EHT 320</b>	Public Health Pest Management II	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 321</b>	Environmental Pollution and Control	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 322</b>	Waste management III (Sewage and Waste Water)	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 323</b>	Water Quality Management	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 324</b>	Immunology and Immunization	<b>1</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>45</b>	
<b>EHT 325</b>	Public Utilities and Environmental Health	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 326</b>	Industrial layout, landscaping and Planning	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 327</b>	Health Agencies	<b>2</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>30</b>	
<b>EHT 328</b>	Environmental Health Laboratory	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
	<b>Total</b>	<b>11</b>		<b>7</b>	<b>18</b>	<b>270</b>	

**HND 2 FIRST SEMESTER (YEAR FOUR)**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>Lecture</b>	<b>Tutorial</b>	<b>Practical</b>	<b>CU/CHR per week</b>	<b>Total hours per semesters</b>	<b>Prerequisite</b>
<b>EHT 411</b>	Research Methodology/Project Writing	<b>1</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>45</b>	
<b>EHT 412</b>	Hazardous and Radioactive Waste Management	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 413</b>	Health, Safety and Environment	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 414</b>	Environmental Health Administration II	<b>2</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>30</b>	
<b>EHT 415</b>	Contemporary Issues in Environmental Health II	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>15</b>	
<b>EHT 416</b>	Seminar Presentation	<b>-</b>	<b>-</b>	<b>1</b>	<b>1</b>	<b>15</b>	
<b>EHT 417</b>	Environmental Health Emergencies and Disaster Management I	<b>2</b>	<b>-</b>	<b>2</b>	<b>4</b>	<b>60</b>	
<b>EHT 418</b>	Environmental Impact Assessment	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 419</b>	Environmental Toxicology	<b>2</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>30</b>	

<b>EHT 420</b>	Monitoring and Evaluation	<b>1</b>	-	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EED 413</b>	Entrepreneurship Development	<b>2</b>	-	<b>2</b>	<b>4</b>	<b>60</b>	
<b>GNS 401</b>	Communication in English IV	<b>2</b>	-	-	<b>2</b>	<b>30</b>	
	Total	<b>18</b>		<b>11</b>	<b>29</b>	<b>435</b>	

**HND 2 SECOND SEMESTER (YEAR FOUR)**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>Lecture</b>	<b>Tutorial</b>	<b>Practical</b>	<b>CU/CHR per week</b>	<b>Total hours per semesters</b>	<b>Prerequisite</b>
<b>EHT421</b>	Sanitary Inspection of Premises II	<b>1</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>45</b>	
<b>EHT 422</b>	Environmental Health Emergencies and Disaster Management II	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 423</b>	Environmental Health Law, Policy and Ethics	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 424</b>	Health Impact Assessment	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 425</b>	International Health	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 426</b>	Pest Management Equipment and Machinery	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>	<b>45</b>	
<b>EHT 427</b>	Occupational Health and Safety II	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 428</b>	Health Promotion	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 430</b>	Food Hygiene, Inspection and Safety	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 431</b>	Building Construction and Sanitation	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>30</b>	
<b>EHT 432</b>	Project	<b>-</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>30</b>	
	<b>Total</b>	<b>12</b>		<b>13</b>	<b>25</b>	<b>375</b>	

**13.0 HND 1 FIRST SEMESTER COURSES**

<b>PROGRAMME:</b> GENERAL STUDIES				
<b>COURSE TITLE:</b> COMMUNICATION IN ENGLISH III				
<b>COURSE CODE:</b> GNS 302				
<b>DURATION:</b>	Lecture: - 2	Tutorial: -	Practical: -	Total: 2 (30)
<b>CREDIT UNITS:</b> 2 C U				
<b>GOAL:</b> This course is designed to further expose the student to the principles and practice of written communication. It is designed to enable the student continue to master skills in the use of English in the various professions.				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1.0	Understand the principles and practice of written communication.			
2.0	Comprehend more difficult reading materials.			
3.0	Know the procedure for writing project reports.			

<b>PROGRAMME: GENERAL STUDIES</b>						
<b>COURSE:COMMUNICATION IN ENGLISH III</b>			<b>COURSE CODE: GNS 302</b>		<b>CONTACT HOURS:2 hrs/Wk</b>	
<b>GOAL:</b> This course is designed to further expose the student to the principles and practice of written communication. It is designed to enable the Student continues to master skills in the use of English in the various professions.						
<b>COURSE SPECIFICATION: Theoretical Contents:</b>				<b>Practical Contents:.</b>		
<b>General Objective: 1.0 Understand the principles and practice of written communication.</b>						
<b>Specific Learning Objective</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objective</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<b>Written Communication</b>  1.1 Explain the principles of letter writing 1.2 Explain the components of a business letter. 1.3 Differentiate between a memo and a letter. 1.4 Prepare a portfolio of correspondence using different presentation techniques: appointments, promotions, dismissals, commendations, queries, condolences, congratulations.	Explain the principles of letter writing • Explain the components of a business letter. • Differentiate between a memo and a letter. • Prepare a portfolio of correspondence using different presentation techniques: appointments, promotions, dismissals.	Chart, projector, slides, board, reports,  Journals, books				Quiz, assignment, test.

	commendations, queries, condolences, congratulations.					
<b>General Objectives: 2.0. Comprehend more difficult reading materials.</b>						
<b>Comprehension</b>  2.1 Reading passages of expository and argumentative writing. 2.2 Trace the logic in the passages in 2.1 above. 2.3 Differentiate between facts and opinions. 2.4 Answer questions on what is read.	<ul style="list-style-type: none"> <li>Reading passages of expository and argumentative writing.</li> <li>Trace the logic in the passages in 2.1 above.</li> <li>Differentiate between facts and opinions.</li> </ul> Answer questions on what is read.	Chart, projector, board, reports,  Journals, books				Quiz, assignment, test.

General Objectives: 3.0 Know the procedure for writing project reports.						
<b>Project Reports</b>  3.1 Explain the characteristics of a project report, viz, part, format, style. 3.2 Select a suitable topic for a project. 3.3 Explain methods of gathering data from primary, secondary and tertiary sources. 3.4 Use reference materials for gathering data. 3.5 Use appropriate citation and documentation styles, eg. APA, MLA. 3.6 Explain the procedure for writing a project report.  3.7 Write an outline of a project report using appropriate numbering, ranking and phrasing. 3.8 Write a project report. Present project report.	<ul style="list-style-type: none"> <li>Explain the characteristics of a project report, viz, part, format, style.</li> <li>Select a suitable topic for a project.</li> <li>Explain methods of gathering data from primary, secondary and tertiary sources.</li> <li>Use reference materials for gathering data.</li> <li>Use appropriate citation and documentation styles, e.g. APA, MLA.</li> <li>Explain the procedure for writing a project report</li> <li>Write an</li> </ul>	Chart, projector, board, reports,  Journals, books				Quiz, assignment, test, presentation

	outline of a project report using appropriate numbering, ranking and phrasing. <ul style="list-style-type: none"> <li>• Write a project report.</li> </ul> Present project report.					
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>				
<b>COURSE TITLE: COMPUTER APPLICATIONS II</b>				
<b>COURSE CODE: COM 002</b>				
<b>DURATION:</b>	Lecture: - 1	Tutorial: -	Practical: -2	Total: 3 (45)
<b>CREDIT UNITS:</b>	2 C U			
<b>GOAL:</b> To understand and be able to use computers and computer applications needed in modern agriculture mechanization.				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1.0 Understand the use of AutoCAD for producing drawings and layouts.				
2.0 Understand the use of spreadsheet software (EXCEL) for farm mechanization applications				
3.0 Understand the use of psychometric software for the assessment of environmental conditions				
4.0 Develop and Present a power point presentation				

<b>PROGRAMME:</b> HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY						
<b>COURSE:</b> COMPUTER APPLICATIONS II			<b>COURSE CODE:</b> COM 002		<b>CONTACT HOURS:</b> 3Hrs/Wk	
<b>GOAL:</b> To understand and be able to use computers and computer applications						
<b>COURSE SPECIFICATION:</b> Theoretical Content			Practical Content			
<b>General Objective 2.0:-</b> Understand the use of AutoCAD for producing drawings and layouts						
Specific Learning Outcomes	Teacher’s activities	Resources	Specific Learning Outcomes	Teacher’s activities	Resources	Evaluation
1.1 Explain AutoCAD as a powerful drawing application software, and be familiar with procedures for its use 1.2 Describe how to start	Explain the use of lines and angles in drawing an object. Explain and show how to use the	Computer set AutoCAD apps projector	1.1 Start an AutoCAD project and master the application. 1.2 Carry out drawing operations with the software system and the computer	Show students how to start an AutoCAD application.  Ensure students are	computer laboratory with AutoCAD applicatio	Quiz, Assignment, Test

<p>drawing an object.</p> <p>1.3 Describe how to draw straight line and angles using the software application</p> <p>1.4 Describe how to draw views of a simple object</p> <p>1.5 Describe how to draw views of a simple object</p> <p>1.6 Understand the drawing principles of a mechanical object with sections</p> <p>1.7 Understand the drawing principles of a mechanical object with sections</p> <p>1.8 Explain drawing principles of a building layout with sections</p> <p>1.9 Understand drawing principles of a building layout with sections</p>	<p>mouse and dimensioning tools. Explain engineering drawing three-view setting and construct them. Explain using lines and angles in drawing project. Explain using mouse and dimensioning tools. Explain engineering drawing three-view setting and construct them. Explain using lines and angles in drawing project. Explain using mouse and dimensioning tools. Explain drawing procedures for a mechanical object, its methods of doing construction. Explain drawing procedures for a mechanical object,</p>		controls.	<p>familiar with the use of buttons, can save and retrieve an application and start a new project file. Explain using lines and angles in draw project. Explain using mouse and dimensioning tools. Guide students in drawing their project. Guide students in their project, provide assistance and troubleshooting.</p>	<p>n Intalled</p> <p>Computer set, AutoCAD application</p>	
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	its methods of doing construction. Explain drawing procedures for a building layout project, its requirement of doing construction. Explain drawing procedures for a building layout project, its methods of doing construction.					
<b>General Objective 2.0: - Understand the use of spreadsheet software (EXCEL) for farm mechanization applications and farm management</b>						
2.1 Explain spreadsheet application software (EXCEL) as a powerful calculation and data handling software, and get familiar with its use 2.2 Explain the use of EXCEL for a calculation project and become familiar with calculation functions 2.3 Explain graph and figure development	Discuss EXCEL features and handling functions. Rows and sheets, icon definition, function, cell address, entering data. File save and retrieve. Discuss the use of EXCEL calculations and equations. Explain the different function features and their use in	Computer with EXCEL installed and computer projector	2.1 Create a simple spreadsheet using EXCEL 2.2 Carry out complete calculations using EXCEL functions 2.3 Develop graphs using data.	Demonstrate EXCEL features and handling functions. Rows and sheets use, icon definition, function, cell address, entering data. Give students simple data entering and handling process. Guide students in their work, provide assistance and troubleshooting. Guide students in a calculation project and demonstrate	Computer laboratory with EXCEL installed Computer set, Microsoft apps (EXCEL)	Quiz, Assignment, Test

	<p>applied calculations.</p> <p>Discuss data graph development.</p> <p>Explain importance of data presentation using graphs.</p> <p>Explain types of graphs, line, pie, columns and their representation to data. Mastering graph drawing features.</p>			<p>calculation functions use. Guide students in their work, provide assistance and troubleshooting</p> <p>Guide students developing graphs.</p> <p>Demonstrate developing data graphs in pie, column, and line forms. Guide students in their work, provide assistance and troubleshooting</p>		
<b>General Objective 3.0 :- Understand the use of psychometric software for the assessment of environmental conditions</b>						
<p>3.1 Explain the use of psychometric calculation software and its uses</p> <p>3.2 Explain the use of psychometric calculation software and its application for air condition calculations</p> <p>3.2 Explain the use of psychometric calculation software and its application for air condition calculations</p>	<p>Discuss the basics of psychometric calculations and equations used.</p> <p>Discuss the use of psychometric charts and the importance of using application software. Explain the use of psychometric software, data entering and output use.</p> <p>Show the use of psychometric</p>	Computer with psychometric software installed and computer projector	<p>3.1 Carry out calculation with application of psychometric software and become familiar with its use.</p> <p>3.2 Use and evaluate psychometric software in determining internal conditions for agricultural buildings and constructions</p>	<p>Guide students in using psychometric software, data entering and output use.</p> <p>Guide students in the use of psychometric software for internal conditions to determine the environment for dairy barns, poultry, grain drying, vegetable storage, etc</p>	A computer laboratory with psychometric software installed	Quiz, Assignment, Test

	calculation software for determining the conditions of a greenhouse, dairy barn, poultry facility, grain drying facility, vegetable cooling, etc Show the use of psychometric calculation software for determining the conditions of a greenhouse, dairy barn, poultry facility, grain drying facility, vegetable cooling, etc					
<b>General Objective 4.0:</b> Develop and Present a power point presentation						
			4.1 Perform the basic operations Start/End the application 4.2 Create, open, modify, save and close a presentation. Adjust Settings Work with slides - Add, delete, copy, move slide.	Show how to: - Run the application. - Open a presentation. - Create new presentation (default template). - Save under	PC connected to an OHP with appropriate operating system & Power	

			-customize -Proofing. -save	other name. - Save the presentation with different types such as : RTF, PPS, PPT, image file format and other versions. - switch between open presentations. - Zoom in/out and use zoom tools. - Switch between different views of a presentation - Create a new presentation using the default template , Edit , Save , Open and Close a presentation - Apply design templates to a presentation and to change between designs	point presentation of lectures  Online lecture notes  Internet access. Smart board/ white board	
			4.3 Demonstrate how to Format the slide content Format text	Show how to: Create a presentation, new presentation, save a presentation , add slides , theme	PC connected to an OHP with appropriate operating system &	Quiz, Assignment, Test

					Power point presentation of lectures Online lecture notes Internet access. Smart board/ white board	
			4.4 Demonstrate how to: -enter text, select text ,copy and paste , cut and paste , undo/redo , spell check , formatting text , change font typeface and size, font styles and effects ,change text colour, word art, change paragraph alignment, text direction, adding content ,adding picture.	Demonstrate how to: -enter text, select text ,copy and paste , cut and paste , undo/redo , spell check , formatting text , change font typeface and size, font styles and effects ,change text colour, word art, change paragraph alignment, text direction, adding content ,adding picture.	PC connected to an OHP with appropriate operating system & Power point presentation of lectures Online lecture notes Internet	Quiz, Assignment, Test

					access. Smart board/ white board	
			4.5 Demonstrate how to: Adding shape, adding smart art, adding a photo album , create a table , enter data in a table , modify the table structure and format a table, insert a table from word or excel, create a chart , edit chart data , modify a chart ,use slide effects.	Show how to: Adding shape, adding smart art, adding a photo album , create a table , enter data in a table , modify the table structure and format a table, insert a table from word or excel, create a chart , edit chart data , modify a chart ,use slide effects.	PC connected to an OHP with appropriat e operating system & Power point presentati on of lectures  Online lecture notes  Internet access. Smart board/ white board	
			4.6 Demonstrate how to: - -Use slide show options	Demonstrate how to: - -Use slide show	PC connected	

			<ul style="list-style-type: none"> <li>-setup slide show</li> <li>-rehearse timings</li> <li>-create speaker notes</li> <li>-Print a presentation</li> <li>-package a presentation</li> </ul>	<ul style="list-style-type: none"> <li>options</li> <li>-setup slide show</li> <li>-rehearse timings</li> <li>-create speaker notes</li> <li>-Print a presentation</li> <li>-package a presentation</li> </ul>	<ul style="list-style-type: none"> <li>to an OHP with appropriate operating system &amp; Power point presentation of lectures</li> <li>Online lecture notes</li> <li>Internet access. Smart board/ white board</li> </ul>	
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA ENVIRONMENTAL HEALTH TECHNOLOGY (HND EHT)</b>				
<b>COURSE TITLE: ENVIRONMENTAL EPIDEMIOLOGY</b>				
<b>COURSE CODE: EHT 311</b>				
<b>DURATION:</b>	Lecture: - 1hr	Tutorial: -	Practical: - 2hrs	Total: 3hrs (45hrs/semester)
<b>CREDIT UNITS: 2 CU</b>				
<b>GOAL:</b> This course is designed to enable student to apply knowledge of environmental epidemiology in addressing environmental health issues				
<b>GENERAL OBJECTIVES:</b> On completion of the course, the student should be able to:				
1.0	Understand the concept and terms used in environmental epidemiology			
2.0	Know the principles of environmental epidemiology			
3.0	Recognize the importance of environmental epidemiology in public health practice			
4.0	Interpret indices of health measurement used in environmental epidemiology			

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|-----|--|
| 5.0 | Describe how to conduct epidemiological surveys in environmental health          |
| 6.0 | Understand how to analyze and present data generated from epidemiological survey |
| 7.0 | Recognize environmental hazards and how to manage them                           |

COURSE SPECIFICATION:		Theoretical Content:		Practical Content:		
General Objective 1.0: Understand the concept and terms used in environmental epidemiology						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Define: - Environmental health - Epidemiology - Environmental epidemiology - Explain the concept of demography - Health indices 1.2 Explain the concepts defined in	Define and explain Environmental Health, environmental Epidemiology, Concept demography and health indices	Charts, projector, board				Quiz, assignment, test
General Objective 2.0: Know the principles of environmental epidemiology						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
2.1 Discuss the history and development of environmental epidemiology 2.2 List the principles of environmental epidemiology 2.3 Explain the principles listed in 2.2	Explain how environmental epidemiology evolves. List and explain the principles of environmental epidemiology.	Chart, projector, slides, board				Quiz, assignment, test
General Objective 3.0: Recognize the importance of environmental epidemiology in environmental health practice						
Specific Learning Objectives	Teachers	Learning	Specific Learning	Teachers	Learning	Evaluation

	<b>Activities</b>	<b>Resources</b>	<b>Objectives</b>	<b>Activities</b>	<b>Resources</b>	
3.1 State the importance of environmental epidemiology in environmental health practice. 3.2 Explain each of the importance stated in 3.1  3.3 Relate each importance to environmental health practice	Define public health. State and explain the roles of environmental epidemiology Describe the disease triangle	Chart, projector, slides, board	3.1 demonstrate agent – host – environment relationship to environmental problems	To demonstrate how the 3 components interacts and affect the quality of the environment.	Charts, pictures, slides	Quiz, assignment, test
<b>General Objective 4.0: Interpret indices of health measurement used in environmental epidemiology</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 List basic indices for health measurement: - Rates - Ratios - Proportions  4.2 Compute some of the indices listed in 4.1 4.3 Interpret the result of the computation 4.4. Explain population and target population 4.5 Outline demographic variables /indices and explain their applicability - Migration - Mortality	List the indices and compute them. Interpret the result of computation. Explain demography and its variables. Apply the indices/ variables to explain a phenomenon in a community	Chart, projector, slides, board	4.1 Apply demographic variables /indices to interpret environmental situation in the community	Calculate demographic indices and interpret the results	Calculator, computer, books, log tables	Quiz, assignment, test

- Climatic conditions etc.						
<b>General Objective 5.0: Describe how to conduct epidemiological surveys in environmental health</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1 Define epidemiological survey 5.2 Explain the steps involved in the conduct of epidemiological survey 5.3 Describe the stages and methods of investigation of disease outbreaks 5.4 Explain sample collection <ul style="list-style-type: none"> <li>- Methods</li> <li>- Procedure</li> <li>- Materials</li> <li>- Purpose</li> </ul> 5.5 Explain exposure monitoring 5.6 Explain disease surveillance	Define epidemiological survey. Explain the steps of epidemiological survey. Describe methods and stages of disease outbreak investigation. Explain exposure monitoring and disease surveillance	Chart, projector, slides, board, survey reports, Journals, books	5.1 conduct epidemiological survey 5.2 Apply epidemiological survey to investigate disease outbreak.	Lead students to field visit and collect data	Data collection tools, specimen bottles Laboratory reagents and apparatus,	Quiz, assignment, test practical

<b>General Objective 6.0: Understand how to analyze and present data generated from epidemiological survey</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
6.1 Define data analysis 6.2 Explain methods of data analysis 6.3 Explain data presentation in Environmental Epidemiology 6.4 Outline the uses of data in Environmental Epidemiology	Explain Brainstorm Discuss	Chart, projector, slides, board, survey reports, Journals, books	6.1 Collect environmental health information at community and LGA levels. 6.2 Analyze environmental health information 6.3 interpret the result of the analysis	Lead student to field trips to collect information	Data collection tools, charts, statistical tables	Quiz, assignment, test, practical
<b>General Objective 7.0: Recognize environmental hazards and how to manage them</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
7.1 Define Risk, Hazard 7.2 Explain types of environmental Hazards 7.3 Discuss hazards control methods <ul style="list-style-type: none"> <li>- Elimination</li> <li>- Substitution</li> <li>- Engineering</li> </ul> 7.4 Describe Risk assessment	Define risk. State environmental conditions with potentials of constituting risks. Explain Hazard, control Methods	Chart, projector, slides, board, survey reports, Journals, books	7.1 Conduct risk assessment analysis	Lead student to field visit to conduct specific risk assessment	Data collection tools, Chart, slide, calculator, log book	Quiz, assignment, test

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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>				
<b>COURSE TITLE: MEAT INSPECTION AND HYGIENE</b>				
<b>COURSE CODE: EHT 312</b>				
<b>DURATION:</b>	Lecture: -1hour	Tutorial: -	Practical: - 2 hours	Total: 3 (45hrs/semester)
<b>CREDIT UNITS: 3 CU</b>				
<b>GOAL:</b> This course is designed to enable the student acquire knowledge and skills for meat inspection and hygiene				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1.0 Understand the concept of meat inspection and hygiene. 2.0 Know the health requirements for a standard abattoir and Slaughter house. 3.0 Know the measures for maintaining abattoir and Slaughter house sanitarily. 4.0 Know the principles of food animal inspection 5.0 Recognize the common diseases of food animals, their prevention and control 6.0 Know the different methods of slaughtering and dressing food animals 7.0 Know methods of meat preservation. 8.0 Recognize the post-mortem changes in the Carcasses of food animals.				

9.0 Recognize sanitary methods of transporting meat and meat products

10.0 Understand the health requirement of meat handling

PROGRAMME: HIGHER NATIONAL DIPLOMA ENVIRONMENTAL TECHNOLOGY						
COURSE: MEAT HYGIENE AND INSPECTION Hours: 3 (45)			Course Code: EHT 312		Contact	
COURSE SPECIFICATION:		Theoretical Content:	Practical Content:			
General Objective 1.0 : Understand the concepts of meat inspection and hygiene						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Explain the terms meat hygiene, meat inspection, abattoir, slaughter house and slaughter slab 1.2 Differentiate the following: - Abattoir - slaughter house - slaughter slab 1.3 State Laws and Policies guiding meat inspection and hygiene in Nigeria - National Environmental Health Practice Regulations - Public Health Laws - Bye Laws - National food safety policy - Environmental Health Guidelines on	1.1Explain meat hygiene, meat inspection. 1.2 Explain the terms and differentiate between the three slaughtering structures based on features, size and facilities 1.3 Discuss Laws and Policies guiding meat inspection and hygiene in Nigeria	Lectures Pictures Charts Books Journals				Assignment, test,

meat inspection and abattoir sanitation in Nigeria.						
<b>General Objective 2.0: Know the health requirements for a standard abattoir and slaughter house</b>						
<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>
2.1 Describe: <ul style="list-style-type: none"> <li>- a standard abattoir</li> <li>- Slaughters house</li> <li>- Slaughters slab</li> </ul> 2.2 List the minimum sanitary requirements in for items in 2.1 2.3. Explain the importance of each of the requirement listed in 2.2	List all health requirements and explain each	Lectures Pictures Charts Books Journals Projector Video/Audio devices Models				Assignment, test, quiz
<b>General Objective 3.0: Know the measures for maintaining abattoir and Slaughter house sanitarilly</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Identify measures of sanitary maintenance of: <ul style="list-style-type: none"> <li>- an abattoir</li> <li>- a slaughter house</li> <li>- a slaughter slab</li> </ul> 3.2 Explain each of the measures identified in 3.1  3.3. Describe the possible insanitary conditions in items 3.1	Explain the health implications of dirty/insanitary abattoir. Identify and explain methods of maintenance of abattoir	Lectures Pictures Charts Books Journals	3.1 Carry out sanitary inspection of abattoir 3.2 carry out routine sanitary maintenance of abattoir	Lead student for field trip to inspect abattoir. Take students from time to time for routine inspection	Abattoir, inspection logbook, digital camera	Quiz, test, assignment, Practical

3.4. Identify factors responsible for insanitary conditions in slaughter facilities						
3.5. Explain the health implications of an insanitary abattoir, slaughter house and slaughter slab.						
<b>General Objective 4.0: Know the principles of food animal inspection</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Define food animal inspection 4.2. State the basic principles of meat inspection: - Continuity - Exclusion - Preservation of evidence - Matching of organs with the carcasses - Avoidance of cross contamination - Record keeping - Sound judgment - Prevention and control  4.3 Explain ant-mortem and post-mortem inspection of food animals  4.4. Explain the common signs	Explain ant-mortem and post-mortem inspection. Describe principles of meat inspection. Explain the signs of common diseases affecting food animals. Explain the roles of public health officers in ensuring the supply and consumption of wholesome meat	Lectures Pictures Charts Books Journals	4.1 Visit to the meat market and lairage to assess the health status of food animals 4.2 Demonstrate ante-mortem inspection of food animals carry out meat inspection procedure 5.5 Describe the systematic procedure involved in meat inspection e.g. (in-situ) i. head ii. muscles	Lead and guide students to conduct assessment through observation, palpation,	Abattoir, realer. Digital camera	Practical, report writing, tests

and symptoms of diseases that may be detected during ante mortem and post- mortem examination			iii. organs			
4.5 Describe the procedure of ante-mortem inspection						
4.6 Describe the procedure of post-mortem inspection						
<b>General Objective 5.0: Recognize the common diseases of food animals, their prevention and control.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1. List common diseases of food animals: bovine tuberculosis, cysticercus bovis, anthrax, foot and mouth disease etc. 5.2. Classify the common diseases into protozoan, Bacterial, viral, helminthes etc. 5.3. Describe the epidemiology of common food animals diseases <ul style="list-style-type: none"> <li>- Tuberculois</li> <li>- Anthrax</li> <li>- Teaniasis</li> <li>- Foot and mouth disease</li> <li>- Avian influenza etc.</li> </ul>	List and classify common diseases of food animals. Describe the life cycle of common parasites affecting food animals. State the signs and symptoms of the diseases identified. Describe the control measures of diseases identified	Projection Text Books Internet Lecture notes Charts Pictures Tutorial	6.1 Carry out inspection of food animals to detect diseases. 6. 2 Take appropriate action on 6.1 above.	Lead students to abattoir to inspect food animals and detect disease. Guide the student on the action to for localize, generalize infections	Abattoir, food animals	Assignment, tests, quiz, practical
<b>General Objective 6.0 : Know different methods of slaughtering and dressing of food animals</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

			Objectives			
6.1 Define the terms Slaughtering and dressing of food animals 6.2 .List methods of slaughtering of food animals: e.g. – humane, stunning, capture bolt (shooting), Muhammad methods etc.  6.3 Describe the methods of slaughtering food animal listed in 6.2 6.4 Explain the merits and demerits of each method. 6.5 Describe the methods of dressing of food animals: scalding, flaying, plucking, de-hairing, skinning etc. as they relate to different types of food animal 6.6 Define evisceration. 6.7 Describe the process of carrying out an evisceration. 6.8 Calculate dressing percentage. 6.9 Explain whole cuts and retail cuts 6.10 Explain the importance of proper meat handling after slaughtering 6.11. Explain meat quality with	Describe different methods of slaughtering, stating their merit and de-merit. Explain methods of dressing, evisceration and calculate dressing percentage	Projector Text Books Internet Lecture notes Charts Pictures		Lead students to field and observe some slaughterin g methods. Dressing procedure and calculate dressing percentage	Digital Camera, log book, dressing and slaughtering tool	Assignment, test, quiz, practical demonstration

reference to:- i. Appearance ii. Consistency iii. Odour 6.12. Describe the palatability factors of meat namely:- i. tenderness ii. Juiciness iii Colour iv. Aroma and flavour 6.13. Identify the factors which affect meat quality after slaughtering						
<b>General Objective 7.0: Know methods of meat preservation</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
7.1. Define meat preservation 7.2. Explain meat preservation. 7.3. Discuss methods of meat preservation viz: i. Salting /Prickling/Curing ii. Refrigeration iii. Canning iv. Smoking vi. Drying Vii. Frying Viii. Roasting ix. Fermentation x. Sealing xi. Dehydration	Define meat preservation and describe each of the methods of meat preservation	Projection Text Books Internet Lecture notes Charts Pictures Tutorial	8.1 Carry out field trip to cold rooms and meat processing Plants 8.2 Observe process of meat preservation	Lead the students to food processing plant	Realer, digital camera	Practical, report, test

