

**APPENDIX III**  
**DEPARTMENT OF GEOGRAPHY AND NATURAL RESOURCES**  
**MANAGEMENT, UNIVERSITY OF UYO**  
**DIPLOMA**  
**IN**  
**ENVIRONMENT & DEVELOPMENT**

**INTRODUCTION**

Since the World Commission on Environment and Development report in 1987, nations have expressed the need to generate environment friendly attitudes with an aim to ensure sustainable development. The need was anchored on the utilization of resources by establishing integrated links between ecology and policy and between ecology and management. Hence the need to integrate environmental policies into developmental decision-making has remained paramount. The Diploma Programme in Environmental and Development is a fundamental programme that seeks to excite committed involvement in environmental problem solving through generation of practical solutions that can be tested and assessed.

**PHILOSOPHY OF THE PROGRAMME**

The quality of the Nigerian environment is increasingly becoming a policy issue of major significance, as a factor of economic development, health, quality of life and well-being, food security and social infrastructure. But improving the quality of the environment has been found to be slow, complex and acrimonious. The foundations for building a sustainable environmental awareness have largely not been laid. Rather, environmental regulations, having become national issues have posed even more complex problems to development due to the trans-boundary nature of environmental problems, conflicting policies and varying developmental interests of the component states. The Diploma in Environment and Development explores level as they relate to the Nigerian and global environment.

**VISION**

The vision of the programme is to achieve excellence in knowledge of Nigeria's environment for sustainable development

**MISSION STATEMENT**

The Diploma Programme seeks through teaching and learning to produce knowledgeable individuals in the understanding of Nigeria's Environment and associated phenomena, versed in the integration of environment with development as an approach to achieving sustainable local, national and regional development.

**OBJECTIVES OF THE PROGRAMME**

The Diploma Programme in Environment and Development seeks to achieve the following:

- (i) Enable students understand the spatial relationships of the environment in line with current formulations in the social and Environmental Sciences.
- (ii) Enable students understand the concept of Environment and Development as it relates to the physical, social and cultural aspects of modern society.
- (iii) Enable students cultivate a sense of environmental friendliness towards the society and an intelligent interest in environmental preservation as a factor of development.
- (iv) Develop skills in environmental monitoring and measurement of development indices.
- (v) Provide lower level manpower for environment related establishments, state and non-state agencies and consultancies.
- (vi) Provide opportunities for students wishing to pursue degree programmes in Environment and Development, Geography and Resource Management, etc.

**ADMISSION REQUIREMENTS**

Candidates must satisfy the following requirements for admission into the Diploma Programme in Environment and Development:

At least five "O" level/SSCE/GCE/NECO (at not more than two sittings) including, English language, mathematics, one Social Science subject and one Science subject; credit in Geography will be required for those wishing to pursue programmes in Geography and Resources Management, but may not be required for further programmes in Environment and Development.

### DURATION OF THE PROGRAMME

The duration of the Programme shall be a minimum of four (4) Semesters.

### REQUIREMENTS FOR GRADUATION

The Diploma Programme in Environment and Development requires 67 credit hours of course work and 4 credit hours of supervised Long Essay at the end of a student's study.

### CLASSIFICATIONS FOR ORDINARY DIPLOMA

- (i) Distinction-GPA 4.50 – 5.00; (ii) Credit – GPA3.50 – 4.49;
- (iii) Merit – GPA 2.50 – 3.49; (iv) Fail – GPA < 2.50.