7.4. Discuss the merits and demerits of the methods mentioned in 7.3. 7.5. State the health implications of the methods of meat preservation.						
<b>General Objective 8.0: Recognize the post-mortem changes in muscles of food animals</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
8.1. Define post – mortem 8.2 Explain: i. Glycolysis ii. Mechanism of contraction iii. Rigor mortis 8.3 Describe the factors affecting the setting of rigor mortis 8.4. Explain effect of cold storage on post- mortem changes.	Explain the terms. Describe the effect of cold storage on post-mortem changes	Projection Text Books Internet Lecture notes Charts Pictures	9.1 Inspect carcass to detect rigor mortis changes	Lead student to observe and detect rigor mortis changes	Abattoir, animal	Test, assignment, quiz, practical
<b>General Objective 9.0: Recognize the sanitary methods of conveying meat and meat product to the market</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
9.1 Explain Meat and meat products 9.2 Identify sanitary methods of transporting meat and meat product from abattoir to the market. 9.3. List merits and de-merits of each of the method 9.4 Explain the health importance of transporting meat and meat products under sanitary condition.	List the means of meat transport. Explain the merit and de-merit of each Explain the effect of unhygienic methods of transport	Projector Text Books Internet Lecture notes Charts Pictures	10.1 Carry out field trips to market and food storage locations	Lead student to observe and inspect how food animals are transported to markets	Abattoir market	Practical, quiz, test assignment

<b>General Objective 10.0: Understand the health requirements for meat handlers</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>
10.1 Explain the importance of personal hygiene for meat handlers. 10.2 Enumerate the medical examination requirements of food handlers. 10.3 State the types of personal protective devices to be used by meat handlers	Explain the importance of personal hygiene. Explain medical examination requirement of meat handlers. State the PPD to be used by meat handlers changes	Projector, Text Book,s Internet, Lecture, notes, Charts, Pictures, PPD	11.1 Give Health talk to meat handlers on importance of personal hygiene. And	Lead student to meat handlers to give health talk	Charts, pictures,	Assignment, tests, quiz

<b>PROGRAMME: HND ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: ECOLOGY II</b>						
<b>COURSE CODE: EHT 313</b>						
<b>DURATION:</b>	Lecture: - 1	Tutorial: -	Practical: -	Total: 15		
<b>CREDIT UNITS: 1</b>						
<b>GOAL:</b> This course is designed to provide the students with a general knowledge of interrelationships and heredity among living things and the effects of ecological imbalance.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0. Distinguish the various ecological terminologies and types of habitats 2.0. Understand the concept of succession 3.0. Understand the problems confronting organisms in their habitats 4.0. Understand the concept of population in ecology 5.0. Understand the soil as an ecosystem 6.0. Understand pollutants and the effects of pollution in the environment vegetation and animal life. 7.0. Understand the different forms of association among organisms.						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 1.0.- Distinguish the various ecological terminologies and types of habitats</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

1.1. Define ecology 1.2. Define habitat 1.3. Identify different kinds of habitats i.e. aquatic, terrestrial and arboreal habitats 1.4. Differentiate between fresh water habitat, marine habitat and blackish water habitat 1.5. Different rate between forest, savannah and desert 1.6. Identify various vegetation zones of Nigeria and Africa 1.7. Identify the diagnostic features of mangrove forest, tropical rainforest, deciduous forest. 1.8. Identify the diagnostic features of guinea Savannah, Sudan Savannah and Sahel Savannah 1.9. Measure temperature, light intensity, wind, evaporation rate, relative humidity and saturation deficit in terrestrial habits. 1.10. Measure temperature, turbidity (light penetration depth) PH, Salinity in aquatic habitats. 1.11. Examine and describe an arboreal habitat, for example the trunk of a palm tree which usually carries Specialized fauna and	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>• Identify insanitary conditions</li> <li>• Map out Community Sanitary conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
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flora like ferns, mosses and orchids and insects with their larvae 1.12. Examine and describe stratification in various habitats 1.13. Define ecological niche 1.14. Examine and describe an epiphyte and its responses to light, temperature humidity and gravity 1.15. Describe the status of a terrestrial arthropod e.g. wood louse, by observing its responses to light, temperature, humidity and gravity 1.16. Define Environment 1.17. List environmental factors and their effect on various beings 1.18. Identify the instruments used in measuring the various environmental factors 1.19. Measure environmental factors applying the instruments identified in 1.18. above e.g. barometer for measuring humidity, rain gauge for measuring rainfall, light meter for determining light intensity, secchi disk for depth of light penetration into pond, anemometer, thermometer, PH meter etc.						
<b>COURSE SPECIFICATION:</b>	<b>Theoretical Content:</b>		<b>Practical Content:</b>			

<b>GENERAL OBJECTIVE: 2.0.- Explain the concept of succession</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1. Define succession 2.2. Define and explain primary succession 2.3. List and describe factors such as erosion, strong winds, hurricanes, volcanic actions etc. as being responsible for primary bare surfaces such as bare land depositing dunes, volcanic ash etc. 2.4. Define secondary succession 2.5. List and describe the factors that gave rise to secondary succession 2.6. Describe the series of communities in a succession pioneers, the intermediate or transitory communities and the climax community. 2.7. Describe the process involved in ecological successions, mutation, immigration and stabilization. 2.8. Exemplify the study of succession by regular observation of a cleared area	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>• Identify insanitary conditions</li> <li>• Map out Community Sanitary conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 3.0.- Describe the problems confronting organisms in their habitats</b>						
<b>Specific Learning Objectives</b>	<b>Teachers</b>	<b>Learning</b>	<b>Specific Learning</b>	<b>Teachers</b>	<b>Learning</b>	<b>Evaluation</b>

	Activities	Resources	Objectives	Activities	Resources	
<p>3.1. List and explain the problems of plants living in Fresh water habitats such as the problems of buoyancy in adequate sunlight, how oxygen tension, reproduction et.</p> <p>3.2. List and explain the problems of animals living in fresh water habitats – buoyancy, breathing, feeding reproduction and enemies.</p> <p>3. 3. Identifying the various adaptive features employed by plants and animals in overcoming their problems in fresh water habitats</p> <p>3.4. List and explain the problems plants living in blackish water habitant – problems of buoyancy, flooding respiration, osmotic imbalance</p> <p>3.5. List an explain the problems of animals living in blackish water - problem of wave action salinity, water current</p> <p>3.6. Explain poor light condition as a major problem of organization living in tropical rainforest</p> <p>3.7. Describe the adaptation of plant communities for surviving</p>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>• Identify insanitary conditions</li> <li>• Map out Community Sanitary conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

animal grass first-tick bark, vigorous regeneration and first resistant regeneration, underground penetrating organs (e.g. tubers bulbs and rhizomes) 3.8. Describe the relationship between man and his environment						
<b>COURSE SPECIFICATION:</b>						
<b>Theoretical Content:</b>			<b>Practical Content:</b>			
<b>GENERAL OBJECTIVE: 4.0. Explain the concept of population</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Define Population 4.2. Describe the methods of assessing population sizes (direct and indirect methods) 4.3. Define sample plot 4.4. Define quadrant 4.5. Describe the use of quadrant as means of population size estimation 4.6. Describe the transact sampling technique 4.7. Describe the transact sampling technique 4.8. Determine Final population size applying the formula: $N=n \times \frac{A}{a}$ When N=population size A=Area Coverage by the population a = average of the number of sample plots n=average of the number of individuals in the sample plot.	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>	<ul style="list-style-type: none"><li>• Identify insanitary conditions</li><li>• Map out Community Sanitary conditions</li></ul>	<ul style="list-style-type: none"><li>• Locate</li><li>• Guide</li><li>• Demonstrate</li></ul>	<ul style="list-style-type: none"><li>• Projector</li><li>• Maps</li><li>• Charts</li><li>• GIS Kit</li><li>• Digital Camera</li><li>• A4 Paper</li></ul>	<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

4.9. Explain population growth and rate of growth 4.10. Draw and describe the growth curves J-shape growth curve The sigmoid growth curve 4.11. Explain the various factors influencing sizes of population - Fatality - Mortality - Fecundity - Immigration -emigrations etc. 4.12. Identify interspecific relationship of population e.g. Parasitism, Predation, competition, concept of niche etc. 4.13. Identify intraspecific relationship of population e.g. Density-dependent population regulation, Density-dependent population self-regulation 4.13. Identify the biotic and biotic factors and explain their effects on population sizes						
<b>COURSE SPECIFICATION:</b>						
<b>Theoretical Content:</b>			<b>Practical Content:</b>			
<b>GENERAL OBJECTIVE: 5.0. Explain the social as an ecosystem</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

5.1. Explain the soil profile and soil composition 5.2. List and describe the components of soil 5.3. Describe the role of micro-organism in soil 5.4. Identify the different kinds of soil and state their properties 5.5 Describe methods of controlling water erosion 5.6. Describe methods of controlling wind erosion	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>• Identify insanitary conditions</li> <li>• Map out Community Sanitary conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 6.0. Explain Pollutants and the effects of pollution in the environment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
6.1. Explain the concept of air pollution 6.2. Describe types and sources of air pollutants 6.3. Explain the effects of pollution on animal, vegetation material and visibility	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> </ul>	<ul style="list-style-type: none"> <li>• Identify insanitary conditions</li> <li>• Map out Community Sanitary conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

		<ul style="list-style-type: none"> <li>DVD/Multimedia Player</li> </ul>				
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 7.0. Describe different forms of association among organisms</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
7.1. Explain biological associations 7.2. Define symbiosis 7.3. Define commensalism and explain the various examples 7.4. Define parasitism and list examples of parasites of plants animals and man 7.5. Define saprophytism and list examples of saprophytes like fungi and bacteria, protozoon etc. 7.6. Explain the role of saprophytic bacteria in soil fertility 7.7 Define predation, Prey and predator 7.8. Define competition 7.9. Explain inter specific completion and intra-specific competition	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discuss</li> <li>Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>Lecture notes</li> <li>Pictures</li> <li>Charts</li> <li>Books</li> <li>Journals</li> <li>Computer</li> <li>Projector</li> <li>DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>Identify insanitary conditions</li> <li>Map out Community Sanitary conditions</li> </ul>	<ul style="list-style-type: none"> <li>Locate</li> <li>Guide</li> <li>Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>Projector</li> <li>Maps</li> <li>Charts</li> <li>GIS Kit</li> <li>Digital Camera</li> <li>A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>Assignment</li> <li>Class Test</li> <li>Presentation</li> <li>Examination</li> </ul>

7.10. Define scavenging 7.11. Explain the importance of scavengers in health etc.						
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>				
<b>COURSE TITLE: BIostatISTICS</b>				
<b>COURSE CODE: EHT 314</b>				
<b>DURATION: 2 HOURS</b>	Lecture: - 2	Tutorial: -	Practical: -	Total: 2
<b>CREDIT UNITS: 2</b>				
<b>GOAL:</b> The course is designed to provide the students with knowledge of biostatistics in health administration				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				

1.0 Know the fundamentals of Biostatistics. 2.0 Understand the interpretation and presentation of Health data using descriptive statistical tools. 3.0 Compute statistical tests. 4.0 Understand vital statistics.						
<b>GENERAL OBJECTIVE: 1.0 To know the fundamentals of Biostatistics.</b>						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Define Biostatistics.  1.2 Explain the sources of Biostatistics.  1.3 Describe the types of Biostatistics: <ul style="list-style-type: none"> <li>• Descriptive</li> <li>• Inferential</li> </ul> 1.4 Explain the uses of Biostatistics.	The teacher defines Biostatistics.  1.2 The teacher explains the sources of Biostatistics.  1.3 The teacher explains the uses of Biostatistics.	Books Journal Charts Pictures White marker Board.				The teacher ask questions after the lesson.
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
<b>GENERAL OBJECTIVE: 2.0 Understand the presentation of health data using descriptive statistical tools.</b>						
2.1 Compute and present health data using the following statistical tools.  a. Measures of central tendency b. Measures of variability	The teacher explains and compute the data while the students	White marker board. Books Charts				The teacher gives students assignment

c. Graphs, Charts and Tables	listen attentively.	Pictures Journals.				after the lesson.
<b>GENERAL OBJECTIVE: 3.0 Compute statistical tests relating to health services.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Compute Inferential statistical tests using- a) Measures of Association with linear correlation graph. b) Spearman's Rank Order Correlation. c) Pearson Correlation. d) Chi- Square test. e) Student T-test	The teacher explains how to compute the statistical test while the students listen.	White marker board, books, journals, charts, Pictures, Projector.				The teacher writes out questions for students to answer.
<b>GENERAL OBJECTIVE: 4.0 Understand vital statistics</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Define Vital statistics 4.2 Explain: i) Vital event ii) Rate iii) Ratio iv) Proportion 4.3 Discuss types of vital statistics • Morbidity statistics • Mortality statistics • Natality statistics • Nuptiality statistics • Migration statistics and • Environmental Sanitation-related statistics 4.4 Compute morbidity statistics such as incidence rate, attack rate, point prevalence	The teacher computes statistical tests while the students listen.	Pictures Charts Books Projector White marker board.				The teacher gives the students assignment to be submit during the next class.

<p>rate, relative risk rate.</p> <p>4.5 Compute morbidity statistics such as crude death rate, specified death rates, infant mortality.</p> <p>4.6 Calculate Nuptiality statistics such as marriage rate, child-woman ratio, divorce rates, sex ratio and dependency ratio.</p> <p>4.7 Compute Natality statistics like Birth rate, Fertility rate and rate of natural increase, population doubling time</p> <p>4.8 Compute migration statistics e.g immigration and emigration rates, net migration rate.</p> <p>4.9 Compute Environmental sanitation statistics like cheopis index, <i>Aedes-egypti</i> index, sanitation service coverage, occupancy ratio, per capita solid waste generation etc.</p>						
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>		
<b>COURSE: IMMUNOLOGY AND IMMUNIZATION</b>	<b>Course Code : 324</b>	<b>Contact Hours: 45</b>
<b>COURSE SPECIFICATION:</b>	<b>Theoretical Content:</b>	<b>Practical content:</b>
<b>GENERAL OBJECTIVE: 1.0 The student should be able to know the fundamental of Biostatistics.</b>		

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.3 Define Biostatistics. 1.4 Explain the sources of Biostatistics. 1.5 Explain the uses of Biostatics.	The teacher defines Biostatistics. 1.2 The teacher explains the sources of Biostatistics. 1.3 The teacher explains the uses of Biostatistics.	Books Journal Charts Pictures White marker Board.				The teacher ask questions after the lesson.
<b>GENERAL OBJECTIVE: 2.0 Understand the presentation of health data using descriptive statistics tool.</b>						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
2.1 Compute and present health data using the following statistical tools. d. Measure of central tendency e. Measure of variability f. Graphs	The teacher explains and compute the data while the students listen attentively.	White marker board. Books Charts Pictures Journals.				The teacher gives students assignment after the lesson.
<b>ENERAL OBJECTIVE:3.0 Compute statistical test relating to health services.</b>						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation

3.1 Compute statistics of inference test on health data using- a) Measure of association using linear correlation graph. b) Spearman Rank Order Correlation. c) Pearson Correlation. d) Chi- Square test.	The teacher explains how to compute the statistical test while the students listen.	White marker board, books, journals, charts, Pictures, Projector.				The teacher writes out questions for students to answer.
<b>GENERAL OBJECTIVE: 4.0 Understand vital statistics</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Explain: i) Vital events ii) Vita registration iii) Vital statistics iv) Rate v) Ratio vi) Proportional rate 4.2 Analyse types of vital statistics of vital statistics e.g., morbidity statistics, mortality statistics, natality statistics, Nuptiality statistics, migration statistics and sanitation related statistics. 4.3 Compute morbidity statistics such as incidence rate, attack rate, point prevalence rate, relative risk rate. 4.4 Compute morbidity statistics such as crude death rate, specified death rates, infant mortality. 4.5 Calculate Nuptiality statistics such as	The teacher computes statistical tests while the students listen.	Pictures Charts Books Projector White marker board.				The teacher gives the students assignment to be submit during the next class.

marriage, child-women, and divorce rates, man-woman and dependency ratio. 4.6 Compute Natality statistics like Birth rate, Fertility rate and rate of natural increase. 4.7 Compute migration statistics e.g. immigration and emigration rates. 4.8 Compute sanitation statistics like cheopis index, <i>aedes egypti</i> index, sanitation service coverage, occupancy ratio, per capita solid waste generation.						
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<b>COURSE TITLE: HEALTH ECONOMICS</b>						
<b>COURSE CODE: EHT 315</b>						
<b>DURATION:</b>	Lecture: - I hr	Tutorial: -	Practical: -	Total: 15 hrs		
<b>CREDIT UNITS: 1</b>						
<b>GOAL:</b> This course is designed to enable the student apply appropriate economics principles in the planning and administrating of environmental health services in the community.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Know the fundamental principles of environmental health economics. 2.0 Understand the basic economics concept and model in environmental health. 3.0 Know the concept of economic cost of health.						
<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE: HEALTH ECONOMIC:</b>		<b>Course code: 315</b>		<b>Contact Hours: 15</b>		
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
<b>GENERAL OBJECTIVE: 1.0 Know the fundamental principles of environmental health economics</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Define i. Economics ii. Economic goods and services iii. Economic wants iv. Opportunity cost v. Scarcity, demand and supply vi. Environmental health economics 1.2 Explain the following: i. National economic goals	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>		<ul style="list-style-type: none"><li>• Locate</li><li>• Guide</li><li>• Demonstrate</li></ul>	<ul style="list-style-type: none"><li>• Projector</li><li>• Charts</li></ul>	<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

ii. Role of consumer in the capitalist economy iii. Role of Government in economic system. iv. Budgetary procedures v. National income and distribution vi. Approaches to financial planning. vii. Consumer health viii. Environmental health policy and resource allocation ix. Politics of health care and environmental health services.						
<b>GENERAL OBJECTIVE: 2.0 Understand the basic economic concept and model in environmental health</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Discuss the determinants of health. 2.2 Explain the concept of private public sector mix in environmental health service delivery in Nigeria and its implications for delivery and cost. 2.3 Explain the basic concept of cost benefit and cost effectiveness analysis in environmental health. 2.4 Explain the basic concept of health insurance/social insurance. 2.5 Explain the impact of	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Charts</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<p>economic measures/changes in environmental health.</p> <p>2.6 Identify the constraints of environmental health financing in the country.</p> <p>2.7 Analyse the concept of health care financing.</p> <p>2.8 Explain the methods of mobilizing communities for self-financial and sustainable environmental health projects.</p> <p>2.9 Describe the concept of demand and supply in environmental health services.</p> <p>2.11 Describe the concept of privatization of environmental health services.</p>						
<b>GENERAL OBJECTIVE: 3.0 Know the concept of economic cost of health.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<p>3.1 Explain the concept of opportunity cost.</p> <p>3.2 Discuss the various determinants of health.</p> <p>3.3 Explain the factors that determine the value placed on health by various persons and groups.</p> <p>3.4 State the actual cost of health.</p>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Charts</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>



<b>PROGRAMME: HIGHER NATIONAL DIPLOMA</b>						
<b>COURSE TITLE: COMMUNICABLE AND NON COMMUNICABLE DISEASES</b>						
<b>COURSE CODE: EHT 316</b>						
<b>DURATION:</b>	Lecture: 2 HRS	Tutorial: -	Practical: 1 HR	Total: 45 HRS/SEMESTER		
<b>CREDIT UNITS: 3</b>						
<b>GOAL:</b> The course is designed to provide the students with the skill that will enable them prevent, control and manage communicable and non-communicable diseases						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Understand the communicable and non-communicable diseases. 2.0 Know the complications associated with non-communicable diseases. 3.0 Know the preventive and control measures of communicable and non-communicable diseases.						
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
<b>GENERAL OBJECTIVE: 1.0 Understand communicable and non-communicable diseases.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Explain communicable and non-communicable diseases. 1.2 List communicable and non-communicable diseases 1.3 Explain the causes of communicable and non-communicable diseases.	Discussion Explanation Brainstorming	Reference Books Marker board Charts Projector	1.1 Carry out field experience at health facilities/communities to identify signs and symptoms of communicable and non-communicable diseases.  1.2 Identify different emerging and re-emerging diseases.	Assignment		Tests Assignment Examinations

<b>COURSE SPECIFICATION:</b>						
<b>Theoretical Content:</b>			<b>Practical Content:</b>			
<b>GENERAL OBJECTIVE: 2.0 Know the complications associated with communicable and non-communicable diseases.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Explain the complication associated with communicable and non-communicable diseases e.g. <ul style="list-style-type: none"><li>• Social inequity</li><li>• Increased poverty rates due to high treatment costs</li><li>• diabetic nephropathy from diabetes</li><li>• Airways/CNS measles complications</li><li>• Loss to GDP etc.</li></ul> 2.2 State the environmental factors that dispose/promote communicable and non-communicable diseases.	Explanation Brainstorming Discussion	Reference Books Journals Pictures				Tests Assignment Examinations
<b>COURSE SPECIFICATION:</b>						
<b>Theoretical Content:</b>			<b>Practical Content:</b>			
<b>GENERAL OBJECTIVE: 3.0 Know the methods for prevention and control of communicable and non-communicable diseases.</b>						
<b>Specific Learning</b>	<b>Teachers</b>	<b>Learning</b>	<b>Specific Learning Objectives</b>	<b>Teachers</b>	<b>Learning</b>	<b>Evaluation</b>

Objectives	Activities	Resources		Activities	Resources	
3.1 State preventive and control measures of communicable and non-communicable diseases. 3.2 Identify various factors responsible for establishment and progression of communicable and non-communicable diseases. 3.3 State international convention on the control of communicable and non-communicable diseases.	Explanation Lectures	Books Journals Marker board	3.1 Identify International organization and NGO’s involved in rehabilitation of people with chronic diseases.	Assignment		Tests Assignment Examinations
<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: ENVIRONMETAL SANITATION</b>						
<b>COURSE CODE: EHT 317</b>						
<b>DURATION:</b> 3 Hours	Lecture: - 2	Tutorial: -	Practical: - 1	Total: 3 (45)		
<b>CREDIT UNITS:</b> 3 C U						
<b>GOAL: The course is designed to equip students with knowledge and skills on appropriate methods of improving Environmental Sanitation Standards</b>						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1. 0 Know the Policy, Legal and Institutional framework for Environmental sanitation 2.0 Know the relationship between insanitary conditions and diseases causation 3.0 Understand the measures that improve sanitation in communities. 4.0 Understand the sanitary requirements in market places and temporary settlements. 5. 0 Know the various methods of Disposal of the Dead.						

- 6.0 Understand the effects of improper Disposal of the Dead in the environment.  
7.0 Understand the procedure of removal of corpse from the street and immediate surroundings

**General Objective 1.0:** Know the Policy and Institutional framework for Environmental sanitation

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Define Environmental Sanitation 1.2 Explain the constitutional provisions on Environmental sanitation 1.3 Describe the roles of the three tiers of Government in Environmental sanitation 1.4 Outline the components of Environmental Sanitation as given in the National Environmental Sanitation Policy 1.5 Discuss the components listed in 1.4	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

1.6 Recognize the impact of the components listed in 1.1 on human health						
1.7 Explore factors responsible for poor Environmental sanitation						
1.8 Discuss Environmental Sanitation Laws						
<b>General Objective 2.0:</b> Know the relationship between insanitary conditions and diseases causation						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
2.1 Define the following terms i. Basic Sanitation ii. Disease prevalence 2.2 Explain insanitary conditions e.g. <ul style="list-style-type: none"> <li>Poor housing</li> <li>Rodent infestations,</li> <li>Poor food hygiene practices</li> </ul>	Teacher guide students to arrive at correct definition	Lectures Pictures Charts Books Journals	Identify insanitary conditions e.g. poor housing, rodent infestations, poor food hygiene, absence of water supply, lack of or inadequate waste disposal system, lack of or inadequate		Projector Video/Audio devices Models	Assignments, Ask students to work in group to access internet to identify the recent countries/States affected by any epidemic or where a particular disease is endemic and report in the next class.

<ul style="list-style-type: none"> <li>• Absence of water supply source</li> <li>• Lack of or inadequate waste disposal facilities</li> <li>• Lack of or inadequate human excreta disposal facilities.</li> </ul> <p>2.3 Classify various diseases associated with insanitary conditions e.g.</p> <ul style="list-style-type: none"> <li>▪ Vector related</li> <li>▪ Water related</li> <li>▪ Food related</li> <li>• Air borne</li> </ul>			human excreta disposal facilities			
<b>General Objective 3.0:</b> Understand the measures that improve sanitation in communities.						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<p>3.1 Interpret survey layout of an existing area</p> <p>3.2 Explain measures of improving housing conditions</p> <p>3.3 Explain appropriate waste</p>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> </ul>	<ul style="list-style-type: none"> <li>• Interpret Survey layout</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

disposal methods for a community 3.4 Plan Sanitary conveniences for temporary and permanent communities 3.5 Design Protection measures for local sources of water supply 3.6 Discuss Anti-pest control measures in the community		<ul style="list-style-type: none"> <li>• DVD/Multimedia Player</li> <li>• Building /Laws/Code</li> </ul>			<ul style="list-style-type: none"> <li>• Town Planning Order</li> </ul>	
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**GENERAL OBJECTIVE 4.0:** Understand the sanitary requirements in market places and temporary settlements.

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
4.1 Explain the essential facilities, resources and conditions required for proper sanitation of markets and temporary settlements e.g. <ul style="list-style-type: none"> <li>• Adequate superstructures</li> <li>• Adequate open spaces/road network</li> <li>• Adequate water supply</li> </ul>	Teacher uses the lecture notes guide for students to identify facilities and their features of proper sanitation in all identified facilities.	Lectures Pictures Charts Books Journals	Identify insanitary conditions in 5.2 above		Charts Models	Students to debate on why some people default, causes of default, resource available to manage default in sanitation.