### COURSE STRUCTURE

All courses listed here are compulsory

#### YEAR ONE: FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
*GST 101	Use of English I	2
DED 111	Introduction to Sustainable Development	2
DED 112	The Physical Environment I	2
DED 113	The Human Environment I	2
DED 114	Introduction to Resource Management	2
DED 115	Elementary GIS and Remote Sensing	2
DED 116	Introductory Statistics and Application	2
DED 117	Global Environmental Institutions	2
	<b>TOTAL</b>	<b>16</b>

#### YEAR ONE: SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
*GST 102	Use of English II	2
DED 121	Perspectives on Environment and Development I	2
DED 122	The Physical Environment II	2
DED 123	The Human Environment II	2
DED 124	Introduction to Environmental Science	2
DED 125	Ecosystems and Ecological Distortions	2
DED 127	Environment and Development Field Work	3
	<b>TOTAL</b>	<b>15</b>

#### YEAR TWO: FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
*GST 201	Basic Computer Studies	2
DED 211	Perspectives on Environment of Development II	2
DED 212	Methods in Environmental Analysis	2
DED 213	Land Evaluation and Reclamation	2
DED 214	Waste Management and Environmental Health	2
DED 215	Poverty and Environment	2
DED 216	Management of Resource Conflicts	2
DED 217	Climate Change and Adaptation	2
DED 218	Environmental Monitoring	2
DED 219	Environmental Law and Ethics	2
	<b>TOTAL</b>	<b>20</b>

## YEAR TWO: SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
DED 221	Environmental Economics	2
DED 222	Pollution and Environmental Quality	2
DED 223	Nigeria's Environmental Policies	2
DED 224	Assessment of Environmental Impacts	2
DED 225	Environmental and Ecological Audits	2
DED 226	Environment and Development Long Essay	4
DED 227	Ecological Economics and Application	2
	<b>TOTAL</b>	<b>16</b>

*\*These are courses taught by the Directorate of General Studies*

### COURSE DESCRIPTION

#### First Semester

##### **\*GST 101: Use of English I**

Use of English is a two semester course. The first semester comprises study skills, lexis, and the skills involved in speaking and listening. The course is designed to assist students by including the appropriate study habits and high level skills required to cope with university work, especially in an environment where English Language is used as the medium of instruction and communication. The course aims at improving reading, listening, speaking, writing, note-taking, studying and examination skills as well as the use of the library.

##### **DED 111: Introduction to Sustainable Development**

Meaning of sustainable development; sustainable development as a concept, the WCED and terms of reference; relationship between environmental problem and development problem; guidelines to sustainable development; importance of sustainability (protection of life support systems, biotic diversity, ecosystem integrity, preventive and adaptive strategies)treated in detail.

##### **DED 112: The Physical Environment I**

Classification and influence of rocks; their types and uses, types of mountains, plateaux and plains; volcanic activities, types, features and uses; earthquakes – causes and distribution; mass movement and gullyng; the river system, erosion and deposition features, coastal landforms and features, waves, tides and currents, coastal erosion, sea level rise and causes.

##### **DED 113: The Human Environment I**

Importance of agriculture -factors influencing and types of agriculture; soil erosion and fertility loss, conservation and farming system; urban and rural environments; problems of urbanization rural development; industrialization minerals – distribution and processing the global iron and steel industry, other metallic ores; petroleum and oil refining, uses of petroleum, effects on environment; electricity, advantages, HEP, nuclear and solar, wind.

##### **DED 114: Introduction to Resource Management**

Concept of resource management, natural resource management, renewable and non-renewable resources; ecosystem approach; principles and characteristics; integrated and conventional methods; the place of local knowledge; participatory appraisals; conservation principles;

##### **DED 115: Elementary GIS and Remote Sensing**

Meaning nature, scope and historical development of GIS;  
Components and functions of a typical GIS; Sources of GIS Data; data structure; Remote sensing as a major source of GIS data; meaning, scope and historical development of remote sensing. Remote sensing systems; GIS and remote sensing applications in environment and development studies;

##### **DED 116: Introductory Statistics and Application**

Descriptive Statistics – meaning of statistics and relevance in environment and development; data collection and levels of measurement; measures of central tendency and deviation; probability theory; normal distribution, skewness

and kurtosis; probability and non-probability sampling; data presentation graphical, tabular and charts etc with real-life and hypothetical data.