<ul style="list-style-type: none"> <li>• Appropriate cleaning materials</li> <li>• Trained personnel</li> <li>• Effective collaboration and communication</li> <li>• HSE Plan etc.</li> </ul> <p>4.2 Outline insanitary conditions in 4.1</p> <p>4.3 Discuss preventive and control measures of the insanitary conditions identified in 4.2</p>						
<b>GENERAL OBJECTIVE 5.0: Know the various methods of disposal of the dead</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<p>5.1 Define the following:</p> <ul style="list-style-type: none"> <li>• Disposal of the dead</li> <li>• Corpse</li> <li>• Grave yard</li> <li>• Cemetery</li> <li>• Pauper</li> <li>• Coroner</li> <li>• Crematorium</li> <li>• Mortuary</li> <li>• Undertaker</li> </ul> <p>5.2 Discuss the terms listed in 5.1</p> <p>5.3 Describe the</p>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<p>5.1 List example(s) of what obtains in your community.</p>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Sketch</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<p>following:</p> <ul style="list-style-type: none"> <li>• Sanitary burial</li> <li>• Insanitary burial</li> <li>• Mass burial</li> <li>• Re-burial</li> <li>• Cremation</li> <li>• Embalmmment</li> <li>• Exhumation</li> </ul> <p>5.4 List materials needed for burial in each of the classes listed in 5.3</p> <p>5.5 Explain the procedure of Transporting Corpse (Local or International).</p> <p>5.6 Explain the procedure of disposal of an unidentified corpse</p> <p>5.7 State the procedure for obtaining Death certificate</p> <p>5.8 Highlight the futures of a Death certificate</p> <p>5.9 Discuss factors affecting burial</p> <ul style="list-style-type: none"> <li>• Socio-cultural</li> <li>• Economic</li> <li>• Religious</li> <li>• Legal</li> </ul> <p>5.10 Discuss Laws dealing with burial of the</p>						
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dead. 5.11 Explain <ul style="list-style-type: none"> <li>• Disinfection and</li> <li>• Surveillance</li> </ul> 5.12 Discuss embalmmment						
<b>GENERAL OBJECTIVE 6.0: Understand the effects of improper disposal of the dead on the environment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
6. 1 Outline nuisances likely to occur from improper burial 6.2 Discuss the nuisances outlined in 6.1 6.3 Explain underground pollution in insanitary burial 6.4 Discuss the health implications of disposal of the dead 6.5 Enumerate communicable diseases associated with insanitary disposal of the dead 6.6 Explain disinfection, surveillance and immunization in relation to 6.3 above.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>• Describe underground seepage across the Earth's layers</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Sketch</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>GENERAL OBJECTIVE 7.0: Understand the procedure of removal of corpse from the street and immediate surroundings</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

<p>7.1. Define the term Pauper.</p> <p>7.2 Differentiate between a pauper and normal corpse.</p> <p>7.3 Discuss the reasons that bring about Pauper:</p> <ul style="list-style-type: none"> <li>• War</li> <li>• Civil conflict</li> <li>• Road Accident</li> <li>• Natural Disaster e.g. Disease outbreak, Famine etc.</li> <li>• Lunacy</li> </ul> <p>7.4 List the operational apparatus for removal of corpse(s)</p> <p>7.5 Explain the procedures of Corpse removal</p> <p>7.6 List the operational apparatus for removal of corpse</p> <p>7.7 Explain the functions of the following in the removal of corpse:</p> <ul style="list-style-type: none"> <li>• Religious leaders</li> <li>• Medical Director</li> <li>• Security Agents</li> <li>• Social Welfare Official</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the removal of corpse</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Sketch</li> <li>• Digital Camera</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
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<ul style="list-style-type: none"><li>• Environmental Health Officer</li></ul> <p>7.7 Explain the role of Environmental Health Officer in mass burial</p>						
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: WASTE MANAGEMENT II</b>						
<b>COURSE CODE: EHT 318</b>						
<b>DURATION:</b> 2hours/week	Lecture: - 2	Tutorial: -	Practical: - 1	Total: 45hrs/Semester		
<b>CREDIT UNITS: 3CU</b>						
<b>GOAL:</b> This course is designed to provide the student with the knowledge and skills for effective solid waste management						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Understand solid waste management						
2.0 Know the health implications of poor solid waste management						
3.0 Understand the process of collection and storage of solid waste						
4.0 Understand sanitary methods of transporting solid waste						
5.0 Know solid waste disposal methods						
6.0 Understand the concept of waste-to-wealth						
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content</b>		<b>Practical Content</b>		
<b>GENERAL OBJECTIVE 1:</b> 0 Understand the concept of solid waste management						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

1.1. Define: <ul style="list-style-type: none"> <li>• Solid waste, and</li> <li>• Solid waste management</li> </ul> 1.2. Identify sources of solid wastes e.g. domestic, agricultural, municipal, industrial etc. 1.3. Classify solid waste into <ul style="list-style-type: none"> <li>• Combustible</li> <li>• Non-combustible</li> <li>• Hazardous</li> <li>• Non-hazardous</li> <li>• Bio degradable</li> <li>• Non-biodegradable.</li> </ul> 1.4. Describe characteristics of solid waste in each classification in 1.3 1.5 Discuss: <ul style="list-style-type: none"> <li>• Waste minimization</li> <li>• Inventorization</li> <li>• Characterization</li> <li>• Segregation</li> </ul> 1.6 Explain Waste management hierarchy. <ul style="list-style-type: none"> <li>• Reject</li> <li>• Reduce</li> <li>• Reuse</li> <li>• Recycle</li> </ul> 1.7 Analyze the National Policy Guidelines on Solid Waste Management	The teacher explain various definition of solid waste with examples	Pictures, Charts, Books, Journals	1.1 carryout visit to waste management and disposal site 1.2 Identify each classification of waste	Lead the students to waste management and disposal site.	Waste disposal site, camera, video recorder, Jotter etc.	Continuous Assessment, Class test, Assignment, Quiz, Examination
<b>GENERAL OBJECTIVE 2:0</b> Know the health implications of poor solid waste management						

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
2.1. List diseases associated with poor solid waste management 2.2 Explain hazards associated with poor solid waste management 2.3. Discuss the effects of poor solid waste management on physical, biological and aquatic environments 2.4 Discuss measures to be taken to mitigate negative impact of solid waste	The teacher states and explain various health implication of poor solid waste management	Pictures Charts Books Journals	2.1 Assess waste collection and storage and report			Continuous Assessment, Class test, Assignment, Quiz, Examination
<b>GENERAL OBJECTIVE 3:0</b> Understand the process of collection and storage of solid waste						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
3.1.Explain the stages of solid waste collection and storage – Primary, Secondary, Tertiary 3.2 Discuss materials and equipment used for collection and storage of solid waste, viz: <ul style="list-style-type: none"> <li>Primary collection/storage – Nylon bag, mini waste bin, pedal bin etc.</li> <li>Secondary collection/storage – Waste receptacle – Plastic and metallic of various sizes etc.</li> <li>Tertiary collection/storage – Transfer station, Dinosaur bin, Compactor etc.</li> </ul>	The teacher describe methods of collection and storage of solid waste at source	Lectures Pictures Charts Books Journals	3.1 Draw standard dustbin to specification 3.2 Demonstrate how to use and maintain sanitary dustbin 3.3 Estimate quantity of solid waste 3.4. Design a standard refuse treatment device e.g. incinerator	Bring models of sanitary dustbin to the class and demonstrate how to use and maintain them		Continuous Assessment, Class test, Assignment, Quiz, Examination

3.3 Describe procedure of waste collection/storage in different settings e.g. homes, schools, hospitals, factories etc. 3.4 Estimate quantity of solid waste generated in each settings in 3.3 above. 3.5 Determine the quantity and type of equipment and materials needed for solid waste collection/storage 3.6 Explain Waste Segregation						
<b>GENERAL OBJECTIVE 4:0 Understand sanitary methods of transporting solid waste</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Describe the process of solid waste transportation 4.2. List various means/equipment of solid waste transportation 4.3. Describe the features of a sanitary solid waste transportation system 4.4. List nuisances associated with insanitary transportation of solid wastes	The teacher explain means of solid waste transportation	Projector, Text Books, Internet, Lecture notes, Charts, Pictures	4.1 Conduct visit to waste management authority to observe various vehicle and equipment used in transportation of waste 4.2 carry out inspection of transport means for solid waste disposal	The teacher should lead the student during the field trip.	Waste transportation means, camera, video recorder, Jotter etc.	Continuous Assessment, Class test, Assignment, Quiz, Examination
<b>GENERAL OBJECTIVE 5:0 Know solid waste disposal methods</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

5.1 List methods of solid waste disposal e.g. sanitary landfilling, controlled tipping, incineration, composting etc. 5.2. Describe each method listed in 5.1 5.3. Enumerate the merits and demerits of each of the method. 5.4 Explain home composting as a means of manure production in support of farming 5.5 Discuss the factors to be considered in selecting any of the methods in 5.1	The teacher describe methods of solid waste disposal e.g. sanitary landfill or controlled tipping, incineration, composting etc.	Charts Pictures Models	5.1 Carryout visit to Landfill site, incineration and composting site. 5.2 Carryout practical composting process	The teacher leads the students to the sites and supervise the composting process in the school demonstration ground		Continuous Assessment, Class test, Assignment, Quiz, Examination
<b>GENERAL OBJECTIVE 6:0 Understand the concept of waste-to-wealth</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
6.1. Explain the concept of waste –to-wealth 6.2 Discuss Waste Material Recovery 6.3 Explain Waste to Energy 6.4 Describe the process of Manure making 6.5 Discuss Organic fertilizer production solid waste 6.6 Explain the process of bio-gas generation 6.7 Enumerate materials/artifacts that can be made from waste materials e.g. Home decoration, furniture	The teacher explain waste minimization, describe the handling stages in waste minimization e.g. Inventorization - Characterization - Segregation	Projector, Text Books, Internet, Lecture notes, Charts, Pictures	6.1 Carryout inspection to Identify the practice of waste segregation from source in the class  6.2 Carryout process of bio-gas generation using biodegradable waste	The teacher leads the team  the process of bio-gas generation using biodegradable waste	Biogas site, Biodegradable waste, Camera, video recorder	Continuous Assessment, Class test,

etc.						Assignment, Quiz, Examination
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA</b>				
<b>COURSE TITLE: PUBLIC HEALTH PEST MANAGEMENT II</b>				
<b>COURSE CODE: EHT 320</b>				
<b>DURATION:</b>	Lecture: 2 HRS	Tutorial: -	Practical: -1 HR	Total: 45HRS/SEMESTER
<b>CREDIT UNITS: 3</b>				
<b>GOAL:</b> This course is designed to provide the student with knowledge and skills for pest management and safety measures in application of pesticides.				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1.0 Know various pests of public health importance. 2.0 Know the diseases and conditions transmitted by pests. 3.0 Describe various methods of pest management. 4.0 Know pesticides of public health importance. 5.0 Understand different methods of pesticides application.				

6.0	Know how to operate and maintain pest control equipment					
7.0	Know the precautionary/safety measures in pesticides handling					
8.0	Understand Conventions on Chemical/Pesticide Safety and Management					
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
<b>GENERAL OBJECTIVE:1.0 Know the various pests of public health importance</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Define pests 1.2 Enumerate various pests in these Groups: <ul style="list-style-type: none"><li>• Arthropods</li><li>• Nematodes</li><li>• Gastropods</li><li>• Amphibian</li><li>• Mammal</li><li>• Tree/Forest</li><li>• Ectoparasite</li><li>• Weeds/Plant diseases</li></ul> 1.3 Describe the life cycle of pests in 1.2.	Discussion Brainstorming	Charts Books Journals Leaflets				Tests Examinations
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
<b>GENERAL OBJECTIVE: 2.0 Know the diseases and conditions transmitted by pests</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Enumerate diseases/ill health transmissible by pests e.g. <ul style="list-style-type: none"><li>• Ebola Virus Disease</li><li>• Yellow fever</li><li>• Malaria</li><li>• River blindness</li></ul>	Explanation Discussion	Reference Books Journals Projectors				Tests Examinations

<ul style="list-style-type: none"><li>• Plaque</li><li>• Filariasis</li><li>• Trypanosomiasis</li><li>• Lassa fever</li><li>• Stings</li><li>• Bites etc.</li></ul> <p>2.2 Describe the modes by which pests transmit diseases:</p> <ul style="list-style-type: none"><li>• Physical</li><li>• Mechanical and</li><li>• Biological</li></ul>						
<b>COURSE SPECIFICATION:</b>						
<b>Theoretical Content:</b>			<b>Practical Content:</b>			
<b>GENERAL OBJECTIVE: 3.0 Describe various methods of pest management</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Define Pest management 3.2 Describe: <ul style="list-style-type: none"><li>• Physical control</li><li>• Mechanical control</li><li>• Environmental or ecological control</li><li>• Biological control</li><li>• Sterile Insect Techniques</li></ul> 3.2 Explain the principles of pest management: <ul style="list-style-type: none"><li>• Exclusion</li><li>• Eradication</li><li>• Avoidance</li><li>• Protection</li><li>• Resistance</li><li>• Therapy or treatment.</li></ul>	Explanation	Reference Books Charts Journals				Tests Assignments Examinations

[illegible]

<ul style="list-style-type: none"><li>• Nervous poison</li><li>• Residual action</li><li>• Stomach poison</li><li>• Knock down poison</li></ul>						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 5.0 Understand different methods of pesticides application</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1 Describe different methods of pesticide application e.g: <ul style="list-style-type: none"><li>• Spraying<ul style="list-style-type: none"><li>▪ Ground spraying</li><li>▪ Boom spraying</li><li>▪ Aerial spraying</li></ul></li><li>• Dusting</li><li>• Fogging</li><li>• Fumigation</li><li>• Incorporated.</li></ul> 5.2 Describe procedures of pesticide application in the house hold5.3 Discuss procedure of pesticide application in <ul style="list-style-type: none"><li>▪ Livestock</li><li>▪ Plants</li><li>▪ Storage of Grains and other Agricultural produce</li></ul>	Explanation Lecture Discussion	Reference Books Journals Board marker				Tests Assignments Examinations
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 6.0 Know how to operate and maintain pest control equipment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

6.1 Describe various pest control equipment: <ul style="list-style-type: none"><li>• Knapsack sprayer</li><li>• Boom sprayer</li><li>• Fog machine</li><li>• Hand gun</li><li>• Aerial sprayer</li><li>• Pressure sprayer</li><li>• Motorized sprayer etc</li></ul> 6.2 Explain the use of various pest control equipment under the following categories: <ul style="list-style-type: none"><li>• Sprayer</li><li>• Duster</li><li>• Granule Spreader/broadcaster</li><li>• Fogging equipment</li><li>• Foamer etc.</li></ul> 6.3 Enumerate factors to consider in selecting an equipment for use in pesticide application6.4 Identify ways of equipment mishandling6.5 Explain proper equipment storage after use6.6 Discuss equipment calibration6.7 Explain the DIY concept6.8 Discuss precautionary measures in equipment handling	Explanation Discussion	Reference Books Journals Flip charts Marker board etc	6.1 Identify various pest control equipment (sprayers) <ul style="list-style-type: none"><li>- Knapsack sprayer</li><li>- Motorized sprayer</li><li>- Dusters etc</li></ul> 6.2 Demonstrate with any of the equipment mentioned in 6.16.2 Compare various types of nozzle for application.	Assignments		Tests Assignments Examinations
<b>COURSE SPECIFICATION:</b>						
<b>Theoretical Content:</b>			<b>Practical Content:</b>			
<b>GENERAL OBJECTIVE: 7.0 Know the precautionary measures in pesticides handling</b>						

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
7.1 Describe the term Precaution 7.2 Discuss potential hazards in the application of pesticides in the home, Agricultural and Industrial setting, food preparing and preservation areas 7.3 Describe the Universal precautions to be taken in the handling of pesticides in the premises discussed in 7.2 7.4 Explain the importance of reading the manufacturer's instructions on pesticide label 7.5 Discuss Operator Safety Equipment 7.6 Explain spraying inefficiencies <ul style="list-style-type: none"> <li>• Pesticide deposition (wet &amp; dry)</li> <li>• Spray drift</li> <li>• Pesticide evaporation</li> <li>• Pesticide precipitation</li> <li>• Pesticide leaching</li> <li>• Point source contamination etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	7.1 Identify personal protective equipment (PPE) necessary for pest control measures.  7.2 List banned chemicals covered under the Stockton convention.	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE 8: Understand Conventions on Chemical/Pesticide Safety and Management</b>						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
8.1 Outline International conventions on pesticides and chemical safety and management e.g. Basel and Rotterdam Conventions	Lectures Explanation Discussion	Reference Books Journals Marker board		Assignments		Assignments Tests Examinations

8.2 State measures that can be taken to control and eliminate stockpile of obsolete pesticides 8.3 State the importance of chemical safety management to the environment and human health 8.4 Outline national regulations and laws on pesticide and chemical safety 8.5 Discuss the Laws and Regulations listed in 8.4		Flip charts etc.				
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**HND 1 SECOND SEMESTER COURSES**

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA</b>				
<b>COURSE TITLE: ENVIRONMENTAL POLLUTION AND CONTROL</b>				
<b>COURSE CODE: EHT 321</b>				
<b>DURATION:</b>	Lecture: 2 HOUR	Tutorial: -	Practical: - 1 HOUR	Total: 45
<b>CREDIT UNITS: 3</b>				
<b>GOAL:</b> The course is designed to provide the students with knowledge and skills to prevent and control pollution in our environment.				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1.0 Understand the concept and causes of Environmental Pollution. 2.0 Know the effect of pollution on the environment 3.0 Evaluate measures for prevention of environmental pollution in a community. 4.0 Understand the general principles of pollution control. 5.0 Understand various methods of pollution control.				

PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY						
COURSE: ENVIRONMENTAL POLLUTION AND CONTROL			Course Code: 321		Practical Content: 45	
COURSE SPECIFICATION:		Theoretical Content:		Practical Content:		
GENERAL OBJECTIVE:1.0 Understand the concept and causes of environmental pollution						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Define environmental pollution. 1.2 State major categories of environmental pollution. <ul style="list-style-type: none"><li>• Water Pollution</li><li>• Air Pollution</li><li>• Soil Pollution</li><li>• Noise Pollution</li></ul> 1.3 Discuss the sources of pollution. <ul style="list-style-type: none"><li>• Anthropogenic sources<ul style="list-style-type: none"><li>- Cyclones</li><li>- Hurricanes</li><li>- Wildfires</li><li>- Volcanoes</li><li>- Earthquakes etc.</li></ul></li><li>• Human activities<ul style="list-style-type: none"><li>- Agriculture</li><li>- Mining</li><li>- Urban Development</li><li>- Industrialization</li><li>- Warfare etc.</li></ul></li></ul> 1.4 Describe the factors that influence pollution	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>	1.3 Analyze sources of Pollution and polluted environments	<ul style="list-style-type: none"><li>• Organize Field trips to:<ul style="list-style-type: none"><li>- Mining sites</li><li>- Construction sites</li><li>- Industrial plants</li><li>- Weather stations etc.</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Projector</li><li>• Maps</li><li>• Charts</li><li>• GIS Kit</li><li>• Digital Camera</li><li>• A4 Paper</li></ul>	<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

<ul style="list-style-type: none"> <li>• Technological</li> <li>• Economic</li> <li>• Social</li> <li>• Natural</li> </ul> <p>1.5 Explain Environmental pollutants e.g.</p> <ul style="list-style-type: none"> <li>• Simple biodegradable pollutants</li> <li>• Complex biodegradable pollutants</li> <li>• Non-degradable pollutants</li> <li>• Physical agent pollutants (noise, thermal, radioactive etc.)</li> </ul> <p>1.6 Discuss Sources of Pollution according to location</p> <ul style="list-style-type: none"> <li>• Point Source</li> <li>• Non-point Source</li> </ul>						
<b>GENERAL OBJECTIVE: 2.0 Know the effects of pollution on the environment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<p>2.1 Discuss the harmful effect of pollution on:</p> <ul style="list-style-type: none"> <li>• Physical Environment</li> <li>• Biological Environment                             <ul style="list-style-type: none"> <li>• Vegetation</li> <li>• Animal</li> <li>• Water and aquatic lives</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia</li> </ul>	<p>2.1 Analyze some Environmental media to determine their condition</p>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• Media samplers</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<ul style="list-style-type: none"> <li>• Health of man</li> <li>• Social and cultural Environment</li> </ul> <p>2.2 Discuss effects of pollutants on human health:</p> <ul style="list-style-type: none"> <li>• Heavy metals</li> <li>• Solvents e.g. toluene, xylene, benzene etc.</li> <li>• Acids</li> <li>• Alkalis</li> <li>• Organophosphorous compounds etc.</li> </ul> <p>2.3 Explain Toxicity according to target Organs:</p> <ul style="list-style-type: none"> <li>• Liver</li> <li>• Lungs</li> <li>• Heart</li> <li>• Kidney</li> <li>• Skin</li> <li>• Blood</li> <li>• Nervous system</li> <li>• Reproductive tract</li> </ul>		Player				
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<b>GENERAL OBJECTIVE: 3.0 Evaluate measures for prevention of pollution in a community</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Discuss Pollution prevention strategies: <ul style="list-style-type: none"> <li>• Environmental monitoring</li> <li>• Emission controls in industry</li> <li>• Promotion of clean, renewable energy sources</li> <li>• Effective Solid Waste Management System</li> <li>• Effective Sewerage System</li> <li>• Enforcement of Regulations and Standards</li> <li>• Research and Development</li> </ul> 3.2 Discuss Environmental awareness and education 3.3 Explain Stakeholder engagement 3.4 Discuss hierarchy of Pollution	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	3.1 Operate equipment and devices for environmental monitoring and pollution control.	<ul style="list-style-type: none"> <li>• Show</li> <li>• Guide</li> <li>• Demonstrate</li> <li>• Calibrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Gas monitors</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

control in Nigeria						
3.5 Discuss relevant Legislations in Pollution control						
3.7 Discuss enhancement of industrial Processes						
<b>GENERAL OBJECTIVE: 4.0 Understand the general principles of pollution control</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Explain the term Principle 4.2 State the Principles of Pollution Control viz: <ul style="list-style-type: none"> <li>• Polluter pays principle</li> <li>• Precautionary principle</li> <li>• Principle of duty of care</li> <li>• Principle of Cradle to Grave</li> <li>• Principle of discharge/emission permit</li> <li>• Principle of sustainable development</li> <li>• Principle of the right to know</li> </ul> 4.3 Discuss the Principles in 4.2 4.4 Explain the rationale behind adoption of the Principles	Lecture Explanation	Reference Books Journal	4.1 Identify equipment and techniques for environmental pollution control.	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> </ul>	Test Assignment Examination
	Explanation and discussion	Reference Books Lecture Charts				
<b>GENERAL OBJECTIVE: 5.0 Understand various methods of pollution control</b>						

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
5.1 Discuss proper use of raw materials 5.2 Outline features of site location for industries 5.3 Explain the use of modern technologies to reduce emissions 5.4 Explain the process of: <ul style="list-style-type: none"> <li>Activated carbon</li> <li>Biofiltration</li> <li>Biomonitoring of waters</li> <li>Flue gas desulphurization (FGD) monitoring</li> <li>Bioremediation</li> </ul> 5.5 Explain Environmental Management Plan 5.6 Discuss Town Planning in relation to Pollution control 5.7 Explain Enforcement mechanisms in pollution control 5.8 Explain the relevance of Public awareness in pollution control 5.9 Describe the following methods of pollutant control:	Explanation Discussion	Reference Books Journals Projectors Marker board	5.1 Identify establishment and use of appropriate technologies and devices like air sampler, GIS, remote sensing for pollution detection, environmental monitoring lab etc.	<ul style="list-style-type: none"> <li>Locate</li> <li>Guide</li> <li>Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>Projector</li> <li>Maps</li> <li>Charts</li> <li>GIS Kit</li> <li>Digital Camera</li> <li>A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>Assignment</li> <li>Class Test</li> <li>Presentation</li> <li>Examination</li> </ul>

<ul style="list-style-type: none"><li>• Source curtailment</li><li>• Recycling</li><li>• Restriction</li><li>• Regulation</li><li>• Development of new technology</li><li>• Replacement</li><li>• Institutionalization</li></ul>						
<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: WASTE MANAGEMENT III (SEWAGE AND WASTE WATER)</b>						
<b>COURSE CODE: EHT 322</b>						
<b>DURATION:</b> 2hours/week	Lecture: - 2	Tutorial: -	Practical: - 1	Total: 45hrs/semester		
<b>CREDIT UNITS: 3CU</b>						
<b>GOAL:</b> This course is designed to equip the student with the knowledge and skills on how to manage sewage and waste water in the environment						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Understand the concepts of sewage and waste water management. 2.0 Know sources of waste water and its characteristics 3.0 Understand health effects of sewage and waste water 4.0 Know the methods of sewage and waste water disposal. 5.0 Understand the principles of sewerage system design and management						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content</b> <b>Practical Content</b>						
<b>GENERAL OBJECTIVE 1:</b> Understand the concepts of sewage and waste water management						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Define <ul style="list-style-type: none"><li>• Sewage</li><li>• Sewer</li></ul>		Projector, Text Books, Lecture	1.1 Carryout field to identify various sources of waste water	<ul style="list-style-type: none"><li>• Locate</li><li>• Guide</li><li>• Demons</li></ul>	<ul style="list-style-type: none"><li>• Projector</li><li>• Maps</li><li>• Charts</li></ul>	<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li></ul>

<ul style="list-style-type: none"> <li>• Sewerage</li> <li>• Sullage</li> <li>• Sludge</li> <li>• Effluent</li> <li>• Sewerage system</li> <li>• Waste water</li> </ul> <p>1.2 Discuss the Characteristics of Waste water</p> <p>1.3 Classify Waste water into:</p> <ul style="list-style-type: none"> <li>• Grey Water</li> <li>• Black Water</li> <li>• Yellow water</li> </ul> <p>1.4 Classify waste water into the following:</p> <ul style="list-style-type: none"> <li>• Domestic waste water</li> <li>• Industrial or trade waste water</li> <li>• Storm or runoff water</li> </ul> <p>1.5 List sources of waste water</p> <p>1.6 Explain the principles of sewage and waste water treatment</p> <p>1.7 Explain the principles of efficient disposal of sewage &amp; waste water</p>		notes, Charts, Pictures etc.		trate	<ul style="list-style-type: none"> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>GENERAL OBJECTIVE 2: Know sources, type, and characteristics of waste water</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<p>2.1 List sources of waste water</p> <p>2.2 Describe types of waste water common in our communities</p> <p>2.3 Explain the characteristics of waste water</p> <ul style="list-style-type: none"> <li>• Turbidity</li> <li>• PH</li> </ul>		Projector, Text Books, Lecture notes, Charts, Pictures etc.	2.1 Carryout field to identify various sources of waste water	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<ul style="list-style-type: none"> <li>• Temperature</li> <li>• Suspended solids</li> <li>• COD</li> <li>• BOD<sub>5</sub> etc.</li> </ul>						
<b>GENERAL OBJECTIVE 3: Understand the health effects of sewage and waste water</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 List possible chemical, biological and physical substances in sewage and waste water e.g. <ul style="list-style-type: none"> <li>• Grit</li> <li>• Organic matter</li> <li>• Pathogens</li> <li>• Sludge</li> <li>• Colours</li> <li>• Dissolved Solids</li> <li>• Suspended Solids               <ul style="list-style-type: none"> <li>• Settleable/Non settleable</li> <li>• Volatile/Fixed</li> </ul> </li> <li>• Heavy metals etc.</li> </ul> 3.2 Explain health effects of sewage and waste water <ul style="list-style-type: none"> <li>• Nausea</li> <li>• Enteric fevers</li> <li>• Diarrheal diseases</li> <li>• Skin infections</li> <li>• Delicate Organs' Disorders etc.</li> </ul> 3.3 Discuss how the effects itemized in 3.2 can be controlled <ul style="list-style-type: none"> <li>• Proper sewage collection and disposal</li> <li>• Impact mitigation measures</li> </ul>		Lecture note, Pictures, Charts, Text-Books, Journals etc.	3.1 Carryout field visit to identify environmental impact of waste water	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<ul style="list-style-type: none"> <li>• Effective communication</li> <li>• Use of PPE etc.</li> </ul>						
<b>GENERAL OBJECTIVE 4: Know methods of sewage and waste water treatment and disposal</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Define Waste water treatment 4.2 Discuss Sewage treatment process <ul style="list-style-type: none"> <li>• Physical</li> <li>• Chemical</li> <li>• Biological</li> </ul> 4.3 Classify Waste water treatment into: <ul style="list-style-type: none"> <li>• Primary</li> <li>• Secondary</li> <li>• Tertiary</li> </ul> 4.4 Describe waste water treatment technologies <ul style="list-style-type: none"> <li>• Activated sludge systems</li> <li>• Oxidation pond/lagoon systems</li> <li>• Digestion systems</li> <li>• Wetland systems etc.</li> </ul> 4.5 Describe Sludge treatment processes <ul style="list-style-type: none"> <li>• Thickening</li> <li>• Digestion</li> <li>• Dewatering</li> </ul> 4.6 Describe methods of house-hold sewage disposal systems under the following: <ul style="list-style-type: none"> <li>• Water-dependent:               <ul style="list-style-type: none"> <li>– Water closet</li> <li>– Aqua privy</li> <li>– Pour flush</li> </ul> </li> </ul>		Projector, Text Books, Lecture notes, Charts, Pictures etc.	4.1 carryout field visit to identify water borne sewage disposal methods 4.2. Design chemical closet , Activated sludge and oxidation ditch.	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<ul style="list-style-type: none"> <li>Water Independent: <ul style="list-style-type: none"> <li>VIP latrine</li> <li>Pit latrine</li> <li>Chemical closet</li> <li>Trench latrine</li> <li>SanPlat Latrine</li> <li>Ecological Sanitation etc.</li> </ul> </li> </ul>						
4.7 Outline Organisms active in Waste water treatment <ul style="list-style-type: none"> <li>Annelids</li> <li>Rotifers</li> <li>Macrophytes</li> <li>Protozoa</li> <li>Insects</li> </ul>						
4.8 Outline pollutants in Waste waters <ul style="list-style-type: none"> <li>Metals</li> <li>Solids</li> <li>Nutrients</li> <li>Pathogens</li> </ul>						
4.9 Enumerate major sources of Industrial effluents <ul style="list-style-type: none"> <li>Food processing industry</li> <li>Abattoir</li> <li>Chemical processing plants</li> <li>Mines/Quarry</li> <li>Iron &amp; Steel</li> <li>Textiles</li> <li>Nuclear plants etc.</li> </ul>						
<b>GENERAL OBJECTIVE 5: Understand the principles of Sewerage system design and management</b>						
<b>Specific Learning Objectives</b>	<b>Teachers</b>	<b>Learning</b>	<b>Specific Learning</b>	<b>Teachers</b>	<b>Learning</b>	<b>Evaluation</b>