### **DED 117: Global Environmental Institutions**

Institutions and organizations; evolution of environmental institutions, the World Bank and IMF policies and projects; the UNEP, origin and functions; UNESCO/IUCN and WWF activities; USEPA pioneering regulations; global awareness activities – conference on Human Environment, Ramsar, Earth summit, UNCCCF, Copenhagen etc.

### **Second Semester**

#### **\*GST 102: Use of English II**

The second semester component of the Use of English focuses on elements of grammar and writing. Through the book review exercise, attention will be given to the application of the library skills learnt in the first semester.

### **DED 121: Perspectives on Environment and Development I**

Human activity and total carrying capacity of the biosphere; environmental cost of human activities; energy and material use minimization; reduction of noxious emissions; rehabilitation of degraded ecosystems; socio-political and economic equity; environmental concerns and political decision making; stakeholder involvement in development; political activity and environmental experience.

### **DED 122: The Physical Environment II**

Meaning and importance of weather and climate; elements of weather and climate; insolation; factors affecting elements of climate; precipitation; rainfall and types; land and sea breezes, monsoons and their importance; cyclonic activity – low and high pressure cells, typhoon and tornadoes; tsunamis-causes, effects; climatic types and natural vegetation-equatorial rainforest and savannas; deforestation; desertification and erosion.

### **DED 123: The Human Environment II**

Manufacturing; industrial revolution; industrial groups; factors of industrial location; industrial areas in Nigeria and the world; effects of industrialization; importance of world transport; land, ocean and air transport and their effects; settlement types, factors of location, functions and classification; problems of urbanization, with Nigerian examples.

### **DED 124: Introduction to Environmental Science**

Biogeochemical cycles and energy flow-transfer of energy through plants; formation and maintenance of matter; role of the atmosphere, O<sub>2</sub>, O<sub>3</sub>, CO<sub>2</sub> and water vapour; the solar radiation spectrum; photosynthesis and primary productivity; food chains; water, O<sub>2</sub>, carbon, N<sub>2</sub> and phosphorus cycles; human impact on these cycles; climatic modification and accelerated erosion; groundwater formation, aquifers and artesian systems.

### **DED 125: Ecosystems and Ecological Distortions**

Concept of ecosystems; components, interactions and energy flow; grazing and detrital food chains; vegetation and ecosystem dynamics; plant and animal adaptations; limitations of growth in ecosystems; distortions and disruption of growth; modifications and environmental ecology of biotopes.

### **DED 127: Environment and Development Field Work**

Each student will be guided in a local field study but required to submit an independently written report of not more than 2,300 words on a suitable environmental issue and topic. The topic will be approved by the Department.

### **Third Semester**

#### **DED 211: Perspectives on Environment and Development II**

Accessible political processes; effective decision-making; poverty reduction processes; economic coercion vulnerability; creative participation in economic and political system; minimum level of equality, social justice; open and just legal system; political repression; quality education; access to information; freedom of religion, speech and assembly. These socio-political criteria are used to evaluate governance in relation to development in Nigeria.

#### **DED 212: Methods in Environment and Development**

Sampling methods – systematic, random and stratified; estimation of sample size; survey methods, rural appraisal, questionnaire design; interviews; participatory learning and action; oral testimonies;

#### **DED 213: Land Evaluation and Reclamation**

Classification of land use types; assessment of their development potentials; strategic and natural principles of land reclamation; traditional and modern land reclamation methods; topical land restoration-oil spills, open cast mines etc.

**DED 214: Waste Management and Environmental Health**

Waste reduction disposal and recycling; introductory biotechnology; toxic and hazardous wastes and their disposal; nuclear and radiation wastes; classification of diseases; introductory epidemiology; concept of environmental health; spatial distribution of health services.

**DED 215: Poverty and Environment**

Various definitions of poverty; poverty indices; rural and urban poverty; poverty reduction policies; poverty and resources management; poverty, informal business sector and environmental degradation; poverty, gender and environment; poverty, energy and agriculture, perceptions of poverty.