	Activities	Resources	Objectives	Activities	Resources	
5.1 State factors determining choice of sewerage system design: <ul style="list-style-type: none"> <li>• Economy</li> <li>• Population</li> <li>• Geography</li> <li>• Sources of waste water etc.</li> </ul> 5.2 Determine the following using appropriate formulae: <ul style="list-style-type: none"> <li>• flow rate</li> <li>• quantity of sewage</li> <li>• design capacity</li> </ul> 5.3 Describe the organization of sewage management in relation to: (i.) staffing, (ii.) funding (iii) maintenance           5.4 Explain parameters for determining effluent quality control viz. DO, BOD, COD, SS, TDS, total coliform count		Projector, Text Books, Lecture notes, Charts, Pictures etc.	5.1 Design sewage treatment plant, system of municipal sewage network	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<b>PROGRAMME: HND ENVIRONMENTAL HEALTH TECHNOLOGY</b>				
<b>COURSE TITLE: WATER QUALITY MANAGEMENT</b>				
<b>COURSE CODE: EHT 323</b>				
<b>DURATION:</b>	Lecture: - 1hr	Tutorial: -	Practical: - 1hr	Total:2hrs (30hrs/semester)
<b>CREDIT UNITS: 2</b>				
<b>GOAL:</b> This course is designed to equip the students with the knowledge and skills of enforcement of standard of Nigerian drinking water quality				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the students should be able to:				
1.0. Understand the principles and rationale for water quality management 2.0. Understand quality requirements for drinking water 3.0. Understand the steps necessary to maintain drinking water quality in the communities 4.0. Evaluate physico-chemical and microbiological assessment of water 5.0. Understand water associated diseases.				
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content: 1</b> <b>Practical Content: 1</b>				
<b>GENERAL OBJECTIVE: 1. Understand the principles and rationale for water quality management</b>				

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1. State the principles of Drinking water Quality. 1.2. Explain the principles of Drinking water quality. 1.4. Enumerate the objectives of water quality management. 1.5. Identify various regulations and laws guiding water quality management. 1.6. Identify sources of water pollution. 1.7. Discuss factors responsible for water pollution.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 2.0 Understand quality requirements for drinking water</b>						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation

2.1. Identify quality requirements for various water sources. 2.2. Discuss allowable limits for chemical (organic and inorganic) biological, radioactive and physical parameters and constituents for drinking water	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>	<ul style="list-style-type: none"><li>• Identify insanitary conditions</li><li>• Map out Community Sanitary conditions</li></ul>	<ul style="list-style-type: none"><li>• Locate</li><li>• Guide</li><li>• Demonstrate</li></ul>	<ul style="list-style-type: none"><li>• Projector</li><li>• Maps</li><li>• Charts</li><li>• GIS Kit</li><li>• Digital Camera</li><li>• A4 Paper</li></ul>	<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>
<b>COURSE SPECIFICATION:</b>						
<b>Theoretical Content:</b>			<b>Practical Content:</b>			
<b>GENERAL OBJECTIVE: 3 Understand the steps necessary to maintain drinking water quality in the community</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1. Describe the procedure to maintain drinking water quality in the communities. 3.2. Explain how to Plan and educate community members on ways to carry out simple methods of water treatment e.g. boiling filtration coagulation etc. 3.3. Identify equipment and materials for water quality surveillance. 3.4. Carry out water quality monitoring and surveillance	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>	3.1 Demonstrate the procedure to maintain drinking water quality  3.2 Show how to train community members to carry out simple methods of water treatment  3.3 Demonstrate how to train community members to carry out simple methods of water treatment	<ul style="list-style-type: none"><li>• Locate</li><li>• Guide</li><li>• Demonstrate</li></ul>	<ul style="list-style-type: none"><li>• Projector</li><li>• Maps</li><li>• Charts</li><li>• GIS Kit</li><li>• Digital Camera</li><li>• A4 Paper</li></ul>	<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

e.g. treatment of well water, protection of springs and surface water 3.5. State procedures for water sampling from different sources 3.6. State the importance of data management in water quality monitoring			3.4 Show how to Carry out water quality monitoring and surveillance activities			
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 4.0. Evaluate physico-chemical and microbiological assessment of water</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Enumerate the physical characteristic of water. 4.2. Mention the chemical characteristics of Water. 4.3. Describe microbiological assessment of water. 4.4. Describe the alkalinity and acidity of water	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	4.3 demonstrate the procedure for microbiological/chemical assessment of water  show how to test for alkalinity and acidity of water	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> <li>• Show</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• Water sample</li> <li>• Water test kit</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 5.0. Understand water associated diseases</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

5.1. Define water associated diseases. 5.2. Classify water associated diseases e.g. Water-borne disease, water shortage diseases, water based diseases and water arthropod diseases. 5.3. Discuss preventive and control measures for water associated diseases.	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>				<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: IMMUNOLOGY AND IMMUNIZATION</b>						
<b>COURSE CODE: EHT 324</b>						
<b>DURATION:</b>	Lecture: -1hr	Tutorial: -	Practical: - 2hrs	Total: 3hrs (45 hrs/semester)		
<b>CREDIT UNITS: 3 C U</b>						
<b>GOAL:</b> This course is designed to provide the students with the knowledge of principles of immunity and the fundamentals of immunization						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the students should be able to:						
1.0 Know the nature of the immune system. 2.0 Understand antigen-antibody and allergic reactions. 3.0 Know complement fixation tests. 4.0 Understand the nature of toxins and anti-toxins. 5.0 Justify the significance of immunology, e.g., immunization. 6.0 Understand the fundamentals of immunization. 7.0 Perform immunization procedures. 8.0 Know the strategies involved in immunization activities 9.0 Construct immunization milestones						
<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE: IMMUNOLOGY AND IMMUNIZATION      Course Code: 324      Contact Hours: 45</b>						
<b>COURSE SPECIFICATION:</b> Theoretical Content:1      Practical Content: 2						
<b>General Objective 1.0: Know the nature of the immune system.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Outline the early concerns of immunology and public health. 1.2 Explain the following	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li></ul>				<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

terms: <ul style="list-style-type: none"> <li>• antigen,</li> <li>• antibody</li> <li>• Natural immunity and</li> <li>• Artificial immunity</li> </ul> 1.3 Discuss the structure and synthesis of antibodies.		<ul style="list-style-type: none"> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>				
<b>General Objective 2.0: Understand antigen-antibody and allergic reactions.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Explain the various antigen-antibody reactions. 2.2 Explain the various types of hypersensitivity (delayed, immediate, etc.) and allergic reactions. 2.3 Discuss the factors affecting antigen-antibody reactions. 2.4 Explain the A, B, O, blood group serology. 2.5 Explain the Rhesus factor and blood and rhesus incompatibilities. Demonstrate any of the reaction in 2.1 e.g. Agglutination, Precipitation, etc.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Blood sample</li> <li>• Reagent</li> <li>• Equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<b>General Objective 3.0: Know complement fixation tests</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Explain the term complement. 3.2 Prepare and standardize complement. 3.3 Prepare and standardize hemolysis. 3.4 Prepare an indicator system. Carry out complement – fixation proper.	Teacher explains complement fixation. Teacher uses relevant equipment to perform compliment-fixation.	Lectures Pictures Charts Books Journals		The teacher will demonstrate how to carry out complement – fixation test.	Charts Models  Equipment and reagents	Conduct Random Question and answer session to test understanding
<b>General Objective 4.0: Understand the nature of toxins and anti-toxins</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Explain the terms – “Toxins” (exo – and endo) and antitoxins. 4.2 Differentiate between endotoxin and exotoxin. 4.3 Prepare an antitoxin. 4.4 Test an antitoxin produced in 4.3 above for potency. 4.5 Describe the preparation	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare toxoid</li> </ul>	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Equipment</li> <li>• Reagent</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

of toxoids. 4.6 Describe the preparation and standardization of vaccines.						
<b>General Objective 5. 0: Understand the significance of immunology</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1. Explain the mechanisms of resistance to infection. 5.2.Explain the relationship between infection and immunity. 5.3.Explain – Immunity: Sources and Types ( Cross immunity, Herd Immunity ). 5.4.Explain the interaction of drugs to the immune system. 5.5.List common communicable diseases in Nigeria e.g. AIDS, Hepatitis, Yellow Fever, TB, Measles, etc. 5.6.Explain the immune measures against the diseases in 5.5 above. 5.7.Explain the control and preventive methods applicable to each	Teacher to explain the relationship between infection and Immunity.	Diagrams, Charts, textbooks, Session plan			Charts Models Slides	Assignment to student to write details on diseases and immune measures against each.

situation in 5.6 above.						
<b>General Objective 6.0: Understand the fundamentals of immunization.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
6.1. Define immunization. 6.2.Differentiate between immunization and vaccination. 6.3.List types of vaccines 6.4.Identify Immunizable diseases. 6.5.Discuss the types of vaccines, e.g. live and Killed, 6.6.Explain vaccine storage and cold chain system 6.7. Describe the various methods of immunization. 6.8.Discuss the factors affecting Immunization coverage in Nigeria.	Teacher discusses the differences between	Vaccine Samples, Cols box, Ice packs, Thermometers, lecture notes, Immunization Schedules			Charts Models, Maps Checklists	Test students for storage temperature for various vaccines.
<b>General Objective 7.0: Perform immunization procedures</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
7.1.Identify immunization equipment. 7.2.Explain immunization	Teacher to use dummies,	Vaccine Samples, Cold box, Ice packs, syringe and	<ul style="list-style-type: none"> <li>Know how to administer vaccines eg. Oral,</li> </ul>	<ul style="list-style-type: none"> <li>Locate</li> <li>Guide</li> <li>Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>Vaccine Samples</li> <li>syringe and</li> </ul>	<ul style="list-style-type: none"> <li>Assignment</li> <li>Class Test</li> <li>Presentation</li> </ul>

schedule. 7.3. Plan and execute immunization session. 7.4 Describe immunization record and data. 7.5. Discuss the Concept of National Polio Eradication Program in Nigeria 7.6. Identify roles of various frontline health workers in NPEP. 7.5 Discuss how to Conduct IPDs, SPD and Health Camps to boost immunization coverage.	models,	needles, Thermometers, lecture notes, Immunization Schedules.	intra-dermal and sub-cutaneous		needles	<ul style="list-style-type: none"> <li>Examination</li> </ul>
<b>General Objective: 8.0 Know the strategies involved in immunization activities</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
8.1 Identify various immunization strategies. 8.2 Describe various immunization methods e.g. static centers, mobile units, etc. 8.3 Plan and execute mass immunization campaign. 8.4 Adopt methods to evaluate immunization campaign activities 8.5 Discuss how to set specific immunization	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discuss</li> <li>Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>Lecture notes</li> <li>Pictures</li> <li>Charts</li> <li>Books</li> <li>Journals</li> <li>Computer</li> <li>Projector</li> <li>DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>		<ul style="list-style-type: none"> <li>Assignment</li> <li>Class Test</li> <li>Presentation</li> <li>Examination</li> </ul>

targets for Nigeria, States and LGAs.						
<b>General Objective: 9.0 Construct immunization milestones</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
9.1 Discuss immunization milestone from the Roles of Louis Pasteur, Edward Jenner, Paul Ehrlich etc. 9.2 Milestone in Nigeria 9.3 Milestone through WHO 9.4. Obtain evidence based information on global and national immunization/vaccination Information.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: PUBLIC UTILITIES AND ENVIRONMENTAL HEALTH</b>						
<b>COURSE CODE: EHT 325</b>						
<b>DURATION:</b>	Lecture: - 2hrs	Tutorial: -	Practical: - 1hr	Total: 3hrs (45hrs/semester)		
<b>CREDIT UNITS: 3 CU</b>						
<b>GOAL: This course is designed to provide the students with broad Knowledge on the importance of Public utilities</b>						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the students should be able to: 1.0 Know the principles of Water supply distribution system 2.0 Understand the importance of fire service 3.0 Appreciate the importance of drainage system. 4.0 Understand the working of a sewerage system 5.0 Understand the power functioning of supply system 6.0 Appreciate the importance of telephone and other ICT services 7.0 Understand roads network as utility services 8.0 Understand general design network of utility services. 9.0 Know the importance of efficient public utilities to effective environmental health service						
<b>COURSE</b>		Theoretical Content: 2		Practical Content: 1		
<b>SPECIFICATION:</b>						
<b>General Objective 1.0: know the principles of water supply distribution system</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1.State the principles of water supply distribution in a community. 1.2.Calculate Water requirements of a given community based on planning standards. 1.3.Project future requirements of water for a given community.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

1.4.State pricing principles of water distribution. 1.5.Describe water distribution network for a given community.						
<b>General Objective 2.0: Understand the importance of fire service</b>						
<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>
2.1. State the importance of fire services in a community. 2.2. Explain the importance of accessibility in effective fire services. 2.3. State principles of location of fire stations. 2.4. State attributes of efficient fire services. 2.5 Relate fire services to community water distribution network, using appropriate space standard and regulations.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	•	•		<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>General Objective 3.0: Appreciate the importance of drainage system</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1. Define drainage system 3.2. State principles of drainage layout 3.3. Describe various types of drains 3.4. List materials for	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> </ul>	Know how to design drainage layout for a given area using appropriate space standard and	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

constructing drains 3.5. Describe the materials listed in 3.4 and their uses. 3.6. Relate drainage to waste water and storm water control		<ul style="list-style-type: none"> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	regulations.		<ul style="list-style-type: none"> <li>• A4 Paper</li> </ul>	
<b>General Objective 4.0: Understand the working mechanisms of a sewerage system</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Define sewage and sewerage 4.2. Distinguish between sewage and sewerage 4.3. Explain sewerage system. 4.4. Describe types of sewerage e.g. central and private 4.5. Identify material for constructing sewer lines 4.6. Relate sewer lines to water distribution network 4.7. Explain methods of treating and recycling sewage	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	4.1 Sketch sewerage network for community using appropriate standard and regulations	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<b>General Objective 5.0: Understand the functioning of power supply system</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1. State sources of power supply. 5.2. Describe sources of power supply. 5.3. Explain the power supply distribution system in a community. 5.4. Explain pricing system for electricity. 5.5 Explain assessment in relation to power supply. 5.6. Apply the concept of assessment in planning power distribution system. 5.7. State the importance and limitation of an assessment. 5.8. Prepare a layout of power supply in your area of operation.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	5.1 Sketch a layout of power supply in your area of operation.	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>General Objective 6.0: Appreciate the importance of telephone and other ICT services</b>						
<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>
6.1. Explain the importance of telephone service. 6.2. Explain the importance of e-mail and other Internet based services. 6.3. Explain the distribution of telephone and other ICT services.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>	6.1 Sketch a layout for telephone and other ICT services in your area of operation.	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

6.4 Relate telephone and other ICT services to electricity supply to avoid conflict of overhead cables.		edia Player				
<b>General Objective 7.0: Understand road network as utility services</b>						
<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>
7.1. Identify different types of roads. 7.2. Describe the features of each type of road identified in 7.1 above. 7.3. Explain the importance of road network in environmental health practice.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>General Objective 8.0: Understand general design of networks of utility services</b>						
<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>
8.1. Prepare a profile of relative positioning of various utility services on a typical street. 8.2. Identify each service in the designed profile with standard colors.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia</li> </ul>	8.1 Sketch out simple design work in selected topics.	<ul style="list-style-type: none"> <li>• Locate</li> <li>• Guide</li> <li>• Demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Maps</li> <li>• Charts</li> <li>• GIS Kit</li> <li>• Digital Camera</li> <li>• A4 Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

		edia Player				
<b>General Objective 9.0: Understand the importance of efficient public utilities to effective environmental health services</b>						
<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>
9.1.State measures for ensuring efficient public utilities in the communities. 9.2.Explain the general measures for maintenance of public utilities. 9.3.Identify agencies responsible for the provision and maintenance of public utilities.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<b>PROGRAMME: HND ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: INDUSTRIAL LAYOUT AND LANDSCAPE PLANNING AND MANAGEMENT</b>						
<b>COURSE CODE: EHT 326</b>						
<b>DURATION:</b>	Lecture: - 1hr	Tutorial: -	Practical: - 1hr	Total: 2hrs (30hrs)		
<b>CREDIT UNITS: 2</b>						
<b>GOAL:</b> The course is designed to provide the students with the knowledge and skills of the principles of layout planning and landscaping.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the students should be able to:						
1. Understand the principles of layout and landscape planning and management 2. Appreciate steps involved in country and regional layout planning and management. 3. Appreciate the importance of regulations in layout planning and management 4. Understand the features of adequate layout 5. Evaluate the relevance of proper layout and landscape planning and management to health.						
<b>COURSE SPECIFICATION:                      Theoretical Content: 1                      Practical Content: 1</b>						
<b>GENERAL OBJECTIVE: 1. Understand the principles of layout and landscape planning and management</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1. Define layout and landscape. 1.2.State the principles of layout and landscape planning and management 1.3.State the historical concept of layout and landscape planning and management. 1.4.Discuss layout and landscape planning theories. 1.5.Explain ecological, economic and social aspect of the environment. 1.6.Examine cultural issues in layout	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>		<ul style="list-style-type: none"><li>•</li></ul>		<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

and landscape planning and management. 1.7. Discuss the importance of information management in layout and landscape planning and management						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 2. Appreciate steps involved in country and regional layout planning and management</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1. State the steps involved in country and regional layout planning and management: (a) Discussion making (b) Promoting sustainable land use planning and management (c) Provision of adequate shelter (d) Improving human settlement (e) Promoting integrated provision of environmental infrastructures – water, sanitation, drainage and solid waste management (f) Promoting efficient and sustainable energy use, energy renewal and transport management system in human settlements system in human settlements (g) Promoting sustainable construction activities (h) promote urban air quality (i) Promoting human dignity and improving quality of houses.	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>		<ul style="list-style-type: none"><li>•</li></ul>		<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

(j) Embarking on inner city (renewal) regeneration (k) Promote orderly urban design and development  2.2. Plan and carry out advocacy and public enlightenment for political will and resource allocation. 2.3. Identify stakeholders involved in layout and landscape panning and management.						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 3.0. Appreciate the importance of regulations in layout planning and management</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1. State the process of making regulations, code and legislations for layout planning and management 3.2. Identify and examine regulations, code and legislations available for layout planning and management. 3.3. State measures that should be adopted to ensure compliance to existing regulations, codes and legislations.	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>		<ul style="list-style-type: none"><li>•</li></ul>		<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE 4.0: Understand the feature of adequate layout</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Identify and describe the features of a planned layout:	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li></ul>		<ul style="list-style-type: none"><li>•</li></ul>		<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li></ul>

(a) Master plan (b) recreational ground (c) Burial ground (d) Railway line (e) Water Bodies, channels, tanks, rivers, etc. (f) Prohibited area (g) Road types and connection (h) Wet lands (i) Waste dump sites/disposal facilities (j) Low tension (LT) and high tension (HT) electric lines. (k) Public parks (l) Housing industrial, commercial areas 4.2. State measures to be taken to ensure orderly development of a master plan.	<ul style="list-style-type: none"> <li>Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>Charts</li> <li>Books</li> <li>Journals</li> <li>Computer</li> <li>Projector</li> <li>DVD/Multimedia Player</li> </ul>				<ul style="list-style-type: none"> <li>Presentation</li> <li>Examination</li> </ul>
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 5.0 Evaluate the relevance of proper layout and landscape planning and management to health</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1. Examine the relevance of proper layout, and landscape planning and management to health 5.2. List and discuss the effects of improper layout and landscape planning and management on the environment and health.	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discuss</li> <li>Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>Lecture notes</li> <li>Pictures</li> <li>Charts</li> <li>Books</li> <li>Journals</li> <li>Computer</li> <li>Projector</li> <li>DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li></li> </ul>		<ul style="list-style-type: none"> <li>Assignment</li> <li>Class Test</li> <li>Presentation</li> <li>Examination</li> </ul>

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA</b>				
<b>COURSE TITLE: HEALTH AGENCIES (NATIONAL AND INTERNATIONAL)</b>				
<b>COURSE CODE: EHT 327</b>				
<b>DURATION:</b>	Lecture: 2	Tutorial: -	Practical: -	Total: 30hrs
<b>CREDIT UNITS: 2</b>				

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

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1.0 Know the Health Organizations /Agencies and their functions

## 2.0 Know the Health Organizations under the United Nation

#### 4.0 Understand the focus areas for support by health agencies in health care provision

<b>COURSE SPECIFICATION:</b>	<b>Theoretical Content:</b>
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**GENERAL OBJECTIVE: . 1.0 Know the National Health Organizations /Agencies**

Specific Learning Objectives	Teachers	Learning	Specific Learning	Teachers	Learning	Evaluation
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	Activities	Resources	Objectives	Activities	Resources	
1.1.Explain the term National Health Organizations/Agencies 1.2.Identify the agencies and their location in Nigeria <ul style="list-style-type: none"> <li>Planned Parenthood Federation of Nigeria (PPFN)</li> <li>National Agency for Food, Drug Administration and Control (NAFDAC)</li> <li>Sickle Cell Association of Nigeria (SCAN)</li> <li>Yakubu Gowon Centre</li> <li>Dangote Foundation etc.</li> </ul> 1.3 Classify the various National Health Agencies into Government and Non-Governmental Organizations / Agencies 1.4 Discuss the functions of the various health agencies listed in	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discuss</li> <li>Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>Lecture notes</li> <li>Pictures</li> <li>Charts</li> <li>Books</li> <li>Journals</li> <li>Computer</li> <li>Projector</li> <li>DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li></li> </ul>		<ul style="list-style-type: none"> <li>Assignment</li> <li>Class Test</li> <li>Presentation</li> <li>Examination</li> </ul>

<p>1.2 above in relation to health promotion and diseases Prevention.</p> <p>1.5 Discuss the nature of organization and mode of operation of National Health Agencies in 2.1 above.</p> <p>1.6 Identify the sources of funding of various health agencies.</p> <p>1.7 Explain the relationship between the Health Agencies and their National Governments.</p> <p>1.8 State the relationship among zonal health agencies.</p> <p>1.9 Explain relationship between the national Health Agencies and Non-Governmental development Organizations.</p> <p>1.10 Discuss relationship between the National Health Agencies and United Nations Health Agencies / Organizations</p>						
<b>GENERAL OBJECTIVE: 2.0 Know the health organization/Agencies under the United Nation</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Discuss the following Health Organizations/ Agencies under the	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> </ul>		<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> </ul>

<p>United Nation Organization:</p> <ul style="list-style-type: none"> <li>• World Health Organization (WHO)</li> <li>• United Nations Children's Fund (UNICEF)</li> <li>• United Nations Funds of Population Activities (UNFPA)</li> <li>• United Nation Development Programme (UNDP)</li> <li>• Food and Agricultural Organization (FAO)</li> <li>• International Labour Organization (ILO)</li> </ul> <p>2.2 State the objectives of the Health Agencies listed in 2.1 above.</p> <p>2.3 State the functions of the Agencies listed in 2.1 above.</p> <p>2.4 State the mode of operation of the agencies.</p> <p>2.5 State the location of the administrative headquarters of the agencies listed in 2.1 above.</p> <p>2.6 Explain the relationship of each of the agencies/organizations to the United Nations</p> <p>2.7 Identify the sources of funding of the agencies listed in 2.1</p>	<ul style="list-style-type: none"> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>				<ul style="list-style-type: none"> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>COURSE SPECIFICATION:</b>	<b>Theoretical Content:</b>			<b>Practical Content:</b>		

<b>GENERAL OBJECTIVE: 3.0 Know the International Agencies/Organization involve in Health matters</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Discuss some of the non-United Nations International Agencies /Organization involved in Health Matters. <ul style="list-style-type: none"> <li>• UKAid</li> <li>• USAID</li> <li>• DFID</li> <li>• Planned Parenthood Federation of Nigeria (PPFN)</li> <li>• Red Cross</li> <li>• Rock Feller Foundations</li> <li>• Bill &amp; Melinda Gates Foundation</li> <li>• Cater Foundation</li> <li>• Doctors Without Borders (Medicines Sans Frontiers)</li> <li>• Catholic Relief Agencies (CARITAS)</li> <li>• International Islamic Relief Organization (IIRO)</li> <li>• AFRICARE</li> <li>• Centre for Disease Control (CDC)</li> <li>• Ford foundation</li> </ul> 3.2 Classify the above agencies / organizations into government and non- governmental organization	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<p>3.3 Explain Non-Governmental Development Organization</p> <p>3.4 Classify non – governmental development organization into Private and voluntary agencies e.g.</p> <p>Private - Global 2000</p> <p>Voluntary – Red cross, Red crescent, Oxfam, World Council of churches,</p> <p>3.5 Explain the mode of operation of the NGOs.</p> <p>3.6 Identify the administrative headquarters of the NGOs in 3.4 above</p> <p>3.7 Identify the sources of founding of the NGOs</p> <p>3.8 Explain the interrelationship among the NGOs</p> <p>3.9 Discuss the relationship between NGOs and United Nations</p> <p>3.10 Discuss the relationship among the health agencies under the United Nations</p>						
<b>General Objective 4.0:</b> Understand the focus areas of support by health agencies in health care provider						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<p>4.1 List the focus areas of support offered by Health Agencies e.g.</p> <ul style="list-style-type: none"> <li>Manpower development</li> </ul>	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discuss</li> <li>Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>Lecture notes</li> <li>Pictures</li> <li>Charts</li> </ul>		<ul style="list-style-type: none"> <li></li> </ul>		<ul style="list-style-type: none"> <li>Assignment</li> <li>Class Test</li> <li>Presentation</li> </ul>

<ul style="list-style-type: none"> <li>• Infrastructural development</li> <li>• Service delivery</li> <li>• Health financing</li> <li>• Researches</li> </ul> <p>4.2 Discuss each of the areas listed in 3.1</p> <p>4.3 Explain partnership mechanisms between international agencies and national government in terms of Agreement - MOU</p> <p>4.4 Explain the term: Provision of matching grant or counterpart funds</p>		<ul style="list-style-type: none"> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>				<ul style="list-style-type: none"> <li>• Examination</li> </ul>
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**HND 2 FIRST SEMESTER COURSES**