**DED 216: Management of Resource Conflicts**

Reasons behind rise in conflicts; formal and informal institutions; consensual negotiation; the process map; conflicts in Nigeria; negotiations and settlement; local and community conflicts; indigenous knowledge approach to settlements.

**DED 217: Climate Change and Adaptation**

Climate change-type and causes; global situation; monitoring and sequestration of CO<sub>2</sub> and other greenhouse gases; emissions in Nigeria; industrialization and climate change; effects of climate change; adaptation to climate change; institutions – the Nigerian Climate Change Commission.

**DED 218: Environmental Monitoring**

Meaning and scope; historical development; rational; environmental monitoring programmes; global environmental monitoring; monitoring of greenhouse gases; environmental indicators; monitoring activities in Nigeria –NASRDA and remotely sensed data; BSRN; monitoring of industrial activities – DPR, NOSDRA; localized programmes, air quality and particulates; contribution of monitoring to environment and development in Nigeria.

**DED 219: Environmental Ethics and Law**

Environmental ethics-meaning and scope; origin of environmental problems; ethical approaches to environment; environmental and ethical decisions; “environmental” law in pre-independent Nigeria; the EIA decree, LASEPA, AKSEPA, ANSEPA, AKEPWA and conflicts of interest; problems of liability, common law, negligence, nuisance, trespass etc.

**Fourth Semester**

**DED 221: Environmental Economics**

Meaning and scope; economy and the environment; markets and externalities; externality under uncertainty; imperfect competition and externalities; concept of cost-benefit; environmental policy and policy instruments; application in Nigeria.

**DED 222: Pollution and Environmental Quality**

Concept of pollution; pollution from natural and anthropogenic sources; air pollution; land/soil pollution; water pollution; pollution from primary economic activities – farming, oil spill, mining; health risks of pollution – oil spills, chemical pollution, medical wastes; urban solid wastes, radiation; permissible limits – the FEPA and WHO standards; remediation of impacted sites.

**DED 223: Nigeria’s Environmental Policies**

Nigeria environmental problems; geopolitical relations; historical development of policy; institutional development; role of NGO; the FEPA and SEPA; goals of the policy, the EIA decree and other interventions; international collaborations, treaties and conventions, the EIA process’ the FMENC and state equivalents; conflicts; policy enforcement; NESREA.

**DED 224: Assessment of Environmental Impacts**

Rationale – globalization and technological advancement; the EIA- concept and aims; historical background; component; general approaches; methods; environmental data – biophysical, socio-economic characteristics; health characteristics; baseline data and benefits; operational procedures of EIA; implications of EIA to developmental decision making in Nigeria.

**DED 225: Environmental and Ecological Audits**

Definition, background and scope of audits; usefulness of audits; disclosure requirements; environmental self audits; advantages of self-audits; environmental audits in Nigeria; effects on environment and industrial development.

**DED 226: Environment and Development Long Essay**

This is a supervised Long Essay on any relevant topic which the student must submit as part of his last semester's course work

**DED 227: Ecological Economics and Applications**

Ecological economics-meaning and scope; problem statement and problem resolution; ecological economic policy and support programmes; implementation of ecological economic programmes; carbon trading and incentives.

**Teaching Staff**

Staff	Areas of Specialisation/Research Interests	Rank	Status
P. A. Akpan, Ph.D	Urban Ecology, Transport and Development Studies, Regional Planning, Tourism	Professor	Contract
I. B. Inyang, Ph.D	Medical Geography, Rural Ecology, Waste Management and Development Studies	Professor	Contract
I. E. Ukpong, Ph.D	Biogeography, Biodiversity Studies, Environmental/Resource Management, Environmental Philosophy	Professor	Full-Time
E. M. Ekanem, Ph.D	Climatology, Climate Change, Environmental Processes, Development Studies	Professor	Full-Time
R. Ekpenyong, MGIS, Ph.D	Development Studies, Cartography, Geographic Information Systems, Modeling & Methodology	Senior Lecturer	Full-Time
E. P. Udofia, Ph.D	Quantitative Methods, Waste & Environmental Management, Climatology	Senior Lecturer	Full-Time
C. Udosen, Ph.D	Geomorphology, Erosion/Watershed Studies and Environmental Management	Senior Lecturer	Full-Time
R. Wilcox, Ph.D	Resource Management, Climatology, Rural Ecology, Tourism and Development Studies, Biogeography	Senior Lecturer	Full-Time
E. Akpabio, Ph.D	Development Studies, Water Resources and Institutions, Environmental Regulations, Corporate Social Responsibility	Senior Lecturer	Full-Time
U. Ituen, Ph.D	Development Studies, Methodology, Change Detection, GIS. Cartography, Resource Management	Lecturer I	Full-Time
J. Udoh, Ph.D	Development Studies, Risk Management and Change Detection, G.I.S Cartography Resource Management	Lecturer I	Full-Time
A. M. Imikan, Ph.D	Environmental Management, Development Institutions, Tourism, Rural Ecology Regional Planning	Lect. II	Full-Time
C. Abraham, Ph.D	Geomorphology and Environmental Management, Environmental Monitoring, Biogeography	Lect. II	Full-Time
I. Ansa, Ph.D	Water Resources, Development Studies, Urban Ecology, Development Institutions	Lect. II	Full-Time

### **Support Staff**

Markson Obot, HND, M.Sc.	Chief Cartographer
Mary Thompson Ukut OND	Chief Computer Operator
Ema-Carol Archibong, B.A	Senior Clerical Officer
Jonah Isaiah	Met. Record
Ekemini Jonah	Met. Record
Magdalene Edem	Caretaker
Ini Akpan	Lab Assistant, GIS

### **Facilities, Equipments and Expertise**

1. Compatible GIS facility, with functional computers
2. Resource room with relevant books and journals
3. Lecture Rooms
4. Multi media projector for presentations
5. PGD Programme in Environment & Development
6. M.Sc. Programme in Environment & Development
7. Ph.D Programme in Environment & Development

### **APPENDIX III Contd.**

**DEPARTMENT OF GEOGRAPHY AND NATURAL RESOURCES MANAGEMENT  
ENVIRONMENT AND DEVELOPMENT UNIT  
FACULTY OF SOCIAL SCIENCES  
UNIVERSITY OF UYO**

## **UNDERGRADUATE ACADEMIC PROGRAMME BACHELOR OF SCIENCE [B.SC.] IN ENVIRONMENT & DEVELOPMENT**

### **1.Introduction and Background**

To generate environment-friendly attitudes with a view to ensuring sustainable development via the utilization of our natural resources, an integrated link between ecology and policy, and between ecology and resource management is required. These should form the basis for the formulation of policies on environmental ethics as well as provide the framework within which environment and development decisions are made and implemented. Desirable therefore is a fundamental undergraduate programme in *Environment and Development* which seeks to integrate environmental concerns into political, economic and developmental decision making.

The University of Uyo[Nigeria] and Lancaster University[UK], between 2002 and 2006 had a successful Higher Education Link [HEL] majorly funded by DfiD through the British Council. Funding was complemented by British Academy and Nuffield Small Grants among others up to 2008. The subject matter of the HEL was Geography and the topic of the HEL was “Governance, Environment and Development in the Niger Delta Region of Nigeria”. The HEL was operated as an action research and academic linkage between the Department of Geography, University of Uyo and Department of Geography, Lancaster University. One of the objectives of the HEL was to develop and adapt broad-based Environment and Development courses [which already existed in Lancaster] and to teach these courses for the achievement of impacts and development goals of the link in Nigeria. The Department of Geography got approval from the University of Uyo Senate to mount the M.Sc. programme in *Environment and Development* in 2007 and the Ph.D programme in 2014. As expected, both programmes have enjoyed widespread acceptance. The B.Sc. programme is fundamental and is designed to equip candidates at the undergraduate level with several skills. These, among others, include mainstreaming environmental concerns into economic, political, social and developmental decisions in line with UN and global best practice as the basis for modern development.