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: RESEARCH METHODOLOGY/PROJECT WRITING</b>						
<b>COURSE CODE: EHT 411</b>						
<b>DURATION:</b>	Lecture: - 1	Tutorial: -	Practical: - 2	Total: (45) hrs		
<b>CREDIT UNITS: 3 C U</b>						
<b>GOAL:</b> This course is designed to equip students with the knowledge of research skills, being inquisitive and discretional in presenting research outcome in a logical order						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Know the types, process and steps involved research work. 2.0 Understand the scientific approach to research work. 3.0 Know how to design a research work. 4.0 Understand research problems. 5.0 Understand the formulation and validation of hypothesis. 6.0 Understand variables in research work. 7.0 Understand sample and sampling techniques. 8.0 Know how to review literature. 9.0 Know the tools and techniques of data collection. 10.0 Understand data analysis techniques. 11.0 Know how to report a research findings..						
<b>COURSE SPECIFICATION:</b> Theoretical Content		Course Specification: Practical Content				
<b>General Objective 1.0: Know the types, process steps in and characteristics of research.</b>						
<b>Specific Learning Objective</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objective</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Define research methodology 1.2 Explain types of research work 1.3 Discuss the problems of research work	Explains research, its types and problems. ii. Explain the	Textbooks, whiteboard s, marker,	1.1 Prepares a research work for the students	Taking students on a field trip to	Logistics for the field trip.	Assignment, writing reports on

e.g. conceptualization, generalization etc. 1.4 Discuss steps in research process. 1.5 Explain the characteristics of research methodology 1.6 Identify ethical considerations in Research work	characteristics of a research work and its steps. iii. Explains ethical considerations in research work	laptop, overhead projectors, journals, writing materials.	to handle each of the stages. Analyze research problems and how to resolve it	some industries and research institutes	Organizing and arrangement for field trips Scientific materials/ equipment, protective materials such overall, rubber boots, nose mask, goggle, hand gloves, head gear etc.	different research work. Test
<b>General Objective 2.0: Understand scientific approach to research</b>						
2.1 Discuss the methods of science in research. 2.2 State the aims of science in research 2.3 Explain the functions of science in research. 2.4 Compare science and common sense in research.	Explain the methods, aims and functions of science in research ii. Explain the differences between science and common sense	Internet and Relevant websites, textbooks, whiteboard s, marker, laptop, overhead projectors, journals, writing	Demonstrates scientific research and ways of achieving a good research work	Field trip to scientific programmes to understand the processes involved.	Scientific materials/ equipment and protecting materials	Assignmen t, test, quiz

		materials.				
<b>General Objective 3.0: Know how to design a research work</b>						
3.1 Explain research design. 3.2 Discuss the purposes of research design. 3.3 Explain the principles of research design. 3.4 Identify design criteria. 3.5 Describe the process of writing a research proposal	Explain the meaning, purpose and principles of research design. ii. Explain design criteria. iii. Guide students to write research proposals Give assignment	Textbooks, whiteboard s, marker, laptop, overhead projectors, journals, writing materials.	Demonstrates design criteria and process of writing a research proposal	Showing examples of research design and previous research proposal	Previous research works, journals, books, presentations	Write a research proposal, indicating a specific research design, assignment , test
<b>General Objective 4.0: Understand research problem</b>						
4.1 Define research problems. 4.2 Identify sampling problems. 4.3 Formulate research questions. 4.4 Identify the steps in the evaluation of a research problem. 4.5 State the features of a researchable problem. 4.6 Critique sample research problem.	Explain research problem. ii. Describe sample problems. iii. Describe the formulation of research questions. iv. Explain the steps in the evaluation of research problem. v. Explain researchable problem and its features	Textbooks, whiteboard s, marker, laptop, overhead projectors, journals, writing materials.	Analyzing sample problems and formulating research questions	Show various examples of research problems and the ways of correcting it	Previous research works, journals, books, presentations	Students prepares a sample from a given population using a specific sampling technique
<b>General Objective 5.0: Understand formulation and validation of hypothesis</b>						
5.1 Define hypothesis. 5.2 Define validation.	Explain hypothesis and its	Textbooks, whiteboard	Provision of previous	Formulating specific or	Previous research	Students creates a

5.3 Explain specific and general hypothesis. 5.4 Relate hypothesis to statement of problem. 5.5 Explains the difference between null and alternate hypothesis. 5.6 Discuss the problems of validation in research	characteristics. ii. Explain validation and its problem in research work. iii. Distinguish among specific, general null and alternate hypothesis. iv. Describe the relationship between hypothesis and statement of problem.	s, marker, laptop, overhead projectors, journals, writing materials.	research works and comparing the hypotheses to identify specific and general among them. Deducing null and alternative hypothesis in previous presented research work	general hypothesis analyzing the null and alternate hypothesis. Creating statements of problems and validating the research work	works, journals, books, presentations	specific and general hypothesis in a relation to a particular statement/project
<b>General Objective 6.0: Understand variables in research work</b>						
6.1 Define variables in research work 6.2 Explain types of variables. 6.3 Discuss consideration for choice of variables. 6.4 State control problems of variables 6.5 Explain the relevance of variables to research work	Explain variables, their types and relevance. ii. Explain consideration in the choice of variables. iii. Explain control problems of variables	Textbooks - Journals	Showing the use of variables in other prepared research works and its peculiar characteristics	Showing types of variables in previous work and how to choose a particular variables for different research work	Previous research project/work, assignments, journals and presentations	Student chooses a variables in a specific research assignment
<b>General Objective 7.0: Understand sample and sampling techniques</b>						
7.1 Explain the following: <ul style="list-style-type: none"> <li>Population</li> <li>Population Sample</li> <li>Population Representation</li> <li>Types of sampling methods</li> </ul> 7.2 Discuss the need for samples	Explain population, sample and representation. ii. Describe types of sampling methods. iii. Explain need for sample within a population	Books, journals, internet, chalk board, writing materials	To demonstrate a community as a population and creating a sample and representation from the population	Field trip to the chosen community and showing the process of arriving at a sample or representation	Logistics to the community, books, journals, presentations, materials for	Assignment, test, group work, quiz

				from that community	references	
<b>General Objective 8.0: Understand how to review literature</b>						
8.1 State the relevance of literature review in research work. 8.2 Outline the sources of literature. 8.3 Explain organization and referencing of literature	Explain the relevance of literature review in research. ii. Explain the sources of literature iii. Describes the organization and referencing of literature.	Textbooks, whiteboard s, marker, laptop, overhead projectors, journals, writing materials.	Presentation of previous books, newspaper, presentation and journals to show its literature and sources	Field trip to library and other archives areas to see various literature and their sources	Logistics, journals, books, internet, archives, presentations	Give assignment , test, group work
<b>General Objective 9: Know the tools and techniques for data collection</b>						
9.1 Define research instrument. 9.2 Discuss types of research instruments 9.3 Enumerate characteristics of research instruments. 9.4 State the problems associated with various research instruments	Explain the following research instruments: 1. Questionnaire 2. Observation 3. Interview 4. Ratings, etc. ii. Describe pitfalls of each instrument in above.	Textbooks, whiteboard s, marker, laptop, overhead projectors, journals, writing materials.	Identifying research instruments, presents its characteristics and problems associated with the instruments	Presenting previous research work to show the instrument used , characteristics and problems	Books, journals, research work, presentation	Group work, assignment , test and quiz
<b>General Objective 10.0: Understand data analysis techniques</b>						
10.1 Define data analysis. 10.2 Discuss the tools for data Analysis: qualitative and quantitative. 10.3 Explain limitations in each of 10.2 above	Explain data analysis, its tools and limitations	Textbooks, whiteboard s, marker, laptop, overhead	Identifying data analysis, tools and its presentation in previous work	Presenting previous research work to show its analysis and	Books, journals, research work, presentation	Group work, assignment , test and quiz

		projectors, journals, writing materials.		tools used		
<b>General Objective 11.0: Know how to report research findings</b>						
11.1 Define research report writing 11.2 Identify the contents of research report writing. <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Literature review</li> <li>• Methodology</li> <li>• Analysis</li> <li>• Results</li> <li>• Discussion</li> <li>• Conclusion</li> <li>• Recommendation</li> <li>• Reference</li> <li>• Appendix</li> </ul> 11.3 Discuss the importance of accurate presentation of research report	Explain research report and its contents. ii. Conduct test Guidance for students using examples of good reports. Reference to exercises to review relevant literature etc. Identify the contents of research report. <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Literature review</li> <li>• Methodology</li> <li>• Analysis</li> <li>• Results</li> <li>• Discussion</li> <li>• Conclusion</li> <li>• Recommendation</li> <li>• Reference</li> <li>• Appendix</li> </ul>	Textbooks, whiteboards, marker, laptop, overhead projectors, journals, writing materials.	Discussion on a written research work to the process and steps involved and understanding the importance of presenting accurate research report	Presentation of the previous work to show the process of report writing and steps involved. Producing accurate research report	Books, journals, research work, presentation	Writing of a complete accurate research work Group work, assignment, test and quiz

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA</b>						
<b>COURSE TITLE: HARZARDOUS AND RADIOACTIVE WASTE MANAGEMENT</b>						
<b>COURSE CODE: EHT 412</b>						
<b>DURATION:</b>	Lecture: 1 HOUR	Tutorial: -	Practical: -1 HOUR	Total: 30 Hrs/Semester		
<b>CREDIT UNITS: 2</b>						
<b>GOAL:</b> The course is designed to provide the students with basic skills in the understanding of the management of hazardous and radioactive wastes in the environment.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Understand the principles of hazardous and radioactive waste in Nigeria. 2.0 Understand the measures for prevention, control and management of hazardous and radioactive wastes. 3.0 Know the methods for hazardous/radioactive wastes disposal						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b>						

1.3 Explain hazardous and radioactive wastes. 1.4 State the types of hazardous and radioactive wastes 1.5 Explain National and International conventions and laws on hazardous and radioactive waste management e.g. <ul style="list-style-type: none"> <li>• Effluent limitation regulation,</li> <li>• Regulation base convention etc.</li> </ul>	Explain National and International Laws.		national and international laws on hazardous and radioactive wastes to show the relevance of the law in protecting our environment	that are producing hazardous and radioactive wastes materials	journals	
<b>GENERAL OBJECTIVE: 2.0 Know the measures for the management of hazardous and radioactive wastes.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Explain the classification of hazardous and radioactive wastes. 2.2 State each of the problems of hazardous and radioactive wastes. 2.3 Discuss the prevention and control of hazardous and radioactive wastes 2.4 State measures for the management of hazardous and radioactive wastes.	Discuss classification, problems, and management of health care, hazardous and radioactive	Reference Books Marker board/marker pictures Projectors. Etc.	Projection of health care, hazardous and radioactive wastes to the class, to show its classification, components, problems associated with it and its management	Carry out field visits to some health care facilities in the community.	Logistics, protective materials, books, first aid materials, journals	Tests Assignments Exams
<b>GENERAL OBJECTIVE: 3.0 Understand the methods of hazardous and radioactive wastes disposal.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

3.1 Explain the methods of disposal for hazardous and radioactive waste 3.2 Discuss the public health implications of hazardous and radioactive wastes.	Discuss the various disposal methods of hazardous and radioactive wastes. Discuss its various health implications	Charts Reference Books Journals	Projection of various disposal methods of health care, hazardous and radioactive wastes	Field trip to show the disposal of health care, hazardous and radioactive wastes	Logistics, protective materials, books, first aid materials , journals	Tests Exams Assignments Group work
<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH</b>						
<b>COURSE TITLE: HEALTH, SAFETY AND ENVIRONMENT</b>						
<b>COURSE CODE: EHT 413</b>						
	<b>Lecture – 2</b>	<b>Tutorial:-</b>	<b>Practical:-</b>		<b>Total: 2(30)</b>	
<b>CREDIT UNITS: 3 CU</b>						
<b>GOAL:</b> This course is designed to provide the students with the knowledge, application of skills in Health, Safety & Environment						
<b>GENERAL OBJECTIVE:</b> 1.0 Know the concept and principles of Health, Safety & Environment (HSE). 2.0 Understand the relationship between Health, Safety & Environment. 3.0 Know HSE Policy framework. 4.0 Understand the Planning and management of HSE activities. 5.0 Understand HSE tools and Inspection procedure 6.0 Know the roles of Stakeholders in HSE						
<b>COURSE SPECIFICATION: THEORETICAL CONTENTS</b>				<b>PRACTICAL CONTENTS</b>		
<b>GENERAL OBJECTIVE 1:</b> Describe the concept and principles of Health, Safety & Environment (HSE)						
<b>Specific Learning Outcome</b>	<b>Teacher’s Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Outcome</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1Define: • Health • Safety	Explain health, safety and environment.	Lectures Pictures Charts				• Assignment • Class Test • Presentation

<ul style="list-style-type: none"> <li>• Environment</li> </ul> 1.2 Explain the general concepts of HSE 1.3 State basic principles of HSE 1.4 Discuss the history and development of HSE	Ask questions.  Explain the history and development and basic principles of HSE	Books Journals  Lectures Pictures Charts Books Journals				<ul style="list-style-type: none"> <li>• Examination</li> </ul>
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<b>GENERAL OBJECTIVE 2: Discuss the relationship between Health, Safety &amp; Environment</b>						
<b>Specific Learning Outcome</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Outcome</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Explain Environment, Man, Disease Triad 2.2 Discuss the interrelationships between Health, Safety & Environment 2.3 State the uses of environmental epidemiological information on policy management	Discuss the relationship of the Environment, man disease Triad and its effect in our environment	Lectures Pictures Charts Books Journals				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>GENERAL OBJECTIVE 3: Know HSE Policy framework</b>						
<b>Specific Learning Outcome</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Outcome</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Define policy. 3.2 Explain the process of Policy development 3.3 Discuss the importance of policy in HSE. 3.4 State the components of HSE policy 3.5 Identify Stakeholders in HSE and their roles 3.5 Explain the benefits of HSE programme to our environment	Explain with examples policy in HSE and its importance in on man and the environment.  Ask questions	Lectures Pictures Charts Books Journals				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>



<b>GENERAL OBJECTIVE 4: Understand the Planning and management of HSE activities</b>						
<b>Specific Learning Outcome</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Outcome</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Discuss the basics of Planning in HSE 4.2 Explain how to collect, process, retrieve and interpret information in HSE 4.3 Describe how to monitor HSE activities 4.4 Identify sources of human and material resources in HSE 4.5 Relate the skills of managing resources in HSE 4.6 Outline the process of HSE planning	Engage students in group discussion and planning for an HSE activities.  Ask questions	Projection Text Books Internet Lecture notes Charts Pictures Tutorial				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>GENERAL OBJECTIVE 5: Understand HSE tools application and Inspection procedure</b>						
<b>Specific Learning Outcome</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Outcome</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1 Identify HSE Tools 5.2 Discuss the application of HSE tools in our environment 5.3 Explain the procedure for HSE inspection and Reporting 5.4 Discuss how to mitigate flaws, contraventions in HSE	Engage students in group work applying HSE tools in our environment.  Ask question	Projection Text Books Internet Lecture notes Charts Pictures Tutorial				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

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<b>GENERAL OBJECTIVE 6: Know the roles of Stakeholders in HSE</b>						
<b>Specific Learning Outcome</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Outcome</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
6.1 Identify stakeholders in HSE administration 6.2 Discuss the roles of stakeholders in HSE administration 6.3 Understand how to relate with stakeholders in HSE administration 6.4 Explain the merits and demerits of stakeholder participation in HSE	Mention existing stakeholders in HSE and discussing their importance in HSE administration	Projection Text Books Internet Lecture notes Charts Pictures Tutorial				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: ENVIRONMENTAL HEALTH ADMINISTRATION II</b>						
<b>COURSE CODE: EHT 414</b>						
<b>DURATION:</b>	Lecture: - 2	Tutorial: -	Practical: -	Total: 30Hrs./Semester		
<b>CREDIT UNITS: 2 CU</b>						
<b>GOAL:</b> This course is designed to equip the students with the knowledge on how to plan, implement and evaluate environmental health programmes.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1. Understand the basic principles & concepts of Health and Environmental Health Administration						
2. Know the qualities/roles of an Environmental Health Administrator						
3. Understand the principles of Environmental Health Administration						
4. Know the impact of effective Administration on Environmental Health Programme & services						
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
1. <b>GENERAL OBJECTIVE 1:</b> Understand the basic principle & concept of health and Environmental Health Administration						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1.Explain the following terms: <ul style="list-style-type: none"><li>Health</li><li>Environmental Health</li><li>Environmental Health Administration</li></ul> 1.2 Explain the basic administrative theories & their impacts on Environmental Health Administration1.2.State administrative functions in Environmental Health1.3.Describe the organizational structure of Health Services Administration	Engage students in group discussion  Discuss basic administrative theories, their impacts, functions and organizational structure of Environmental health administration	Lectures Pictures Charts Books Journals	1.1 Draw an organogram of environmental health administration			<ul style="list-style-type: none"><li>Assignment</li><li>Class Test</li><li>Presentation</li><li>Examination</li></ul>

<b>GENERAL OBJECTIVE 2:0</b> Know the qualities/roles required in Environmental Health Administration						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
2.1 State the qualities of a good/effective administrator 2.2 State roles of an Environmental Health Administrator 2.3 Outline the Ministries/Departments/Agencies (MDAs) involved in the delivery of Environmental Health Services in the three-tiers of Government: <ul style="list-style-type: none"> <li>• Federal Government</li> <li>• State Government</li> <li>• Local Government</li> </ul> 2.4 Discuss the roles of the MDAs listed in 2.3 in the delivery of Environmental Health Services 2.5 Outline non state Organizations involved in the promotion of Environmental Health in the following broad categories: <ul style="list-style-type: none"> <li>• Professional Associations</li> <li>• Scientific/Academic Societies</li> <li>• Civil Society Groups</li> <li>• Community Based Organizations</li> <li>• Faith Based Organizations</li> <li>• Humanitarian Foundations etc.</li> </ul>	Ask questions Engage students in discussion and modify all their answers	Pictures Charts Books Journals				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

2.6 Discuss the roles of the Organizations listed in 2.5 in the delivery of Environmental Health						
<b>GENERAL OBJECTIVE 3:0</b> Understand the principles of Environmental health administrator						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 State the principles of Environmental health administrator e.g. leadership, motivation, communication and planning 3.2 Explain each of the principles stated above 3.3 Discuss the impact of the above principles on Environmental health administration 3.4 Describe the relationship between EH professionals and other health related professionals 3.5 Discuss environmental health relationships and problems 3.6 Apply system approach in Environmental Health administration. 3.7 Explain environmental health policy and programme planning.	Engage students in group discussion  Discuss the principles of Environmental Health Administrator, impacts of the principles on administration and the systematic approach in Environmental health Administration	Pictures Charts Books Journals				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>GENERAL OBJECTIVE 4:</b> Describe the principles of Environmental Health administration						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 State the steps in environmental health programme administration e.g.	Ask questions and modify all the answers	Projection Text Books				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> </ul>

<ul style="list-style-type: none"> <li>• Environmental Health Programme planning</li> <li>• Environmental Health Programme implementation</li> <li>• Environmental Health Programme monitoring &amp; evaluation</li> <li>• Environmental Health Programme information management</li> </ul> <p>4.2 Discuss each of the programme listed above</p> <p>4.3 Discuss the application of technology in EH Programme management and administration</p>	mentioned and elaborate on the Environmental Health Programme planning, implementation, monitoring and evaluation	Internet Lecture notes Charts Pictures Tutorial				<ul style="list-style-type: none"> <li>• Examination</li> <li>•</li> </ul>
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<b>PROGRAMME: HND ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: CONTEMPORARY ISSUES IN ENVIRONMENTAL HEALTH II</b>						
<b>COURSE CODE: EHT 415</b>						
<b>DURATION:</b>	Lecture: - 1	Tutorial: -	Practical: - 1	Total: 15		
<b>CREDIT UNITS: 1</b>						
<b>GOAL:</b> This course is designed to Provide students with the knowledge to understand basic contemporary issues in the Environmental Health.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0. Know basic contemporary issues in Environmental Health 2.0. Know chemicals in the environment 3.0. Understand private sector participation in Environmental Health services. 4.0. Understand Sustainable Development Goals (SDG) and e-governance 5.0. Appreciate the relationship between environment, emerging and re-emerging diseases.						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: Know basic contemporary issues in Environmental Health</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1. Explain contemporary issues in Environmental Health. 1.2. Identify contemporary issues in Environmental Health e.g. -Climate change	Explain contemporary issues in Environmental health	Lecture Note Pictures Charts Books				Test Assessment Examination

<ul style="list-style-type: none"> <li>-Ozone layer depletion</li> <li>-Global warming</li> <li>-Green House effect</li> <li>-Environmental degradation</li> <li>-Flooding</li> <li>-Erosion</li> <li>-Landslide</li> <li>-Earthquake</li> <li>-Desertification</li> <li>-Drought etc.</li> </ul> <p>1.3. Discuss the Contemporary issues in Environmental Health</p> <p>1.4. Identify the treat to ecosystem and human health by contemporary issues in Environmental Health</p>	List the threat to ecosystem and human health by contemporary issues in Environmental Health	Journals Marker Board Internet				
<b>GENERAL OBJECTIVE: 2.0. Know chemicals in the environment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<p>2.1. Define chemicals</p> <p>2.2 Identify chemicals and classified obsolete ones</p> <p>2.3. Discuss the effect of 2.2 above on man and the environment.</p> <p>2.4. State measures to control banned chemical and obsolete pesticides</p>	<p>List various chemicals</p> <p>State measures to control banned chemicals</p>	<p>Projector charts</p> <p>Internet</p> <p>Lecture notes</p> <p>Journals</p> <p>Pictures</p>				<p>Test</p> <p>Assignment</p> <p>Examination</p>
<b>GENERAL OBJECTIVE: 3: Understand Private Sector Participation (PSP) in Environmental Health services</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1. Explain the term Private Sector Participation (PSP) in Environmental	Explain PSP	Lecture notes				<p>Test</p> <p>Assignment</p>

[illegible]

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
4.1. Discuss the term Sustainable Development Goals (SDGs) 4.2. Identify SDGs strategies relating to Environmental Health 4.3. State steps to be taken to achieve the SDGs as it relates to Environmental Health 4.4. Examine the SDGs Strategies relating to Environmental Health 4.5 Explore the various targets imbued in the Environmental Health-related SDGs 4.6. Explain the term e-governance. 4.7. Discuss e-governance as it relates to Environmental Health. 4.7. State the use of e-governance in Environmental Health services e.g. -administration -monitoring and evaluation -report writing -investigation -toxic chemical tracking -billing in PSP	The teacher should list SDGs strategies relating to Environmental Health  The teacher will explain the SDGs strategies relating to environmental health The teacher will explain e-governance as it relates to Environmental Health  The teacher will state the use of e-governance in Environmental Health services	Projector Test book Charts Internet Pictures Journal				Test Assignment Examination
<b>GENERAL OBJECTIVE: 5.0.: Appreciate the relationship between environment, emerging and re-emerging diseases</b>						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation

<p>5.1. Define exotic emerging and re-emerging diseases</p> <p>5.2. Identify exotic emerging and re-emerging diseases e.g. Ebola virus, zika virus, monkey pox, bird flu etc.</p> <p>5.3. Classify these diseases according to their causative agents</p> <p>5.4. Environmental control measures for these diseases</p>	<p>The teacher will define exotic emerging and re-emerging diseases</p> <p>The teacher will list exotic emerging and re-emerging diseases</p> <p>The teacher will list control measures for these diseases</p>	<p>Projector chart internet lecture note journal</p> <p>Maker Board chart journal lecture note Internet</p>	<p>Classify these diseases according to their causative agents.</p>	<p>The teacher should classify these diseases according to their consultative agents</p>	<p>Charts Audio/video Devices Pictures</p>	<p>Test Assignment Examination</p>
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: SEMINAR PRESENTATION</b>						
<b>COURSE CODE: EHT 416</b>						
<b>DURATION:</b>	Lecture: - 1hr	Tutorial: -	Practical: - 1hr	Total: 2hrs (30hrs/semester)		
<b>CREDIT UNITS: 2 CU</b>						
<b>GOAL: This course is designed to expose the students to practical skills for report writing and Presentation</b>						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Understand concepts used in seminars and seminar writing. 2.0 Know the stages involved in seminar preparation and writing. 3.0 Demonstrate presentation of seminar paper.						
<b>COURSE SPECIFICATION:</b> Theoretical Content: Practical Content:						
<b>General Objective 1.0:</b> Understand concepts used in seminars/seminar writing						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Define:	Lecture,	Lectures				Assignment,

<ul style="list-style-type: none"> <li>- Seminar</li> <li>- Symposium</li> <li>- Workshop</li> <li>- Conference</li> <li>- Summit</li> <li>- Colloquium.</li> </ul> <p>1.2 Describe the processes of conducting each type listed in 1.1 above.</p> <p>1.3 Identify ways of choosing themes/topics for seminars</p>	brainstorming,	notes Pictures Charts Books Journals Seminar papers				Test, Examination
<b>General Objective 2.0: Know the stages involved in seminar preparation and writing</b>						
<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>	<b>Specific Learning Objectives</b>
<p>2.1 Explain the process of Choosing a seminar topic</p> <p>2.2 Describe how to gather materials for seminar paper including data management.</p> <p>2.3 Describe styles in seminar paper preparation and presentation.</p> <p>2.4 State how to identify target for seminar presentation.</p> <p>2.5 Describe the use of peer review in seminar paper</p>	Lecture, brainstorming	Lectures Pictures Charts Books Journals	<p>2.1 Identify the target audience</p> <p>Choose a seminar topics</p> <p>Prepare a seminar paper</p>	Guide the students to identify the target audience, choose a topic and prepare a seminar paper	Journals, books, Sample seminar papers	Assignment, report writing
<b>General Objective 3.0: Demonstrate presentation of seminar paper</b>						
<b>Specific Learning Objectives</b>	<b>Specific</b>	<b>Specific</b>	<b>Specific</b>	<b>Specific</b>	<b>Specific</b>	<b>Specific</b>

	<b>Learning Objectives</b>	<b>Learning Objectives</b>	<b>Learning Objectives</b>	<b>Learning Objectives</b>	<b>Learning Objectives</b>	<b>Learning Objectives</b>
3.1 Describe how to prepare for seminar presentation (check list of material needed, method of presentation etc.). 3.2 Explain Power Point 3.3 Discuss technique involved in developing power point presentation. 3.4 List elements of an ideal power points presentation. 3.5 Describe how to capture your audience. 3.6 Describe styles of seminar presentation 3.7. Explain ways of convincing your audience 3.8. Describe ways of summarizing your points	Lecture, brainstorming, facilitation, demonstration	Lectures Pictures Charts Books Journals	2.2 Write a Seminar paper. Present a seminar paper. Conduct evaluation of seminar paper presented	Guide and coordinate students' presentation. Evaluate and score papers presented	Seminar papers, moderators, PAS,	Paper presentations

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: ENVIRONMENTAL HEALTH EMERGENCIES AND DISASTER MANAGEMENT</b>						
<b>COURSE CODE: EHT 417</b>						
<b>DURATION:</b> 4 HOURS	Lecture: - 2	Tutorial: -	Practical: - 2	Total:		
<b>CREDIT UNITS:</b> 4						
<b>GOAL:</b> The course is designed to equip the students with the knowledge and skills to carry out environmental health activities in emergencies.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Appreciate the fundamentals of environmental health emergencies.						
2.0 Analyze the organization of disaster operations.						
3.0 Analyze the composition of the health team in emergencies.						
4.0 Appreciate emergency actions for victims.						
5.0 Evaluate the general preventive measures against likely health problems.						
6.0 Understand emergency preparedness and response.						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 1.0</b> Appreciate the fundamentals of environmental health emergencies						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Describe the terms; Disaster and Emergencies.	The teacher should describe disaster and emergency.	Projector Video/Audio Devices. White marker board Books Pictures Journals Charts				Assignment, report writing
1.2 List common disasters e.g fire outbreak, flood, war, landslide, drought, earthquake, volcanic eruption, outbreak of diseases such as cholera, meningitis, measles and yellow fever.						
1.3 Classify common disaster into;						
a) Natural and;	The teacher should list the					
b) Man-made						

1.4 Determine the immediate needs of the victims such as immunization, food, water, shelter, clothing, psychological counseling and support.	<p>common disaster.</p> <p>The teacher should classify the common disasters.</p> <p>The teacher should list out the immediate need of victims of disaster.</p>					
<b>GENERAL OBJECTIVE: 2.0</b> Analyze the organization of disaster operations						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
<p>2.1 Explain the term organization as related to disaster operation</p> <p>2.2 List the personnel within the organizational framework of the disaster operation e.g. health personnel, security personnel, social welfare personnel, NEMA, information personnel, International and National Relief Agencies personnel and non- governmental organization personnel.</p> <p>2.3 Explain the duties of some of the personnel in relation to disaster operation.</p>	<p>The teacher should explain the term disaster as it relates to disaster operation.</p> <p>.</p>					Assignment, Test, Examination

<b>GENERAL OBJECTIVE: 3.0</b> Analyze the composition of the health team in emergencies.						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 List the composition of the health emergency response team. 3.2 Explain the role of the health team. <ul style="list-style-type: none"> <li>- Procedure for rescue operation</li> <li>- Analysis of the immediate needs</li> <li>- Organization of field operation</li> <li>- Report of the field activities</li> <li>- Referral</li> </ul>	The teacher should list the composition of the health team.  The teacher should explain the role of the health team.					Assignment, Test, Examination
<b>GENERAL OBJECTIVE: 4.0</b> Appreciates emergencies actions for victims..						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Explain the emergency action. <ul style="list-style-type: none"> <li>- Evacuation of victims.</li> <li>- Apply first aids when necessary.</li> <li>- Removal for treatment where and when applicable.</li> <li>- Arrange or prepare temporary settlement.</li> <li>- Arrange for necessary actions in case of disaster due to epidemic of infections such as cholera, yellow fever,</li> </ul>	Explain the emergency action.		4.1 Demonstrate how to evacuate victims.  4.2 Apply first aid where necessary.	-demonstrate how to eradicate victims. -explain how to apply first aid. He further call out students to	Models Charts Books White marker board.	Assignment, report writing

meningitis e.g. immunization, disinfections, food hygiene, water, sanitation, waste disposal etc.				demonstrate.		
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<b>GENERAL OBJECTIVE: 5.0</b> Evaluate general preventive measures against likely health problems.						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
5.1 Describe the general preventive measures against likely health problems e.g. water supply, provision of temporary settlement, food support, sanitation, food hygiene, waste disposal, immunization, surveillance and monitoring contacts or suspects. 5.2 Identify appropriate material and equipment etc. needed for environmental health in emergencies. 5.3 Identify environmental health personnel.	Describes the general preventive measures against health problems.  Identify appropriate material and equipment		5.1 Identify appropriate material and equipment needed for environmental health emergency.  5.2 Pay a visit to an area affected by a disaster.	The teacher should identify appropriate material and equipment.  Convey students to an area affected by a disaster.	Materials and equipment for environmental health emergency	Assignment, report writing
<b>GENERAL OBJECTIVE: 6.0</b> Understand emergency preparedness and response						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
6.1 Describe the fundamental of humanitarian action in emergency e.g. before, during and after emergency. 6.2 Identify appropriate activities for emergency preparedness. 6.3 Identify appropriate activities for emergency response. 6.4 Able to prepare emergency preparedness and response plan. 6.5 Able to make adequate emergency provisions such as	The teacher describes the fundamentals of humanitarians' action in emergency.  The teacher identifies appropriate					Assignment, Test, Examination

counseling, rehabilitation etc.	action for emergency.					
<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: ENVIRONMENTAL IMPACT ASSESSEMENT (EIA)</b>						
<b>COURSE CODE: 418</b>						
<b>DURATION:</b>	Lecture: - 2 Hours	Tutorial: - Nil	Practical: - 1	Total: 45Hours		
<b>CREDIT UNITS: 3CU</b>						
<b>GOAL:</b> This course is designed to provide student knowledge and skill of assessing environmental impact of project in the environment.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Know the purpose and aims of EIA. 2.0 Understand the nature and scope of environmental issues and impact. 3.0 Understand the principle of EIA administration and practice 4.0 Know the key element of EIA process 5.0 Know the cost and benefits of undertaking EIA.						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 1.0.: Know the purpose and aims of EIA</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Define ‘EIA’ 1.2 Explain the purpose and aims of EIA. 1.3 Outline short and long terms objectives of EIA.	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>				<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
<b>GENERAL OBJECTIVE:2.0: Understand the nature and scope of environmental issues and impact.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Describe the nature and scope of environmental issue and impact - Construction activities - Manufacturing industries - Mining projects • Solid minerals • Oil and gas exploration - Power generation projects - Agriculture • Crop production • Live stock • Poultry • Fishery	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>		Carryout visits to sites	Construction sites Industries	<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
<b>GENERAL OBJECTIVE:3.0: Understand the principles of EIA administration and procedure</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Explain the principle of EIA administration and practice - Purposive - Focused - Adaptive - Participative - Transparent - Rigorous - Practical	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discuss</li><li>• Brainstorm</li></ul>	<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>				<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>

- Credible - Efficient						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE 4.0: Know the key elements in EIA process.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Describe the component, stage and activities of an EIA process. - Screening - Scoping - Impact analysis - Mitigation and impact management - Reporting - Review of EIA quality - Decision making - Implementation and follow up	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE:5.0: Know the cost and benefit of understanding EIA.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1 Discuss the cost and benefit of Using E.I.A process.	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> <li>• Brainstorm</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>				<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA</b>						
<b>COURSE TITLE: ENVIRONMENTAL TOXICOLOGY</b>						
<b>COURSE CODE: EHT 419</b>						
<b>DURATION:</b> 2 HRS	Lecture: 2	Tutorial: -	Practical: -	Total: 2		
<b>CREDIT UNITS: 2</b>						
<b>GOAL:</b> This course is designed to introduce student to elementary toxicology and its place in environmental health						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1. Understand toxicology 2. Understand the control measure for toxic substances in the environment 3. Understand radiation and its health effect 4. Understand the toxicity of metals and pesticide						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b>						

1.5 State the route of entry of toxic substances to the human body. 1.6 Explain the terms: Toxic-Kinetics, carcino-genesis, mutagenesis, teratogenesis.  1.7 Identify health effects of toxic substances.		board				
<b>GENERAL OBJECTIVE: 2.0 Understand the control measure for toxic substances in the environment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Describe monitoring measures for toxic substances and hazardous waste. 2.2 Legislation to control toxic substances. 2.3 Enforcement of international convention and treaties. 2.4 Describe the control measures for toxic substances in the environment. 2.5 Educate the public on vigilance over toxic materials. 2.6 Control transportation/movement of toxic substances.	The teacher describes the control measure for toxic substances in the environment.			The teacher should divide the class into six groups (1-6) and assign them to make presentation during the next class base on items 2.1-2.6 respectively.		Quiz, Assignment, Examination
<b>GENERAL OBJECTIVE: 3.0 Understand radiation and its health effect</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Define radiation 3.2 State sources of radiation and identify	The teacher describes					Quiz, Assignment,

types. 3.3 Classify the uses of radiation. 3.4 State health effect of radiation. 3.5 Identify equipment for measuring radiation. 3.6 Explain radiation monitoring in different environmental settings.	radiation and its health effect.					Examination
<b>GENERAL OBJECTIVE: 4.0 Understand the toxicology of metals and pesticides.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Explain the characteristics and life cycle of metals and pesticides. 4.2 Examine the effect of exposure to metals and pesticides. 4.3 Describe organ-system patho-physiology of metals and pesticides. 4.4 Show the evaluation of metals and pesticides in water, soil, air, etc. 4.5 Describe the distribution of metals and pesticides in different environment. 4.6 Explain the prevention of metal and pesticides poisoning.						Assignment, Test, Examination.

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMETAL HEALTH TECHNOLOGY</b>				
<b>COURSE TITLE: MONITORING AND EVALUATION</b>				
<b>COURSE CODE: EHT 420</b>				
<b>DURATION:</b>	Lecture: - 1	Tutorial: -	Practical: - 1	Total: 2 (30)
<b>CREDIT UNITS: 2 C U</b>				
<b>GOAL:</b> The course is designed to provide the students with the fundamental knowledge and understanding of Monitoring and Evaluation processes				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1. Understand the concept of Monitoring and Evaluation. 2. Distinguish between monitoring and evaluation 3. Understand the Techniques of Monitoring and Evaluation				

<b>COURSE SPECIFICATION:</b>		Theoretical Content:		Practical Content:		
<b>General Objective:1.0</b> Understand the concept of Monitoring and Evaluation						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1.Define the concepts of Monitoring. 1.2. Define the concept of Evaluation 1.3. Explain the purposes of Monitoring and Evaluating of Projects Under: Probing/ Investigation	Teacher to use practical examples to explain	Lectures Pictures Charts Books			Charts Videos Audio tapes Pictures	Ask students to identify an event, project or program and let them

<ul style="list-style-type: none"> <li>• Assessment</li> <li>• Supervision</li> <li>• Follow up</li> <li>• Feed back</li> <li>• Cross checking</li> <li>• Tracking</li> <li>• Measurement</li> </ul>	what is supervision, Monitoring and Evaluations					individually list out the progress made towards achieving its objectives.
<b>General Objective: 2.0</b> Distinguish between Monitoring and Evaluation						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Distinguish Monitoring to be; <ul style="list-style-type: none"> <li>• A Concurrent tracking of events, activity, program</li> <li>• Supervision of Events and activities</li> <li>• Direct Participation in Events and activities</li> </ul> 2.2 Evaluation to be; <ul style="list-style-type: none"> <li>• for a Specific period</li> <li>• on the spot Assessment</li> <li>• targeted at results only</li> </ul>	Teacher to ensure student understand the distinction between 2.1 and 2.2	Lectures Pictures Charts Books			Charts Videos Audio tapes Pictures	Test, Assignment
<b>General Objective: 3.0</b> Understand the Techniques of Monitoring and Evaluation						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Explain the following Evaluation Techniques for evaluation of programme, <ul style="list-style-type: none"> <li>• Written Questionnaires</li> <li>• Informal Oral Interview</li> <li>• Structured interviews</li> </ul>	Teacher to use lecture notes to explain the techniques.	Lectures Pictures Charts Books		Asked students to develop framework for	Charts Videos Audio tapes Pictures	Assignment, Test

<ul style="list-style-type: none"><li>• Group discussion Methods</li><li>• Observation</li><li>• Survey</li><li>• Case Studies</li><li>• Checklist</li><li>• Slides Photos or Drawings</li></ul> <p>3.2. Explain Monitoring Indicators and types of indicators e.g.</p> <ul style="list-style-type: none"><li>• Quantitative Indicators/Output indicators.</li><li>• Qualitative indicators/Outcome indicators.</li></ul>				evaluation using one of the techniques.		
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>				
<b>COURSE TITLE: ENTREPRENEURSHIP DEVELOPMENT</b>				
<b>COURSE CODE: EED 413</b>				
<b>DURATION:</b>	Lecture: - 2	Tutorial: -	Practical: - 2	Total: 4 (60)
<b>CREDIT UNITS:</b>	4 C U			
<b>GOAL:</b> This course is intended to create awareness in a student and motivate him towards self-employment through the development of personal skills, competencies effectiveness and aptitudes using project based work in an economic setting to set-up and manage a small and medium enterprises successfully.				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1. Understand the history of Entrepreneurship development in Nigeria 2. Understand the need, scope and characteristic of entrepreneurship 3. Understand the various sources of information for entrepreneurship development 4. Appreciate the roles of commercial and development banks in small scale industrial development 5. Understand the functions of various support agencies in small and medium scale industrial development 6. Understand methods of product selection. 7. Understand the activities of different industrial association in relation to entrepreneurship 8. Know self through analysis of strengths, weaknesses, goal-setting and risk-taking behaviour				

9. Know the motivational pattern of entrepreneurs 10. Understand the functional areas of business 11. Understand the need for business planning.						
<b>COURSE SPECIFICATION: Theoretical Content</b>					<b>Practical Content</b>	
<b>General Objective 1: Understand the history of entrepreneurship development in Nigeria.</b>						
Specific Learning Outcomes	Teacher's Activities	Resources	Specific Learning Outcomes	Teacher's Activities	Resources	Evaluation
1.1 Narrate the Entrepreneurship history in Nigeria. 1.2 Compare entrepreneurship in Nigeria with Japan, India, China, Malaysia, South Korea, etc. 1.3 Explain Nigeria's values and entrepreneurship. 1.4 Describe the role of entrepreneurship in the development of small and medium scale industries	i. Explain Entrepreneurship, its historical development in Nigeria and role in small and medium scale industries. ii. Compare entrepreneurship in Nigeria with other countries of the world - Japan, India, China etc. iii. Show students video film of entrepreneurship development in any of the countries mentioned above: iv. Explain Nigeria's values and entrepreneurship.	- Text books - Journals - Publications - Video Film - TV - VCR	1.1 Use web-based information, guide students to explore entrepreneurship in Nigeria. Japan, India, China, Malaysia, South Korea etc.		Computer and accessories Internet facilities Encarta Ref. Library software.	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>General Objective 2: Understand the need, scope and characteristics of entrepreneurship</b>						
2.1 Define entrepreneurship and entrepreneur. 2.2 Define the role and functions of	i. Explain entrepreneurship and entrepreneur. ii. Explain the functions	- Text books - Journals - Publications	2.1 Guide student to research into the roles and	.	Visits Publication Text books Entrepreneur	

entrepreneurship. 2.3 Identify the entrepreneurial traits. 2.4 Explain entrepreneurial tasks. 2.5 Explain the need for entrepreneurship in national economic development. 2.6 Identify entrepreneurial risks and hazards	of entrepreneurship and its roles in national economic development. iii. Explain the various traits of an entrepreneur. iv. Explain entrepreneurial tasks, the inherent risks and hazards. v. Invite a successful entrepreneur to give a talk to students	- Entrepreneur	functions of an entrepreneur. Invite a successful entrepreneur to give a talk to students on entrepreneurial traits, talks, hazards and the need for entrepreneurship in national economic development		Internet and relevant websites	
<b>General Objective 3: Understand the various sources of information for entrepreneurship development</b>						
3.1. Identify organizations and agencies involved in the promotion and development of entrepreneurship. 3.2 Explain the roles of banks and financial institutions in enterprise creation. 3.3. Identify government agencies involved in sourcing fund and financing of enterprises e.g. Bank of Industry, National Directorate of Employment (NDE), Small and Medium Enterprises Development	i. Explain the various organizations and agencies involved in the promotion and development of entrepreneurship. ii. Explain the roles of banks and financial institutions in the creation of enterprises. iii. Explain the contributions of government agencies in sourcing information and protecting enterprises.	- Text books - Journal of Management and Economic Digest Publications.	3.1 Guide students to research to organizations and agencies involved in the promotion and development of entrepreneurship. 3.2 Use Web-based information to understand the international org. involved in assisting SMEs.		Computer Accessories Internet facility Application software Text books Journal.	

Agency of Nigeria (SMEDAN), Central bank of Nigeria including NGOs like Dangote Foundation, Tony Elumelu Foundation, etc. 3.4. Describe the contributions of government agencies in sourcing information including patent rights.	iv. Give assignment.		3.3 Guide student to conduct research to the roles banks and financial institutions in creation and efficient operation of an enterprises.			
<b>General Objective 4: Appreciate the roles of commercial and development banks in small scale industrial development</b>						
4.1. Identify financial institutions involved in entrepreneurship development. 4.2. Describe the assistance provided by commercial banks. 4.3. Explain the roles of development banks in the promotion and development of small and medium scale enterprises (SME's). 4.4. Describe government policy on financing small and medium scale enterprises (SME's).	i. Explain financial institutions involved in entrepreneurship development. ii. Explain the roles of commercial and development banks in the promotion and development of SME's. iii. Explain government policy on financing SME's	Text books - Journals - Publications	4.1 Guide student to demonstrate the knowledge of commercial, merchant and development bank in the promotion of small and medium scale enterprises. 4.2 Guide student to research to Government policies on financing small and medium scale enterprises.		Visitation and research Publications Text Books Computer with internet connection Video and films.	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<b>General Objective 5: Understand the functions of various support agencies in small and medium scale industrial development</b>						
<p>5.1 Identify various support agencies involved in the promotion and development of entrepreneurship.</p> <p>5.2 Enumerate the functions of support agencies.</p> <p>5.3 Explain the assistance rendered by Research Institutions/Universities/Polytechnics/Monotechnics/Technical Colleges in entrepreneurship development.</p> <p>5.4 Explain the roles of: Nigerian Export Promotion Council (NEPC)</p> <p>a) Nigerian Investment Promotion Commission (NIPC)</p> <p>b) National Economic Reconstruction Fund (NERFUND)</p> <p>c) National Directorate of Employment (NDE)</p> <p>d) Raw Materials Research and Development Council (RMRDC)</p> <p>5.5 Industrial Development Centers (IDC) and TBICs in the Promotion and Development of</p>	<p>i. Explain the various support agencies involved in the promotion and development of entrepreneurship and their functions.</p> <p>ii. Explain the roles of research institutes, institutions of higher learning in the development of entrepreneurship.</p> <p>iii. Show a film on Technology Business Incubation Centre (TBIC) operation.</p> <p>1.0 iv. Conduct Test.</p>	<p>Text books</p> <p>- Journals</p> <p>- Publications</p> <p>- TV</p> <p>- VCR</p> <p>- Relevant Video</p> <p>Cassettes.</p>	<p>5.1 Guide students to research to Research institutions, universities, polytechnics, Nigerian Expert promotion Council NIPC, NERFUND, NDE, IDC etc. Show a film on technology business incubation center.</p>		<p>Internet and relevant websites</p>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

Entrepreneurship						
<b>General Objective 6: Understand the methods of Product selection</b>						
6.1 Explain product selection. 6.2 Explain product selection criteria. 6.3 Identify key factors associated with product selection. 6.4 Describe venture idea generation. 6.5 Describe the steps involved in preliminary screening. 6.6 Evaluate critically, product ideas. 6.7 Explain the different steps in preparing pre-feasibility study. 6.8 Evaluate adequacy of infrastructural facilities for product selection. 6.9 Identify the relevant technology available for the selected product. 6.10 Evaluate sources and adequacy of raw materials for a selected product. 6.11 Explain effects of government policy and regulations on the selected	i. Explain product selection, criteria and factors associated with selection. ii. Explain venture idea generation. iii. Explain critical evaluation of product ideas and steps involved in preliminary screening. iv. Explain steps in preparing pre-feasibility study. v. Explain adequacy of infrastructural facilities for the selected product. vi. Explain availability of relevant technology for the selected product. vii. Explain sources and adequacy of raw materials. viii. Explain effects of government policy and regulation on the selected product.. ix. Explain legal aspects of business on the selected product.	Text books - Journals - Publications	6.1 Guide students to selection of product using criteria and factors associated with product selection. 6.2 Guide students to prepare a pre-feasibility of a given product and evaluate the viability, methodology and cost benefit analysis. 6.3 Use web-based information to generate venture idea on exportable product.		Computer with accessories and internet connection. Application packages Visitation and research Publications Journal Text books Internet and relevant websites	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

product. 6.12 Identify legal aspects of business in product selection.						
<b>General Objective 7: Understand the activities of different Industrial Associations in relation to entrepreneurship</b>						
7.1 Describe the roles of National Association of Small Scale Industrialists (NASSI) in entrepreneurship. 7.2 Describe the roles of National Association of Small and Medium Entrepreneurs (NASME). 7.3 Describe members of the Nigerian Association of Chambers of Commerce, Industry Mines and Agriculture (NACCIMA). 7.4 Describe the roles of the Nigerian Association of Chambers of Commerce, Industry Mines and Agriculture (NACCIMA). 7.5 Explain the roles of Manufacturers Association of Nigeria (MAN) in the development of Small and Medium Scale Enterprises (SME's). 7.6 Explain the activities of N.E.C.A and its roles in industry.	Explain NASSI and its roles in entrepreneurship development. Explain NASME and its roles in entrepreneurship development. Explain City, States and bi-lateral chambers of commerce and industry and their roles in entrepreneurship development. Explain NACCIMA and its role in entrepreneurship development. Explain MAN and its roles. Explain Nigerian Employers Consultative Association (N.E.C.A). and its roles.	- Text books - Journals - Publications	7.1 Guide students to research to NASSI, NASME, NACCIMA, CHAMBER of COMMERCE, MAN, NECA and demonstrate knowledge of their roles and functions to entrepreneurship. 7.2 Use Web-based information to compare the services of Chambers of Commerce in UK, USA, ASIA etc. 7.3 Carry out an excursion to a recognized trade fair closest to you.		Internet and relevant websites	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<b>General Objective 8: Know self through analysis of strength, weakness, goal setting and risk taking behaviour.</b>						
<p>8.1 Explain the following terms: a) Data collection about self. b) Who am I (personal efficacy) c) Rating of concepts d) Self Knowledge.</p> <p>8.2 Define individual life goal and link it to entrepreneurship.</p> <p>8.3 Identify the strengths and weaknesses in 8.2 above.</p> <p>8.4 Carry out a Ring TOSS Game.</p> <p>8.5 Explain the behavioural pattern observed in 8.4 above on: a) Moderate risk taking. b) Goal setting c) Learning from feedback d) Taking personal responsibility</p> <p>Confidence and self-reliance</p>	<p>Explain the term:- - Data collection about self - Personal efficacy - Rating of concepts - Self knowledge</p> <p>Explain individual life goal of entrepreneurship, their strengths and weaknesses. Explain Ring TOSS Guide students to carry out a Ring TOSS Game. Explain the behavioural pattern observed in a Ring TOSS Game: - Moderate Risk Taking - Goal Setting - Learning from feedback - Taking personal responsibility</p> <p>Confidence and self-reliance</p>	<p>Text books - Journals - Publications</p>	<p>8.1 Guide students to demonstrate knowledge of themselves, goals, entrepreneurship strength and weakness.</p> <p>8.2 Give practical assignments to student on personal efficacy, goals - link to entrepreneurship strength and weakness.</p> <p>8.3 Use web-based information to carry out simulation business games.</p> <p>8.4 Guide student to observe the pattern on: - Risk Taking - Goal Setting</p>		<p>Computer and accessories with internet connection Visitation and research. Research Internet and relevant websites</p>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

			etc.			
<b>General Objective 9: Know the motivational pattern of entrepreneurs</b>						
9.1 Define motivation 9.2 List the objectives of motivation 9.3 Identify barriers to motivation and achievement. 9.4 Analyse motive strength (from TAT scores) by: a) Locating achievement agencies Intensity of motives.	i. Explain motivation, its objectives, merits and demerits. ii. Carry out analysis on motive strength (from TAT scores) by: - Locating achievement Imageries - Intensity of motives  iii. Give assignment	- Text books - Journals - Publications	9.1 Guide student to carry-out Thematic Application Test (TAT) on a related case study model.		Formulated case study. Journal Publication Text Books. Internet and relevant websites	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
<b>General Objective 10: Understand the functional areas of business</b>						
10.1 Explain basic management concepts and functions. 10.2 Describe human capital function in small enterprise. 10.3 Identify the sources of finance and financial needs. 10.4 List the books of accounts necessary for operation of small enterprises. 10.5 Identify the financial regulations and taxes affecting small enterprise operation. 10.6 Explain the significance of insurance coverage for	Explain basic Management concepts and functions. Explain the basic functions of personnel in a small enterprise. Explain sources of finance and financial needs for a small enterprise. Explain books of accounts necessary for operation in a small enterprise concern. Guide students to prepare simple formats of prime books of	Text books - Journals - Publications Text books - Journals - Publications	10.1 Guide students to research to functional areas of business. 10.2 Use web-based information to explore E-business, E-commerce and other processes of trading and doing business on internet 10.3 Guide students to		Computer with accessories and internet connection. Application packages. Prime Books of Accounts. Text Books and publication. Internet and relevant websites	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

<p>small enterprise.</p> <p>10.7 Describe the role of marketing in a small enterprise development.</p> <p>10.8 Explain the importance of marketing mix to the growth and expansion of a small enterprise.</p> <p>10.9 Explain the roles and functions of the following:-</p> <p>a) Product Planning and Control</p> <p>b) Production Forms and Techniques</p> <p>c) Factory and facilities layout</p> <p>d) Work Process</p> <p>10.10 Explain the importance of quality control and production standards.</p> <p>10.11 Explain the need for maintenance management with special reference to:</p> <p>a. Routine maintenance</p> <p>b. Scheduled Maintenance</p> <p>c. Spare parts management and control</p> <p>Preventive Maintenance</p>	<p>accounts.</p> <p>Explain financial regulations and taxes affecting operations of small enterprises.</p> <p>Explain significance of insurance coverage for small enterprises.</p> <p>Explain the role of marketing and importance of marketing mix to the development and growth of a small enterprise.</p> <p>Explain the roles and functions of:</p> <ul style="list-style-type: none"> <li>- Product Planning and control.</li> <li>- Production forms and Techniques</li> <li>- Factory and facilities layout</li> <li>- Work Process.</li> </ul> <p>Explain importance of Quality control and production standards.</p> <p>Explain need for maintenance management with special reference to:</p>		<p>prepare prime books of Account using appropriate DBASE.</p> <p>10.4 Give practical assignment to students on the functional areas of business and their various roles to enterprise.</p>			
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	<ul style="list-style-type: none"> <li>- Routine maintenance</li> <li>- Scheduled maintenance</li> <li>- Preventive maintenance</li> <li>- Spare parts management and control.</li> </ul> <p>xii. Invite a successful entrepreneur to give a talk to students.</p>					
<b>General Objective 11: Understand the need for business planning</b>						
<p>12.1 Identify a viable business opportunity based on</p> <p>a) Demand</p> <p>b) Availability of resources</p> <p>c) Import substitution</p> <p>d) Export oriented products</p> <p>11.2 Explain the different steps in preparing a preliminary project report.</p> <p>11.3 Formulate a bankable project report.</p> <p>11.4 Analyse a sample project report.</p>	<p>Explain viable business and business opportunities based on:</p> <ul style="list-style-type: none"> <li>- demand</li> <li>- availability of resources</li> <li>- import substitution</li> <li>- export oriented products</li> </ul> <p>ii. Explain different steps in preparing a preliminary project and bankable project report.</p> <p>iii. Guide students to prepare a preliminary project report.</p>	<p>Text books</p> <ul style="list-style-type: none"> <li>- Journals</li> <li>- Publications</li> </ul>	<p>12.1 Guide students to prepare a feasibility study, using application soft wares.</p> <p>12.2 Guide students to prepare:</p> <p>A bankable project report and analyse the Technical operational economic viability Methodology Cost benefit analysis on equips, dev.,</p>		<p>Computers and application software</p> <p>Text books</p> <p>Journals</p> <p>Publications</p> <p>Visitation and research.</p>	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>

			cost, running cost.			
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>				
<b>COURSE TITLE: COMMUNICATION IN ENGLISH IV</b>				
<b>COURSE CODE: GNS 401</b>				
<b>DURATION:</b>	Lecture: - 2	Tutorial: -	Practical: -	Total: 2 (30)
<b>CREDIT UNITS:</b> 2 C U				
<b>GOAL:</b> At the end of this course the student is expected to be fully equipped to fit into all establishments requiring extensive use of communication skills for general and specific purposes.				