## **2.Philosophy**

The Department of Geography and Natural Resources Management in line with other disciplines, embraces Nigeria’s philosophy of education which is based on the integration of the individual into a sound and effective citizen. In this regard the Department seeks to contribute in its own way to the development of the full potentials of the student so as to make him a useful individual for himself and to the society. The Environment and Development Programme is therefore geared specifically to achieve sustainable development by integrating resource management with environmental control into development policies. The underlying philosophy is therefore Universalistic Environmentalism, which emphasizes the utilization of environmental resources to solve problems in rational, dispassionate and unprejudiced manner for environmental development and sustainability.

### **2.1 Vision**

The vision is to achieve excellence in knowledge of Nigeria’s environment for sustainable development.

### **2.2 Mission**

The undergraduate programme in Environment and Development seeks through teaching and learning to produce knowledgeable individuals in the understanding of the environment and associated phenomena, versed in the integration of the environment with development as an approach to achieving sustainable local, national and regional development.

### **2.3 Objectives of the Programme**

The undergraduate programme in Environment and Development seeks to achieve the following objectives;

- (i) Enable students explore the spatial relationships of the environment in line with current formulations in the social and environmental sciences.
- (ii) Expose students to the concept of Environment and Development as it relates to the physical, social and cultural aspects of modern society
- (iii) Enable students cultivate a sense of environmental friendliness towards society and an intelligent interest in environmental preservation as a factor thrust of development.
- (iv) Develop skills in monitoring, measurement of development indices and assessment.
- (v) Provide middle and high level manpower for environment related agencies, development related agencies, state and non-state agencies, consultancies and advocacies, the academic etc.

## **3. Admission Requirement**

In addition to satisfying the general requirements of the University of Uyo and of the Faculty of Social Sciences, the following requirements must be met:

- (i) Five "O" Level/SSCE/NECO credits which must include English language and Mathematics/Physics; and **two** Social Science subjects (Geography, Economics, Government/History) and at least **one** Science subject (Agric.Science, Biology, Chemistry);
- (ii) Five "O" Level/SSCE/NECO credits which must include English language and Mathematics/Physics; and **one** Social Science subject (Geography, Economics, Government/History) and at least **two** Science subjects (Agric.Science, Biology, Chemistry);
- (iii) Two "A" level passes, one each from the science and social science groups above (candidate having met the preliminary "O" level requirements) may be awarded waiver of one year.
- (iv) Holders of the Diploma in Environment and Development of the University of Uyo may be awarded waiver of one academic year.
- (v) Holders of National Diplomas in the social, earth and environmental sciences of Polytechnics, Universities or other institutions recognized by the Senate of the University of Uyo (candidate having

met the preliminary “O” level requirements) may be admitted into an appropriate level of the programme.

### 3.1 Mode of Study

The mode of study is Full Time

### 3.2 Duration of the Programme

The duration of the programme shall be a minimum of eight (8) semesters and a maximum of twelve (12) semesters except for candidates with waivers.

### 3.4 Requirements for the award of degree in Environment and Development

A student shall qualify for the award of B.Sc. (Hons) in Environment and Development when he has:

- (i) Completed and earned a minimum of 170 credit hours for a four-year program and 137 credit hours for a three-year programme . To earn credit, a grade not below D must be achieved.
- (ii) Achieved grades not below D in the University required courses and research project, and an overall cumulative grade point average of not less than 2.00
- (iii) Achieved grades not below D in all faculty foundation courses.
- (vi) Achieved grades not below D in all compulsory and required courses.
- (vii) Met all financial obligations to the University of Uyo and the Department.
- (viii) Satisfied University requirements relating to good character.

### 3.5 The Course Credit System

Instruction shall be by the “Course Credit” system, which regulations include the following:

- (i) Every student shall be required to register for a minimum of 15 Credit units per semester and a maximum of 24 Credit Units.
- (ii) A system of continuous assessment shall be used for every course and shall contribute 30% of the total score for each course.
- (iii) To qualify to take examination in the course, a student must record up to 75% attendance in lectures.
- (iv) Students shall be required to carry forward failed course and to register for these courses first before registering for the next level courses.

### 3.6 Measurement of Performance in Examinations and Award of Degrees

Score	Grade	Grade Point	Description
70 - 100%	A	5.00	Excellent
60 - 69%	B	4.00	Very Good
50 - 59%	C	3.00	Good
45 - 49%	D	2.00	Fair
<45%	F	0.00	Fail

### 3.7 Award of Degree on a Five-Point Degree shall be as follows:

- 1<sup>st</sup> Class: 4.50.00  
 2<sup>nd</sup> Class: (Upper Division): 3.50 – 4.49  
 2<sup>nd</sup> Class: (Lower Division): 2.40 – 3.49  
 3<sup>rd</sup> Class: 1.50 – 2.39  
 Fail: <1.50

#### I. Course Structure

##### I.1 Year One Courses

##### I.1.1 First Semester

COURSE CODE	COURSE TITLE	CREDIT HOURS	STATUS
*GST 111	Use of English I	2	R
*GST 112	Philosophy and Human Existence	2	R
EVD 111	Sustainable Development	2	C
EVD 112	The Physical Environment I	2	C
EVD 113	The Human Environment I	2	C
EVD 114	Introduction to Resource Management	2	C
EVD 115	Introduction to Statistics & Applications I	2	R
EVD 116	Introduction to Biodiversity Management	2	C
EVD 117	Perspectives on Environment & Development I	2	R
EVD 118	Introduction to Environmental Ecology	2	R

Elective	(within Faculty of Social Sciences)	2	R
	<b>Total</b>	<b>22</b>	

#### 4.1.2 Second Semester

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>	<b>STATUS</b>
*GST 122	Science and Basic Technology	2	R
*GST 121	Use of English	2	R
*GST 123	Citizenship and Peace Studies	2	R
EVD 121	Introduction to Environmental Philosophy	2	C
EVD 122	The Physical Environment II	2	C
EVD 123	The Human Environment II	2	C
EVD 124	Local Field Studies	2	C
EVD 125	Introduction to Statistics & Applications II	2	C
EVD 127	Perspectives on Environment & Development II	2	C
EVD 126	Introductory Environmental Science	3	C
Elective	(within Faculty of Social Sciences)	2	R
	<b>Total</b>	<b>23</b>	

#### 4.2 Year Two Courses

##### 4.2.1 First Semester

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>	<b>STATUS</b>
*GST 211	Entrepreneurial Studies I	2	R
*SSC 211	Introduction to Statistics for Social Sciences I (prerequisite SSC 221)	2	R
EVD 211	Introduction to Climate and Vegetation Studies	2	C
EVD 212	Remote Sensing and Air Photo Interpretation	2	C
EVD 213	Introduction to Urban Ecology I	2	C
EVD 214	Economic Development & Planning I	2	C
EVD 215	Environmental Economics & Applications	2	R
EVD 216	Principles of Resource Management I	2	C
EVD 217	Introduction to Waste Management	2	C
EVD 218	Introduction to Geomorphology & Soil Studies	2	C
Elective	(from faculties of Science/Agriculture/Environmental Studies)	2	R
	<b>Total</b>	<b>22</b>	