<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:									
1.0 Comprehend the theory and practice of communication. 2.0 Know the concept of organizational communication.									
<b>GOAL:</b> At the end of this course the student is expected to be fully equipped to fit into all establishments requiring extensive use of communication skills for general and specific purposes.									
<b>COURSE SPECIFICATION: Theoretical Content</b>						<b>Practical Content</b>			
<b>General Objective 1: Understand the history of entrepreneurship development in Nigeria.</b>									
<b>Specific Learning Outcomes</b>		<b>Teacher’s Activities</b>		<b>Learning Resources</b>		<b>Specific Learning Outcomes</b>	<b>Teacher’s Activities</b>	<b>Resources</b>	<b>Evaluation</b>
<b>Theory and Practice of Communication</b>  1.1 Define communication 1.2 Explain communication theory  1.3 Analyse in detail the communication process  1.4 Explain the different methods of communication, e.g. oral, written, non-verbal, etc.		<b>Theory and Practice of Communication</b>  1.1 Define communication 1.2 Explain communication theory  1.3 Analyse in detail the communication process  1.4 Explain the different methods of communication, e.g. oral, written, non-verbal, etc.		<ul style="list-style-type: none"><li>• Lecture notes</li><li>• Pictures</li><li>• Charts</li><li>• Books</li><li>• Journals</li><li>• Computer</li><li>• Projector</li><li>• DVD/Multimedia Player</li></ul>			<ul style="list-style-type: none"><li>•</li></ul>		<ul style="list-style-type: none"><li>• Assignment</li><li>• Class Test</li><li>• Presentation</li><li>• Examination</li></ul>
<b>General Objective: 2.0.</b> Know the concept of organizational communication									

<p><b>Organizational Communication</b></p> <p>2.1 Explain directions of communication flow, viz., internal (vertical, horizontal, diagonal, quasi vertical) and external.</p> <p>2.2 Differentiate inter-personal and intra-personal communication.</p> <p>2.3 Classify communication variables by content, source, channel, receiver, message, and effect.</p> <p>2.4 Analyse critically the barriers to effective communication.</p> <p>2.5 Analyse non-verbal communication, viz., kinesics proxemics, paralanguage and chronemics</p> <p>2.6 Demonstrate the use of the concepts in 2.5 above in a given hypothetical communication situation</p> <p>2.7 Explain the impact of certain variables on communication, e.g. environment, power,</p>	<p><b>Organizational Communication</b></p> <p>2.1 Explain directions of communication flow, viz., internal(vertical, horizontal, diagonal, quasi vertical) and external</p> <p>2.2 Differentiate inter-personal and intra-personal communication</p> <p>2.13 Classify communication variables by content, source, channel, receiver, message, and effect</p> <p>2.3 Analyse critically the barriers to effective communication</p> <p>2.4 Analyse non-verbal communication, viz., kinesics proxemics, paralanguage and chronemics</p> <p>2.5 Demonstrate the use of the concepts in 2.5 above in a given</p>	<ul style="list-style-type: none"> <li>• Lecture notes</li> <li>• Pictures</li> <li>• Charts</li> <li>• Books</li> <li>• Journals</li> <li>• Computer</li> <li>• Projector</li> <li>• DVD/Multimedia Player</li> </ul>		<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Class Test</li> <li>• Presentation</li> <li>• Examination</li> </ul>
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<p>status, role</p> <p>2.8 Explain the procedures for communicating in debates, meetings, seminars and conferences</p> <p>2.9 Organize debates, meetings, seminars, interviews and conferences</p> <p>2.10 Explain theories of leadership</p> <p>2.11 Explain leadership qualities</p> <p>2.12 Apply the principles of creative and creative thinking in conflict resolution.</p>	<p>hypothetical communication situation</p> <p>2.6 Explain the impact of certain variables on communication, e.g. environment, power, status, role</p> <p>2.7 Explain the procedures for communicating in debates, meetings, seminars and conferences</p> <p>2.8 Organize debates, meetings, seminars, interviews and conferences</p> <p>2.9 Explain theories of leadership</p> <p>2.10 Explain leadership qualities</p> <p>2.11 Apply the principles of creative and creative thinking in conflict resolution</p>					
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**HND 2 SECOND SEMESTER (YEAR FOUR)**

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL TECHNOLOGY</b>						
<b>COURSE TITLE: SANITARY INSPECTION OF PREMISES II</b>						
<b>COURSE CODE: EHT 421</b>						
<b>DURATION:</b>	Lecture: - 1	Tutorial: -	Practical: - 2	Total: 3hrs (45hrs/semester)		
<b>CREDIT UNITS: 3cu</b>						
<b>GOAL:</b> The course is designed to provide the students with the knowledge and skills of sanitary inspection of premises to detect and abate nuisances						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the students should be able to:						
1.0 Comprehend the concept of premises inspection.						
2.0 Understand the principles of practical inspection of premises						
3.0 Know the types of nuisances associated with housing.						
4.0 Understand relevant public health laws on sanitary inspection of premises						
<b>COURSE SPECIFICATION:            Theoretical Content: 1 Practical Content: 2</b>						
<b>GENERAL OBJECTIVE 1.0: Comprehend the concept of premises inspection</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1. List types of premises i.e. residential, industrial, commercial, hospitality 1.2. Classify housing into Type A, B, C and D. 1.3. Describe the characteristics of type A, B C and D housing. 1.4. Describe type of housing best suitable for a locality to ensure easier and proper health provisions 1.5.Explain the basic facilities required in premises e.g. Water supply, waste-bin, drainage, sanitary conveniences etc. 1.5. identify the appropriate location of	The teacher classifies housing into type A, B, C and D and describes their characteristics.  The teacher explains the basic facilities required in a premises.	Pictures Charts Books Journals	1.1 carryout inspection of various types and class of premises	The teacher guides and supervises the students during inspection of premises.	Writing materials, camera and video recorder	Continuous Assessment, Class test, Assignment, Quiz, Examination

these facilities in premises						
<b>GENERAL OBJECTIVE 2.0: Understand the principles of practical inspection of premises</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1. Define and distinguish the following: i. Slum ii. Housing iii. Temporary shelter/make-shift  2.2. Explain the procedure for gaining access into premises for sanitary inspection.	The teacher explains slum, Housing, temporary shelters and procedure for gaining access into premises for the purpose of inspection	Pictures, Charts, Books, Journals etc.	2.1 Draft content of abatement notice to be issued to occupants/owners  2.2. Carry out practical premises inspection (Routine and Incidental) of premises <ul style="list-style-type: none"> <li>Inspect the approach;</li> <li>Inspect the sanitary conveniences (toilet, bathrooms, kitchen)</li> <li>Inspect the surroundings ; Inspect the room for ventilation purposes, infestation by vectors and rodents.</li> </ul>	The teacher should draft an abatement notice	Books, projector etc.	Continuous Assessment, Class test, Assignment, Quiz, Examination
<b>GENERAL OBJECTIVE 3: Know the types of nuisances associated with premises</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1. Explain nuisances commonly associated with premises: refuse, sullage water, overgrown weed, filth smoke, rodent, reptiles, odour, etc. 3.2. Describe structural nuisances in premises (dilapidated walls, broken floor,	The teacher describes structural and statutory nuisances and how to abate	Pictures, Charts, Books, Journals	3.1 Carryout inspection of offensive trade premises to detect nuisances  3.2 Serve abatement	The teacher guides and supervises the students to detect nuisances	Camera, video recorder, writing materials, etc.	Continuous Assessment, Class test, Assignment, Quiz, Examination

ceiling, and roofing materials; absence or lack of sanitary conveniences). 3.3. Describe statutory nuisances in premises. 3.4. Explain offensive trade e.g. i. Bone boiling, blood boiling, tannery ii. Mills (Cassava Mill, Corn Mill, Rice Mill etc.) iv. Farming (poultry keeping, piggery.) v. Emission from power generator (gaseous and liquid emissions) 3.5. Discuss measures to abate the nuisances.	such nuisances.		notice in respect to the nuisances detected	during inspection.		
<b>GENERAL OBJECTIVE 4: Understand relevant public health laws on sanitary inspection of premises</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Explain relevant sections of environmental health laws on inspection including building bye- laws and Codes, Town planning laws. Regulations etc.  4.3. Apply guidelines for sanitary inspection of premises (SIP)	The teacher explains relevant environmental health laws on inspection.  Teacher explains how to apply guidelines for SIP.	Charts, Pictures, relevant laws, regulations and guidelines for SIP.	4.1 Draft content of notices as contained in the relevant laws and regulations (National Environmental Health Practice Regulations, 2016), Certificate of Fitness For Habitation CFH, Certificate of Fitness For Continued Habitation CFCH, Certificate of Fitness For Continued use CFCU, Certificate of Disinfestation CD, etc.)	Teacher demonstrates how to use guidelines of Sanitary inspection of premises and fill other relevant forms	Projector, Relevant forms.	Continuous Assessment, Class test, Assignment, Quiz, Examination



<b>PROGRAMME: HIGHER NATIONAL DIPLOMA ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: Environmental Health Emergencies and Disaster Management II</b>						
<b>COURSE CODE: EHT 422</b>						
<b>DURATION:</b>	Lecture: - 1hr	Tutorial: -	Practical: - 2 hrs.	Total:.3hrs ( 45 hrs./ semester)		
<b>CREDIT UNITS: 3 CU</b>						
<b>GOAL: This course is intended to equip the students with the knowledge and skills to carry out environmental health activities in emergencies</b>						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the students should be able to:						
1.0 Understand disaster management cycle. 2.0 Know steps involved in disaster /emergency preparedness. 3.0 Demonstrate how to carry out disaster/emergency response operations. 4.0 Understand the roles of Environmental Health Officer at recovery stage in disaster management. 5.0 Recognize mitigation process in disaster management. 6.0 Understand the National policies and guidelines on disaster management 7.0 Evaluate emergency operation						
<b>COURSE SPECIFICATION:</b> Theoretical Content: 1 Practical Content: 2						
<b>General Objective 1.0: Understand disaster management cycle</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1.Define disaster management 1.2.States the objectives of disaster management 1.3.describe the disaster management cycle: <ul style="list-style-type: none"><li>• preparedness</li><li>• response</li><li>• recovery</li><li>• mitigation</li></ul>	Define disaster management and draw the cycle showing all the components	Lecture notes, books, journals, charts, projector	1.1 Develop disaster preparedness plan ( rehearsal, awareness, building early warning signs, availability of equipment, procurement of relief materials)	Guide students to develop both long and short term plan for disaster preparedness	Planning template, charts, pictures.	Assignment, tests, quiz,

<b>General Objective 2.0: Know steps involved in disaster /emergency preparedness</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1. Explain emergency preparedness and its goal. 2.2. Outline programs for emergency preparedness (developing plans, awareness creation, procurement of materials, etc.)	Explain emergency preparedness and its goal. Explain the programs outlined	Lecture notes, books, journals, charts, projector	2.1 Develop emergency preparedness plan	Complete the sample planning template and guide the students to develop the plan	Planning template, Charts, pictures.	Assignment, tests
<b>General Objective 3.0: Demonstrate how to carry out disaster/emergency response operations</b>						
3.1. Explain emergency response. 3.2. State the steps involved in an emergency response (aids, shelter, rehabilitation / and reconstruction )	The teacher explains emergency response and states the steps involved in emergency response.	Lecture notes, books, journals, charts, projector	3.1 Develop emergency response plan.	Complete the sample planning template and guide the students to develop the plan. Lead the students to camps, re-settlement sites.	Planning template, Charts, pictures, camp/resettlement sites	Assignment, tests, field visit, report
<b>General Objective 4.0: Understand the roles of Environmental Health Officer at recovery stage in disaster management</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Explain recovery in disaster management. 4.2. Outline the focus areas at	Explains recovery and its goal.	Lecture notes, books,	4.1 Demonstrate how to carry out recovery exercise	Teacher demonstrates how to carry	Camps and resettlement sites.	Assignment, tests, quiz

recovery phase (temporary housing; public information; health and safety education; reconstruction; counseling programs; and economic impact studies, rebuilding and documentation of lessons learned).	Explains areas of concern at recovery phase and their importance	journals, charts, projector		out recovery activities		
<b>General Objective 5.0: Recognize mitigation process in disaster management</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1. Explain mitigation and its aim in relation to disaster management. 5.2 Describe mitigation strategy to be carried out in alleviating the impact of disaster to affected victims (building codes & zoning, vulnerability analysis, public education, land use policy)	Explains mitigation and its aim.  Explains mitigation strategies in disaster management	Lecture notes, books, journals, charts, projector	5.1 Demonstrate mitigation action against disaster	Teacher demonstrates how to construct building codes, and carry out vulnerability assessment, and health talk.	Picture, charts, projector.	Assignment, tests, quiz
<b>General Objective 6.0: Understand the National policies on disaster management</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

6.1. Explain the term policy 6.2. Outline basic policies and guidelines on disaster management such as : <ul style="list-style-type: none"> <li>policy on establishment of disaster management agencies (NEMA, SEMA, LEMC, IDPC)</li> <li>disaster prevention policy</li> <li>National policy on environment</li> <li>Guidelines on disaster management, etc.</li> </ul> 6.3. State agencies involved in disaster management 6.4. Outline the roles of the agencies stated in 6.3.	Explains the term policy and outlined some relevant policies and guidelines.  Identifies relevant agencies and their roles.	Lecture notes, books, journals, charts, projector				Assignment and test.
<b>General Objective 7.0: Evaluate emergency operation</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
7.1. Explain the concept of monitoring and evaluation of emergencies. 7.2. Develop a monitoring plan and identify monitoring indicators	Explains the concept of monitoring and evaluation. Draws a planning template with appropriate headings ( activities, responsible person, time frame, MOV, target, input, output)	Board, computer, projector, charts,	7.1 Carry out monitoring visit to camps and resettlement sites 7.2 Carry out data collection and analysis base on monitoring indicators 7.3 Carry out report writing and feedback	Leads students to visit camps and monitor the operation at different units.  Assists in data collection.  Guides on	Data collection tools, computer, calculators	Assignment, report writing, tests

				report writing		
<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMETAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: ENVIRONMENTAL HEALTH LAW, POLICY AND ETHICS</b>						
<b>COURSE CODE: EHT 423</b>						
<b>DURATION: 3 HOURS</b>	Lecture: - 2	Tutorial: -	Practical: - 1	Total:3hrs (45hrs/semester)		
<b>CREDIT UNITS: 3 C U</b>						
<b>GOAL:</b> The course is designed to provide the students with the fundamental knowledge of Environmental Health Laws						
GENERAL OBJECTIVE: On completion of the course, the students should be able to:						
1.0 Understand the provisions of existing Environmental Health Laws 2.0 Analyze the process of policy formulation and legislation. 3.0 Understand the ethics of Environmental Health profession. 4.0 Construct the milestones in the development of Environmental Health laws in Nigeria						
<b>COURSE SPECIFICATION:</b> Theoretical Content: 2 Practical Content: 1						
<b>General Objective 1.0: Understand the provisions of existing Environmental Health Laws</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1. State the different laws of environmental health e.g. <ul style="list-style-type: none"><li>Public Health Laws of Nigeria</li><li>Pollution abatement in industries and facilities generating waste regulation S.1.9 of 1991;</li><li>National Environmental Protection (Effluent limitation régulation</li></ul>	Teachers states relevant laws and regulations	Copies of laws and regulations.				Test Group work Assignment.

1991; • National Environmental Protection (Pollution in industries and facilities generating wastes). • National Environmental Protection Management of Solid wastes and hazardous waste regulation 1991; • National Environmental Health Practice Regulations, 2016 etc						
<b>General Objective 2.0: Analyze the process of policy formulation and legislation</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1. Define policy 2.2. Explain the process of policy formulation 2.3. State the different Environmental Health Policies and guidelines in Nigeria.	Teacher guides students to understand how regulations are made and policies are formulated.	Samples Copies of policies, guidelines				Test Group Work

<p>2.4.Enumerate the importance of Environmental Health Policies and Guidelines.</p> <p>2.5.Describe effective ways of implementing Environmental Health Policies and Guidelines.</p> <p>2.6.Outline impediments of policy implementation</p> <p>2.7.Explain the process of legislation at the LGA, State and Federal levels</p> <p>2.8.Define regulation</p> <p>2.9.Differentiate the following: policy, regulation and laws</p> <p>2.10. Identify environmental health regulations</p> <p>2.11. Describe the process of making regulation</p> <p>2.12. Identify factors that hinder regulations from achieving its objectives</p> <p>2.13 Discuss the role of various Arms of Government in Legislation and Adjudication of Environmental Health Laws: Executive; Legislature; Judiciary</p>						
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<b>General Objective 3.0: Understand the Ethics of Environmental Health profession</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1. Define Ethics. 3.2. Define profession. 3.3. List and discuss criteria for professionalism. 3.4. Differentiate between profession and vocation. 3.5. Discuss the effects of quackery in Environmental Health profession. 3.6. State the ethics of environmental health profession. 3.7. Discuss the importance of each ethical code. 3.8. Explain the various sections of the Environmental Health Officers Registration etc Act 11 of 2002 having effect to professional ethics	Teacher states the Environmental Health Ethics and guides the discussion on the effects of quackery practices in the profession.	Projector, White board, Lecture notes, Copies of available laws				Home work

3.9. Discuss the penalties set aside for failure to abide by professional code of ethics						
3.10. Describe the procedure for sanctioning erring professionals						
3.11. Explain the relevant documents guiding the enforcement of code of professional ethics						
<b>General Objective 4.0: Construct the milestone in the development of Environmental Health laws in Nigeria</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Discuss the development of Environmental Health Profession in the pre and post-independence period in Nigeria. 4.2. Discuss challenges influencing the enforcement of Environmental Health Laws in Nigeria.	Teacher discusses the development of Environmental Health Profession and also factors influencing Environmental Health Laws in the Country.	Projector, White board, Lecture notes, Copies of laws and policies Available.				Assignment and Test

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>							
<b>COURSE TITLE: HEALTH IMPACT ASSESSMENT</b>							
<b>COURSE CODE: EHT 424</b>							
<b>DURATION:</b>	Lecture: - 2hrs	Tutorial: -	Practical: - 1hr	Total: 45hrs			
<b>CREDIT UNITS:</b>							
<b>GOAL:</b> This course is designed to provide students with fundamental knowledge of identifying, evaluating and controlling environmental health hazards and mitigating its impacts on the environment.							
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:							
1.0 Understand HIA 3.0 Know how to determine when to do an HIA? 3.0 Understand HIA Process Models 4.0 Know the Procedure for EHIA 5.0 Know how to perform HIA Review Process.							
<b>General Objective 1.0: Understand HIA</b>							
<b>Specific Learning Objectives</b>		<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Define the following: <ul style="list-style-type: none"><li>• Environmental Assessment</li><li>• Environmental Impact</li><li>• Health Impact</li><li>• Environmental Audit</li></ul> 1.2 State the purpose of Environmental Impact Assessment.		Leads discussion and contribution by students to understand the meanings of the terms. Ask questions and modified the answers	Lectures Pictures Charts Books Diagrams	Illustrate the terms with references and power point presentation for sight seeing	lead the student to a construction site for better understanding	Charts Videos Audio tapes Pictures	Test, Assignments, group discussion, quiz

<b>General Objective 2.0: Know the scope of Environmental Health Impact Assessment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 State the scope of Environmental Impact Assessment. 2.2 Explain type of projects need HIA? 2.3 Outline criteria for selecting project 2.4 Explain mandatory vs. voluntary HIA 2.5 Discuss the stages in Environmental Health Impact Assessment.	Teacher discusses the scope and the need to work within the scope.	Lectures Pictures Charts Books Internet	Analyze the scope of EIA, types of projects that need HIA, criteria for selecting the project EIA	Identifying projects that need EIA and criteria for selecting project	Charts Videos Audio tapes Pictures Internet	Class tests Assignment to students via internet
<b>GENERAL OBJECTIVE 3.0: Understand HIA Process Model</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Understand the Process Model for Health Impact 3.2 Demonstrate how to manipulate the process for some select projects 3.3 Discuss levels of HIA - HIA at Federal, state and local Levels 3.4 Discuss styles and format in HIA 3.5 Explain capacity to conduct HIA	Ask questions and lead students to understand the process Model for Health impact and how to manipulate the process for some selected projects	Lectures Pictures Charts Books	Demonstrate the process model for health impact	Guide students to practically go through the step by step process through the model	Charts Videos Audio tapes Pictures	Class tests Assignment to students via internet

<b>GENERAL OBJECTIVE 4: Know the Procedure for EHIA</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Explain the Procedures for EHIA as stated below: <ul style="list-style-type: none"> <li>• Who is involved</li> <li>• Which organization is responsible</li> <li>• Professional groups involved in EHIA</li> <li>• Specific Role of EHO Barriers to HIA use</li> <li>• Funding requirements</li> <li>• Staff requirements</li> <li>• Time requirements</li> <li>• Infrastructure requirements</li> <li>• Others</li> <li>• EHIA as part of EIA</li> <li>• EHIA as part of EHS</li> </ul>	Discuss the Procedures of EHIA, discussing the professional groups involved.	Lectures Pictures Charts Books	Presentation of the procedures, Professional group and their roles in EHIA			Class tests Assignment to students via internet
<b>GENERAL OBJECTIVE 5.0:: Know how to perform HIA Review Process</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1 Discuss following issues on <b>HIA Review</b> <ul style="list-style-type: none"> <li>• Who is involved in the review exercise</li> <li>• Duration for review</li> <li>• Stages, Condition and criteria for Approval/disapproval</li> </ul> 5.2 Discuss the Organizations/Units/Experts involved in the review exercise, 5.3 Discuss the Issues in environmental health	Explain the process involved in the review and the organization involved	Lectures Pictures Charts Books	Presentation of the process involved in the review and the organization	Give group assignment on HIA Review	Charts Videos Audio tapes Pictures	Assign students to go to the agency concerned to review old EIA, EAR and report to class.

regulatory system and enforcements. 5.4 Discuss the Advantages and disadvantages of HIA reports and review. 5.5 Discuss the Challenges for HIA Exercise in Nigeria. 5.6 Discuss the Process, Scope, Procedures and review Exercise on Environmental Health Audit Review. 5.7 State the steps in monitoring and mitigating environmental health impact on the environment. 5.8 Explain the followings; ✓ Production of Final HIA report ✓ Technical Committee/decision making and certification ✓ Supervision of project implementation and mitigations plan. ✓ Remediation plan	Explain the issues in Environmental health regulatory system and enforcement, challenges in HIA exercise, and the procedure for environmental health review	Lectures Pictures Charts Books internet	Presentation of references on the environmental health regulatory system and enforcement, challenges in HIA exercise and the procedure for environmental health review	Group discussion	Lectures Pictures Charts Books internet	Assignments, test, group work
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY (HND EHT)</b>				
<b>COURSE TITLE: INTERNATIONAL HEALTH</b>				
<b>COURSE CODE: EHT 425</b>				
<b>DURATION:</b>	Lecture: -1hr	Tutorial: -	Practical: - 1hr	Total: 2hrs (30hrs./semester)
<b>CREDIT UNITS: 2 CU</b>				
<b>GOAL: The course is designed to equip the students with adequate knowledge of international Health regulations, prevention and control of diseases in port health services</b>				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1. Know the fundamentals of Port Health Services 2. Recognize the International measures and procedures against diseases in international health regulations 3. Understand the international Health regulations on specific diseases 4. Apply the duties of Environmental Health Officers in port health services				

<b>PROGRAMME:HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: INTERNATIONAL HEALTH      Course Code: EHT 425      Contact Hours: 30 hrs./semester</b>						
<b>COURSE SPECIFICATION:</b> Theoretical Content: Practical Content:						
<b>General Objective 1.0:Know the fundamentals of port health services</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Discuss the historical background of international health services. 1.2 Explain international health 1.3 List the objectives of international health regulations 1.4 Explain the purposes of port health services 1.5 Define the following terms in line with international health	Give background of international health services. Explain the terms. List diseases of international regulation.	Lectures Pictures Charts Books Journals				Assignment, tests, quiz

regulations: <ul style="list-style-type: none"> <li>• <i>Aedes aegypti</i> index;</li> <li>• Aerosol;</li> <li>• Isolation;</li> <li>• infected person;</li> <li>• Imported case;</li> <li>• medical examination,</li> <li>• Valid certificate</li> <li>• free pratique</li> <li>• yellow card</li> </ul> 1.6 Discuss the diseases of international health regulations as follows: <ul style="list-style-type: none"> <li>• plague,</li> <li>• Cholera,</li> <li>• Yellow fever etc.</li> </ul> 1.7 Discuss the Health importance of the diseases in International Health Regulations	Explain international regulations					
<b>General Objective 2.0: Recognize international entry measures and procedure against diseases subject to international health regulation</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Discuss quarantine signals and flags in port health services 2.2 Discuss the importance of the following port health documents in port health services and their preparation:	Explain the quarantine signals and its usage	Sample Certificates, charts, books, journals, models	2. Demonstrate the stages and process of the quarantine signals and documents	Field trip to various port stations in the country for further understanding of the port health services and duties	Certificates, logistics for movement to, Air port, sea port and land borders in the	Assignment, tests, quiz, practical

<ul style="list-style-type: none"> <li>• Bill of health,</li> <li>• maritime declaration of Health,</li> <li>• Aircraft General Declaration, Derating certificate,</li> <li>• Derating exemption certificate,</li> <li>• International certificate for vaccination or revaccination against yellow-fever and cholera.</li> </ul>			involved in port health services		country	
<b>General Objective 3.0:</b> Understand the international Health regulations on specific diseases						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1. Explain port health regulations, the epidemiology, vaccination and control measures on plague: <ul style="list-style-type: none"> <li>• Incubation period of plague</li> <li>• Vaccination against plague</li> <li>• Periodic deratting of Ship</li> <li>• Issuance of derating certificate or a derating exemption certificate</li> </ul>	Lecture, brainstorming, Demonstration Ask questions and modified answers	Books, journals, lecture notes, projector, slides, certificates, Chemicals disinfectants, spraying equipment	3.1 Demonstrate how to Collect water and food sample for analysis. 3.2 Analyze the samples 3.3 Carry out disinfection of water and food receptacles	Carry out sample collection and analysis	Food and water samples, laboratory reagents and equipment, chemical disinfectants	Assignments, tests, quiz, practical

(Environmental Sanitation Certificate) <ul style="list-style-type: none"> <li>• Isolation</li> <li>• Disinfecting and disinfestations</li> <li>• Quarantine if</li> </ul> 3.2. Explain epidemiology and special provision in relations to cholera: <ul style="list-style-type: none"> <li>• Incubation period of cholera</li> <li>• Surveillance of isolation</li> <li>• Removal and safe disposal of any water, food, human, wastes and any other matter which is considered to be contaminated</li> <li>• Disinfection of water tanks and food handling equipment</li> <li>• Bacteriological examination of food stuffs at the country of final destination</li> </ul> 3.3. Explain epidemiology and special port health provisions related to Yellow fever: <ul style="list-style-type: none"> <li>• the incubation period of Yellow-fever</li> </ul>						
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<ul style="list-style-type: none"> <li>Yellow-fever vaccination</li> <li>Isolation when necessary.</li> </ul>						
<b>General Objective 4.0: Apply the duties of environmental health officers in port health services</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Discuss the duties of Environmental Health Officers in relation to port health services as follows: <ul style="list-style-type: none"> <li>Inspection of premises in the port health (including ships and air craft)</li> <li>disinfection and disinfestations</li> <li>Vector and pest control</li> <li>First aid</li> <li>Bacteriological examination</li> <li>Management of toxic substance</li> </ul>	Explain the duties and demonstrate how to carry them out	Books, journals, lecture notes, projector, slides, certificates	4.1 Carry out environmental duties	4.1 Field trip to ports to perform the following duties: <ul style="list-style-type: none"> <li>Detect and abate nuisances in and around port premises</li> <li>Ensure proper collection, storage and disposal of waste at ports</li> <li>Take proper control measures, against <i>Aedes aegypti</i> and other insect vector in the ports</li> <li>periodically take sample of water from sources and distribution network for</li> </ul>	Ports, inspection log book Logistic for the trip Test kit,	Assignment, reports, tests

				<p>bacteriological examination</p> <ul style="list-style-type: none"><li>• Examine food handlers, stools, sputum and blood regularly.</li><li>• Carry out regular inspection of vessels, vehicles, and premises within ports</li><li>• Derat ships and premises within the ports</li><li>• Issue derating exemption certificate to ships</li><li>• Advise travelers on immunization requirements for international travellers</li><li>• Administer the required vaccination to travelers</li><li>• Screen travellers on international voyages against quarantinable diseases by examining</li></ul>		
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				<p>individuals records</p> <ul style="list-style-type: none"><li>• Direct travelers to health facilities in emergencies</li><li>• Provide First Aid treatment in emergencies</li><li>• Receive and reply coded message from ship captain and pilots.</li><li>• Take measures to control transmission of diseases through incoming suspected ships/vehicle/ aircraft</li></ul>		
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<b>PROGRAMME: HND ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: PEST MANAGEMENT EQUIPMENTAND MACHINERY</b>						
<b>COURSE CODE: EHT 426</b>						
<b>DURATION:</b>	Lecture: - 2 Hours	Tutorial: - Nil	Practical: - 1	Total: 45Hours/Semester		
<b>CREDIT UNITS: 1</b>						
<b>GOAL:</b> This course is designed to Provide students with the knowledge and practice on pest management equipment and machinery						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0. Know various pest management machinery/equipment 2.0. Understand the principles of operation 3.0. Evaluate the components/mechanism of each machines/equipment. 4.0. Know the procedures of maintenance of equipment/machines.						
<b>COURSE SPECIFICATION:</b> <b>Theoretical Content:</b> <b>Practical Content:</b>						
<b>GENERAL OBJECTIVE: 1.0.:Know various pest management machinery equipment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1. Define and discuss pest management procedures 1.2. Discuss various pests involved in the management 1.3. List the general classes of Pest management machines: <ul style="list-style-type: none"><li>• Manuel sprayer</li><li>• ULV sprayer</li><li>• Air craft sprayer</li><li>• Motorized sprayer</li><li>• Boom Sprayer</li></ul>	Brain storming discussion Ask questions	Reference books charts makers board	1.1 Analyzing the various part of the machines	Demonstrates the process of operating each of the machines and identifying the parts of each of the machines	Different types of pest equipment	Test, Assignment Examination

<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
<b>GENERAL OBJECTIVE: 2.0. Understand the principles of operation</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1. Explain the principles of operation of typical manual sprayer: <ul style="list-style-type: none"><li>• Knapsack sprayer and</li><li>• motorized sprayer</li></ul> 2.2 Distinguish between high volume and ultra-low volume sprayer2.3. Compare the field efficiency of high volume low value and ultra-low volume sprayers.2.4. Explain the merit and demerit of different classes of sprayers	Exploration Discussion       Discussion and Explanation	Books, Journal Marker board projects     Reference Books marker Board	2.1. Identify the various parts of motorize sprayer    2.2. Compare (a) typical manual and a typical motorized sprayer	Demonstrating the uses and showing the efficiency of the various equipment	Pest equipment/machine	Test, Assignment Examination       Test, Assignment Examination
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>		<b>Practical Content:</b>		
<b>GENERAL OBJECTIVE: 3.0. Evaluate the components/mechanisms of each machine/equipment</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1. State the mechanisms of each pest management machines/equipment3.2. Explain the tips on appropriate handling of sprayers	Explanation and discussion	Reference books and journals projector	3.1. Carry out practical field operations of equipment   1.1. Carry out practical field Operation and observe different nozzle spray patterns	Demonstrate  Field trip for practicalization on the uses	Pests equipment Reference Books	Test, Assignment Examination

<b>GENERAL OBJECTIVE: 4.0. Know the procedures of maintenance of Equipment machines</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1. Examine the procedures on how to clean spraying equipment	Discussion Explanation	Projector Charts Books and Journals	4.1. Dismantle and reassemble common manual operated sprayers.  4.2. Identify worn out or weak parts through visual assessment.  4.3. Replace with new one such as worn-out nozzles and seals.	Demonstrating the dismantle and reassembly of the equipment	Pests equipment Reference Books	Tests Examinations

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH</b>				
<b>COURSE TITLE: Occupational Health and Safety</b>				
<b>COURSE CODE: EHT 427</b>				
<b>DURATION:</b>	Lecture: -1	Tutorial: -	Practical: - 1	Total: 2
<b>CREDIT UNITS: 30 C U</b>				
<b>GOAL: The Course Is Designed To Provide The Students With The Fundamentals Of Occupational Health And Types Of Occupational Hazards/Diseases And Their Control</b>				
<b>GENERAL OBJECTIVE: On completion of the course, the student should be able to;</b>				
1.0 Understand the fundamentals of concepts in occupational health 2.0 Know the components of occupational health and occupational health programmes in the industry 3.0 Evaluate the types of occupational hazards and diseases in an occupational environment 4. 0 Understand the major principles of controlling hazards in an occupational environment 5.0 Know the various occupational health and safety legislations 6.0 Recognizes causes, effects and prevention of Occupational Accident				

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH</b>						
<b>COURSE: Occupational Health &amp; Safety</b>			<b>Course Code:</b> 427	<b>Contact Hours:</b> 30 Hours		
<b>COURSE SPECIFICATION:</b>		Theoretical Content: 1	Practical Content: 1			
<b>General Objective 1.0:</b> Understand the fundamentals of concepts in occupational health						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Explain the following: Occupation, Occupational health, Occupational hazard, Occupational Safety, occupational health services, occupational environment, work associated diseases, work related	Teacher should ask volunteers to define the terms listed; Correct wrong responses and	Projector Text Books Internet Lecture notes Charts Pictures			Charts	Students should be given group work to document major constraints and limitations in

diseases, Occupation/ industrial hygiene, non- occupational environment. 1.2 Outline the Evolution of occupational health from Industrial revolution in Europe. 1.3 Explain the objectives of occupational health as defined by WHO/ILO Joint Committee 1.4 Discuss the history of Occupational Health in Nigeria. 1.5 Explain major constraints and limitations in the practices of occupational health in developing countries. 1.6 Discuss roles of Federal Ministries of Health and Labour in occupational health and safety.	commend right responses.	Tutorial				the practices of occupational health in Nigeria or a State.
<b>General Objective 2.0:</b> Know the components of occupational health and occupational health programmes in the industry						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Describe the components of occupational health. a. Occupational health medicine b. Industrial hygiene c. Industrial welfare services 2.2 Discuss the Professional Groups Involved in occupational health Services such as; a. Environmental Health Officer b. Occupational Health Nurse c. Occupational Physician	Engage students in group discussion and ask them to make meaningful contributions	Lectures Pictures Charts Books Journals				Assignments on identifying local but hazardous occupations in the immediate environment by each student.  Group work by

d. Occupational Hygienist e. Industrial Psychologist d. Ergonomics e. Welfare Officers f. Safety (fire) Officers g. Counselors etc. 2.3 Describe occupational health programmes under: preventive, Curative, Rehabilitative and promotive. 2.4 Identify possible health risk areas in a work environment such as typical manufacturing industry, educational institution, recreation ground, offices and local occupations.						students to identify community resource that will support implementation of occupational health regulations
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**General Objective 3.0:** Evaluate the types of occupational hazards and diseases in an occupational environment

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
3.1 Describe occupational hazards under the following: i. Chemical ii. Physical iii. Biological and iv. Psychosocial 3.2 Describe the broad categories of occupational diseases e.g. Occupational lung diseases, Occupational dermatitis, Occupational cancer, Occupational asphyxiation, Occupational injuries/accidents	Engage students in group discussion and ask them to make meaningful contributions	Lectures Pictures Charts Books Journals			Charts Models	

**General Objective 4.0:** Understand the major principles of controlling hazards in an occupational environment

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
4.1 Describe major principles for controlling occupational environment a. Mechanical control e.g. Shielding, ventilation etc. b. Administrative control e.g. works practices etc. c. Personal Protective Equipment (PPE) d. Elimination/Substitution e. Engineering control (e.g. Engine Design) f. Ergonomic control. 4.2 Identify protective clothing in various occupations e.g. hand gloves, etc. 4.3 Carry out factory inspection to identify hazards and recommend possible control measures.	Engage students in group discussion and ask them to make meaningful contributions	Projection Text Books Internet Lecture notes Charts Pictures Tutorial				
<b>General Objective 5.0:</b> Know the various occupational health and safety legislations						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
5.1 Explain occupational health and safety laws under the following: - Factories Act 1958 - Factories Act 1987 - Workman Compensation Act 1987.	Teacher should use the copies of Factory Acts of 1958, 1987 and the compensation act of 1987 to discuss the various	Factory Acts of 1958, 1987 and the compensation act of 1987, White board, journals, Text Books Internet				Assignment for students to identify the challenges in the implementation of these acts.

	provisions and the role of EHO in each.	Lecture notes Charts Pictures Tutorial				
<b>General Objective 6.0:</b> Recognizes causes, effects and prevention of Occupational Accident						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
6.1 Explain occupational Accident under the following; 6.1.1 Types of Accidents 6.1.2 Occupational Accident 6.1.3 Causes, 6.1.4 Effects 6.1.5 Control and Prevention 6.1.6 maintenance of Accident Register in work environment 6.1.7 Roles of various Stakeholders in the Prevention and control of Occupational accident.	Teacher uses the copies of Factory Acts of 1958, 1987 and the compensation act of 1987 to discuss the various role of EHO in accident prevention	compensation act of 1987, White board, journals, Text Books Internet Lecture notes Charts Pictures Tutorial			PPE materials	Students should work in group to Identify causes of occupational accidents in their immediate environment .

<b>PROGRAMME: HIGHER NATIONAL DIPLOMA</b>				
<b>COURSE TITLE: HEALTH PROMOTION</b>				
<b>COURSE CODE: 428</b>				
<b>DURATION:</b>	Lecture: 1	Tutorial: -	Practical: -1	Total: 30 HOURS
<b>CREDIT UNITS: 2</b>				
<b>GOAL:</b> The course is designed to provide students with knowledge and skills to supervise communities, change their negative behaviors patterns, accept positive health practices and promote healthy living.				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1.0	Understand the basic concepts and principles of health promotion.			
2.0	Know the basic principles of communication in health promotion.			
3.0	Know the methods of effective communication in health promotion.			
4.0	Know the stages in community diagnosis and mobilization.			
5.0	Evaluate health promotion activities.			
6.0	Understand the procedure for care and maintenance audio/visual aids			
<b>COURSE SPECIFICATION:</b>		<b>Theoretical Content:</b>	<b>Practical Content:</b>	<b>30</b>
<b>GENERAL OBJECTIVE: 1.0 Understand the basic concepts and principles of health promotion</b>				

Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Define health promotion. 1.2 State the aims and objective of health promotion. 1.3 State the principles of health promotion. 1.4 Outline the settings for health promotion. 1.5 List the strategies for behavioural change. 1.6 Explain health promotion. 1.7 Describe the methods of health promotion.	Teacher: - Explain, Ask questions and Brainstorms.	<ul style="list-style-type: none"> <li>Lecture notes</li> <li>Pictures</li> <li>Charts</li> <li>Books</li> <li>Journals</li> <li>Computer</li> <li>Projector</li> <li>DVD/Multi media Player</li> </ul>				<ul style="list-style-type: none"> <li>Assignment</li> <li>Class Test</li> <li>Presentation</li> <li>Examination</li> </ul>
<b>GENERAL OBJECTIVE: 2.0 Know the basic principles of communication in health promotion</b>						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
2.1 Define Communication. 2.2 List common communication theories. 2.3 Describe each communication theory listed above. 2.4 State the purpose of effective communication. 2.5 Describe the process of communication.	Explain Ask questions and elicit answers Give assignments	Posters Books Marker board/marker protective Audio/tape video	2.1 Demonstrate effective communication pattern  2.2 Identify various communication materials and equipment e.g posters, audio/visual aids.  2.3 Prepare IEC	Demonstrate Present	Flip chart Pictures  Flip charts Flannel graphs. Flip charts Flannel graphs Posters etc.	Tests Assignments Examination.

			materials			
<b>GENERAL OBJECTIVE: 3.0 Know the methods of effective communication in health promotion.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 List methods of effective communication. 3.2 Explain each method listed above. 3.3 State the advantages and disadvantages of communication.			3.1 Demonstrate effective communication patterns	Brainstorms with students.	Role play	Tests Assignments
<b>GENERAL OBJECTIVE: 4.0 Explain the stages in community diagnosis and mobilization</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Define the terms: - Community - Community diagnosis - Community mobilization - Entry behavior 4.2 Outline the organizational structure of a community (organogram) 4.3 Describe process of entering a community. 4.4 Explain the importance of community diagnosis/mobilization	Explains Questions and Brainstorming	Pictures Charts Books Journals	4.1 Draw an organogram  4.2 Prepare action plan for health promotion intervention.		Communities Landmark (physical features of the community)	

process in environmental health. 4.5 List the methods used for data collection in community diagnosis.						
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<b>GENERAL OBJECTIVE: 5.0 Evaluate health promotion activities</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1. list different technique for evaluating health promotion activities. 5.2. Discuss various methods use to evaluate health promotion activities. 5.3. Prepare evaluation tools for health promotion activities.			5.1 Develop indicators for measuring environmental health intervention eg: access to; - safe water - access and utilization of latrines. - effective waste management.	Demonstrates Brainstorms	Charts Books/Journals Video displays Projectors	Test Assignments Examination
<b>GENERAL OBJECTIVE: 6.0 Understand the procedure for care and maintenance of audio/visual aids</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
6.1 List types of audio/video aids 6.2 State the method for care and maintenance of audio/video aids. 6.3 Describe the precautionary measures involved in the handling of projectors, taper etc.	Explains State	Videos Tapes Pictures Charts	6.1 Undertake routine care/maintenance of :  - Overhead slides and LCD - Lenses - Digital camera - Video recorders - Playback heads.			



<b>PROGRAMME: HIGHER NATIONAL DIPLOMA ENVIRONMENTAL TECHNOLOGY</b>				
<b>COURSE TITLE: FOOD HYGIENE, INSPECTION AND SAFETY</b>				
<b>COURSE CODE: EHT 430</b>				
<b>DURATION:</b>	Lecture: - 1hr	Tutorial: -	Practical: - 1hr	Total: 2hrs. 30hrs/semester
<b>CREDIT UNITS: 2 CU</b>				
<b>GOAL:</b> This course is designed to enable the students acquire knowledge and skills on food hygiene and inspection				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1.0 Know the principles of food hygiene				
2.0 Recognize food borne diseases				
3.0 Understand the quality assurance measures for food safety				
4.0 Know the basic principles of food and food premises inspection				
5.0 Understand the law, policy and guideline of food hygiene practice				

COURSE SPECIFICATION: Theoretical Content:			Practical Content:			
General Objective 1.0: Know the principles of food hygiene						
Specific Learning Objectives	Teachers Activities	Learning Resources	Specific Learning Objectives	Teachers Activities	Learning Resources	Evaluation
1.1 Explain the concept of food hygiene. 1.2 List the objectives of food hygiene 1.3 Discuss the principles of food hygiene viz: i. Personnel ii. Products iii. Premises	Explain the concept of food hygiene. Explain the objectives of food hygiene. Discuss the principles	Charts, projector, slides,	1.1 Field trip to demonstrate the application of the principles of food hygiene	Demonstrate areas of application of the principles	Charts, projector,	Assignment , tests, practical

iv. Utensils						
1.4 Enumerate food hygiene habits						
1.5 Discuss Personal Hygiene in Food Handling						
<b>General Objective 2.0: Recognize food borne diseases</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 Define food borne diseases 2.2 Explain major types of food borne diseases: - bacterial - fungi 2.3 classify food borne diseases according to etiology: - bacterial - viral - helminthes - chemical 2.4 Define food Poisoning 2.5 Explain major types of food poisoning 2.6 State the prevention and control of food poisoning 2.7 Explain the steps involved in investigation of food poisoning	Explain food borne diseases. Differentiate between food borne disease and food poisoning. Explain preventive measures of food borne diseases and food poisoning. List steps for investigation of epidemics	Board, charts, books, journals, projector, books, charts, board	2.1 Demonstrate the analysis of suspected food to detect diseases 2.2 Carry out food poisoning investigation	Field trip to site of outbreak and collect sample of suspected food and analyze.	Projector, food samples	Assignment, test, practical
<b>General Objective 3.0 Understand the quality assurance measures for food safety</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>

			<b>Objectives</b>			
3.1 Define the following terms: - Quality control - Quality assurance - Food safety 3.2 Explain measures for food safety 3.3 Explain food preservation 3.4 Describe methods of food preservation: - smoking - salting - canning - microwaves - dehydration Etc. 3.5 Explain Hazard Analysis Critical Control Point ( HACCP)	Explain the terms and measures for food safety. Explain food preservation. Explain HACCP	Board, charts, books, journals, projector, books, charts, board	3.1 Apply measures of food safety 3.2 Carry out food preservation 3.3 Apply HACCP to safeguard food quality	3.1 Demonstrate how to apply safety measures. 3.2 Demonstrate how to preserve food. 3.3 Demonstrate the point at which to apply HACCP for food control.	Food sample, projector, preservation equipment	Assignment, practical
<b>General Objective 4.0: Know the basic principles of food and food premises inspection</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Define the following: - Food premises - Food inspection - Regulated premises 4.2 Explain the principles of food and food premises inspection 4.3 Explain the sanitary requirement of food premises. 4.4 Outline the steps involved in food premises inspection. 4.5 Explain the steps listed in 4.4	Explain the terms food premises, food inspection and regulated premises. Explain principles of food and food premises inspection. Explain the requirement of food premises. Explain the steps for	Board, charts, books, journals, projector, books, charts, board	4.1 Carry out inspection of food 4.2 Carry out routine inspection of premises 4.3 Carry out routine inspection of food handlers	Lead students to field trip and demonstrate food inspection. Demonstrate how to carry out premises inspection. Demonstrate how to inspect	Food premise, food sample, inspection log book	Assignment, practical, inspection report

4.5 Identify the major areas of focus during food premises inspection 4.6 Describe health and hygiene requirement of food handler. 4.7 State the qualities of food handlers	food premises inspection. Describe food handling procedures. Explain the qualities of a good food handler			food handlers		
<b>General Objective 5.0: Understand the provisions guiding food hygiene practice</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
5.1 Explain relevant food laws, policy and regulation e.g. - Food adoptive bye Laws - Public health law - National Environmental Health Practice Regulations 5.2. Understand National and International Food Laws And Policy e.g. National Food Safety Law	Explain relevant law	Board, charts, books, journals, projector, books, charts, board	5.1 Carryout food and food premises inspection, 5.2 Apply food laws.	Lead students to field trip and demonstrate food inspection.	Food premise, food sample, inspection log book	Assignment, practical, inspection report

<b>PROGRAMME: HND ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE TITLE: BUILDING CONSTRUCTION AND SANITATION</b>						
<b>COURSE CODE: EHT 431</b>						
<b>DURATION:</b>	Lecture: - 1hr	Tutorial: -	Practical: 1 hr	Total: 30		
<b>CREDIT UNITS: 2 CU</b>						
<b>GOAL:</b> This course is designed to enable the students acquire basic knowledge/skill of building components, operation and sub-structural works.						
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:						
1.0 Know the various building pattern and components.						
2.0 Understand the factors for consideration in the construction of building.						
3.0 Understand the general principles of selecting and preparing sites for various types of foundations.						
4.0 Understand the principles of damp-proofing in building.						
<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>						
<b>COURSE: BUILDING CONSTRUCTION AND SANITATION      Course Code : 431                      Contact Hours: 30</b>						
<b>COURSE SPECIFICATION:</b>						
<b>Theoretical Content:</b>			<b>Practical content:</b>			
<b>GENERAL OBJECTIVE: 1. Know the various building pattern components.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
1.1 Explain the terms building components.	Explain the terms building component	- Projector - Text Books - Internet - Lecture notes - Charts - Pictures	1.1 Draw the building components	Demonstrate drawing of building components.	- Charts - Pictures - Models.	Test Examination.
1.2 Enumerate building components, e.g. Foundation, floor wall, ceiling, roof, fenestration, doors, windows etc.	Enumerate building components					
1.3 Identify the different functional requirements of building components.	Explains the functional requirements of building		1.2 Sketch the various building components.			Quiz Test Examinations

	components					
<b>GENERAL OBJECTIVE: 2. 0 Understand the factors to be considered in the construction of building</b>						
<b>COURSE SPECIFICATION</b>	<b>Theoretical Content:</b>		<b>Practical Content:</b>			
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
2.1 List the site activities which proceed the actual building construction. 2.2 Explain the importance of providing the following facilities on site: temporary services, roads, materials, storage accommodation, site huts, offices and sanitary convenience. 2.3 Explain factors to be considered in site organization and layout. 2.4 Describe the process of setting out a building using the following 3,4,5 method, builders' square method, theodolite method.		<ul style="list-style-type: none"> <li>- Projector</li> <li>- Text book</li> <li>- Internet</li> <li>- Lecture notes</li> <li>- Charts</li> <li>- Pictures</li> </ul>	2.1 Carry out setting out processes for a building.  2.4 Demonstrate the process of setting out a building.	Demonstrate setting out processes for a building.	Charts Pictures Models	Tests Examinations Assignments
<b>GENERAL OBJECTIVE: 3.0 Understand the general principle of selecting and preparing sites for various types of foundation.</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
3.1 Define: a. Excavation b. Foundation c. Construction site 3.2 Explain the method of excavation: <ul style="list-style-type: none"> <li>- Manual</li> <li>- Mechanical</li> </ul> 3.3 List the tools used in manual	Explain the method of excavation.  The teacher will illustrate simple calculation on	<ul style="list-style-type: none"> <li>- Projector</li> <li>- Text book</li> <li>- Internet</li> <li>- Lecture notes</li> <li>- Charts</li> <li>- Pictures</li> </ul>	3.1 Sketch the different methods of earthwork support to trenches in different types of soils  3.2 Illustrate simple calculation on bearing strength or concrete area beneath load		Charts Pictures Models	Test Examination

<p>and mechanical methods of excavation.</p> <p>3.4 Describe the principal machine used in excavation.</p> <p>3.5 Explain the different methods of earth work support to trenches in different types of soils.</p> <p>3.6 List types of foundation.</p> <p>3.7 Describe different types of foundation and their application.</p> <p>3.8 Explain the importance of foundation.</p> <p>3.9 State the various types of soil and how they affect choice of foundation.</p> <p>3.10 Explain the methods of construction of various types of foundations.</p>	<p>bearing strength</p> <p>The teacher will illustrate methods of reinforcement information.</p> <p>Teacher will explain the methods of construction of various types of foundation.</p>		<p>bearing structures in soils.</p> <p>3.2 Illustrate methods of reinforcement information, ground beams, sheet piles, bearing piles and equipment.</p> <p>3.3 Demonstrate methods of reinforcement information.</p> <p>3.4 Carry out foundation works.</p>	<p>Demonstrate how to carryout foundation works.</p>		
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<b>GENERAL OBJECTIVE: 4.0 Understand the principles of damp-proofing in building</b>						
<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objectives</b>	<b>Teachers Activities</b>	<b>Learning Resources</b>	<b>Evaluation</b>
4.1 Define damp proofing in building 4.2 Explain the importance of damp-proofing in structural works. 4.3 Describe the process of the rising and seepage of ground and underground water in damp proofing. 4.4 Explain the principle of tacking in basement works. 4.5 Identify the function of Damp-Proof Course. (D.P.C). 4.6 Enumerate the various Damp-Proofing materials in use. 4.7 Explain the importance of hard core. 4.8 Explain the use of blinding.	The teacher will explain the importance of damp-proofing in structural works.  The teacher will describe the process of the rising and seepage of ground and underground water.  The teacher will explain the principle of tacking in basement	Projector Text book Internet Lecture notes Charts Pictures Tutorial. Projector Lecture notes Internet Marker board.  Projector Lecture notes Marker board Charts Pictures	4.1 Demonstrate the process of the rising and seepage of ground and underground water.	The teacher will demonstrate the process of the rising and seepage of ground and underground water.	Charts Pictures Models	Test Examination Assignment

	<p>works.</p> <p>The teacher will list the functions of damp-proof cause.</p> <p>The teacher will enumerate the various damp-proofing material in use.</p> <p>The teacher will explain the importance of hard core</p> <p>The teacher explain the use of blinding.</p> <p>The teacher explains the use of anti-termite</p>		<p>4.2 Use anti-termite treatment in foundation works.</p> <p>4.3 Carry out damp-proofing works on structure.</p>	<p>Demonstrate how to carry out damp-proofing works.</p> <p>The teacher will demonstrate how to carry out damp-proofing works.</p>		
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	treatment information works.					
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<b>PROGRAMME: HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY</b>				
<b>COURSE TITLE: PROJECT</b>				
<b>COURSE CODE: EHT 432</b>				
<b>DURATION:</b>	Lecture: -	Tutorial: -	Practical: - 2	Total: 2 (30)
<b>CREDIT UNITS:</b>	2 C U			
<b>GOAL: This project provides the student with an opportunity to investigate and report on a specific aspect of farm machinery and farm power development</b>				
<b>GENERAL OBJECTIVE:</b> On completion of the course, the student should be able to:				
1.0	Review current literature pertaining to a specific issue or problem			
2.0	Assess the extent of the issue or problem in agricultural practice			
3.0	Gather and analyse information to identify potential solutions and reach a conclusion			

4.0 Produce a final report on the project

**PROGRAMME:** HIGHER NATIONAL DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY

**COURSE:** Project

**COURSE CODE:** EHT 432

**CONTACT HOURS:** 2Hrs/Wk

**GOAL:** This project provides the student with an opportunity to investigate and report on a specific aspect of farm machinery and farm power development

**General Objective: 1.0** Review current literature pertaining to a specific issue or problem.

Specific Learning Objective	Teachers Activities	Learning Resources	Specific Learning Objective	Teachers Activities	Learning Resources	Evaluation
1.1. Choose, under guidance, an appropriate topic for investigation 1.2. Review current literature to relevant to choice of topic	Guide students in selecting a suitable topic Provide guidance in finding sources	List of available topics Notes Internet Textbooks Internet Notes	1.1 Students should select a suitable topic and produce a plan of action setting out key targets to meet over the semester 1.2 Review current literature to relevant to choice of topic	Support students in planning their activities Support students in their research. Provide guidance in finding appropriate sources	List of available topics Notes Internet Textbooks Internet Notes	

**General Objective: 2.0** Assess the extent of the issue or problem in agricultural practice

2.1. Investigate the issue or problem in agricultural practice	Support students in their investigation	Textbooks Internet Notes	2.1 Students should identify required information and appropriate methods of data collection	Guide students in determining the most appropriate data collection strategy for the specific issue	Textbooks Internet Notes	
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<b>General Objective: 3.0 Gather and analyse information to identify potential solutions and reach a conclusion</b>						
3.1. Collect information according to agreed methods.	Support students in data collection	Textbooks Notes Data sheets	3.1 Analyse the data collected in order to reach a conclusion	Supervise students in data analysis	Textbooks Notes Data sheets Statistical packages	
<b>General Objective: 4.0 Produce a final report on the project</b>						
4.1. Produce final written report on project	Guide students in the production of their written report	Internet Notes Textbooks	4.1 Students should produce a final report on their project	Guide students in the production of their written report	Internet Notes Textbooks	

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%
<b>TOTAL</b>		<b>100</b>

**LIST OF MINIMUM RESOURCES****A. LIST OF PHYSICAL FACILITIES**

<b>Programme</b>	<b>Laboratory</b>	<b>Studio/Drawing Room and Other</b>
Environmental Health Technology (ND/HND)	1. Basic Sciences (Biology; Chemistry & Physics) - (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.**

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

**LIST OF EQUIPMENT IN ENVIRONMENTAL HEALTH LABORATORY**

<b>S/No</b>	<b>EQUIPMENT</b>	<b>QUANTITY REQUIRED</b>
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.**

<b>S/No</b>	<b>EQUIPMENT</b>	<b>QUANTITY REQUIRED</b>
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.**

<b>S/No</b>	<b>EQUIPMENT</b>	<b>QUANTITY REQUIRED</b>
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**

<b>SNO</b>	<b>EQUIPMENT</b>	<b>QUANTITY</b>
1	Motorized sprayers	3
2	Knapsack sprayer	6
3	Cp3 mist blower	2
4	Catch-alive trap	1
5	Hudson sprayer	1
6	First aid boxes	6
7	Hand held sprayer	4
8	Leg trap	2
9	Break back	1
10	Container for mixing of chemical	1
11	Respirator	2
12	Eye google	1
13	Hand gloves	8 PAIRS
14	Glue board trap	7
15	Pesticides	5
16	Pesticides specimen of various types	22
17	Mask	6
18	Model wc	3
19	Complete set of wc	1
20	Waste bin bucket (plastic)	20
21	Model waste bin (wood)	2
22	Model incinerator	1
23	Drawing board	
24	Pvc pipe	1
25	Ceramic bath	1
26	Wooden table	1
27	Plastic tables	2
28	Wooden model house (2 roof model)	2

29	Voltage regulator	1
30	Model of water treatment tank	1
31	Layout model	1
32	Preserved soil samples	2
33	Preserved animal specimen (rat)	1
34	Wooden model of a well	1
35	Composting model (wooden)	1
36	Metal tripod stand	1
37	Wooden board	1
38	Bag of spoilt cement	HALF
39	Ceiling fan	1
40	White board	1

## **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:**

**1 no. Senior Lecturer and above**

**1 no. Lecturer II**

**1 no. Lecturer III/Assistant Lecturer**

**For Higher National Diploma**

**2 no. additional Lecturers**

**LIST OF PARTICIPANTS**

<b>S/N</b>	<b>NAME</b>	<b>ADDRESS</b>	<b>DESIGNATION</b>	<b>E-MAIL</b>
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. Isiaka Nda Aliyu	College of Health Technology, Offa, Kwara State		
4	Mr. Omosanya Musbahu	College of Health Technology, Eleyele-Ibadan, Oyo State		
5	Mr. Nwachukwu Matthew	School of Health Technology, Oji River, Enugu State		
6	Alh. Shehu Mohd Makarfi	Shehu Idris College of Health Technology, Makarfi, Kaduna		
7	Mr. Bitrus Emmanuel	Shehu Idris College of Health Technology, Makarfi, Kaduna		
8	Mr. Ikpeme Ita	College of Health Technology, Calabar		
9	Mr. Chigbu Emmanuel Izundu	Abia State College of Health Sciences & Management Technology, Aba, Abia State		
10	Mal. Abdullahi Bubuche	Kebbi State Agency for Control of Aids, Birnin Kebbi, Kebbi State		
11	Dr. Abonyi Dominic O.	Environmental Health Officer Registration Council of Nigeria (EHORECON), Abuja	Registra	
12	Baba Yakubu Mohammed	(EHORECON), Abuja	Assistant Director	
13	Isah Adamu	(EHORECON), Abuja	Assistant Chief Environmental Health Officer	
14.	Bright Dowole	(EHORECON), Abuja	Principal Environmental Health Officer	

15	Mrs. Helen Oduntan	NBTE, Kaduna	Director (Monotechnic Programmes)	
16	Engr. Godwin Okpe	NBTE, Kaduna	Chief Programmes Officer	<a href="mailto:godwinokpe946@gmail.com">godwinokpe946@gmail.com</a>
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