##### 4.2.2 Second Semester

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>	<b>STATUS</b>
*GST 222	Entrepreneurial Studies II	2	R
*SSC 221	Introduction to Statistics for Social Sciences II (prerequisite SSC 211)	2	R
*SSC 222	Methods and Tools of Social Enquiry	3	R
EVD 222	Introduction to Environmental Health	2	C
EVD 223	Introduction to Urban Ecology II	2	C
EVD 224	Economic Development & Planning II	2	C
EVD 225	Ecological Economics & Application	2	R
EVD 226	Principles of Resource Management II	2	C
EVD 227	Climate Change and Adaptation	2	C
EVD 228	Introduction to Geographical Information System	2	C
	<b>Total</b>	<b>21</b>	

#### 4.3 Year Three Courses

##### 4.3.1 First Semester

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>	<b>STATUS</b>
EVD 311	Management of Environmental Hazards I	2	R
EVD 312	Transport, Environment & Development	2	R
EVD 313	Globalization & Development	2	R
EVD 314	Introduction to Environmental Politics	2	R
EVD 315	Tourism, Leisure & Environment	2	R
EVD 316	Atmospheric & Ocean Processes	2	C
EVD 317	Biogeographical & Biodiversity Analysis	2	R
EVD 318	Agricultural Ecosystems & Development	2	R
EVD 319	Methods in Environment & Development I	2	C
EVD 319.1	Poverty, Environment & Development	2	C
	<b>Total</b>	<b>20</b>	

#### **4.3.2 Second Semester**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>	<b>STATUS</b>
EVD 321	Management of Environmental Hazards II	2	C
EVD 322	Pollution & Environmental Quality	2	R
EVD 323	Culture, Environment and Development	2	C
EVD 324	Management of Resource Conflicts	2	C
EVD 325	Soil & Vegetation Conservation	2	C
EVD 326	Land Evaluation & Reclamation	2	C
EVD 327	Methods in Environment & Development II	2	C
EVD 328	Introduction to Hydrology and Water Resources Management	2	C
EVD 329	Rural Ecology & Development Policies	2	C
	<b>Total</b>	<b>18</b>	

#### **4.4 Year Four**

##### **4.4.1 First Semester**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>	<b>STATUS</b>
EVD 411	Environmental & Social Impact Assessment	2	C
EVD 412	Population, Environment & Development	2	C
EVD 413	Environmental Monitoring & Planning	2	R
EVD 414	Environmental Institutions, Regulations & Law	2	C
EVD 415	Health, Environment & Development	2	C
EVD 416	Environmental & Ecological Audits	2	C
EVD 417	GIS Applications in Environment & Development	2	C
	<b>Choose any FOUR of the following optional courses</b>		
EVD 427	Human Rights, Environment & Development	2	
EVD 428	Human Resources Development	2	
EVD 429	Resource Management and Conservation	2	
EVD 431	Environmental Protection Agencies: Case Studies	2	
EVD 432	Conflicts Assessment and Impacts	2	
EVD 433	Waste Management Studies	2	
EVD 434	Water Resources Management and Institutions	2	
EVD 435	Urban Ecology & Development: Case Studies	2	
	<b>Total</b>	<b>22</b>	

#### 4.4.2 Second Semester

COURSE CODE	COURSE TITLE	CREDIT HOUR	STATUS
EVD 464	Original Research Project	6	C
EVD 465	SIWES	6	C
EVD 466	Field Course	6	C
	<b>Total</b>	<b>18</b>	

#### 5. Course Descriptions

##### **GST 111: Use of English**

Use of English is a two semester course. The first semester comprises study skills, lexis, and the skills involved in speaking and listening. The course is designed to assist students by including the appropriate study habits and high level skills required to cope with university work, especially in an environment where English Language is used as the medium of instruction and communication. The course aims at improving reading, listening, speaking, writing, note-taking, studying and examination skills as well as the use of the library.

##### **GST 112: Philosophy and Human Existence**

This course is designed to equip students with the intellectual tools of analysis, logic and critical mindedness required for success in various academic disciplines. It aims at developing in students problem-solving capabilities to effectively tackle the challenges that confront individuals and nations, in their quest to make meaning of life. It seeks to expose students to the political, moral and aesthetic values to their culture and those of other cultures, so as to enable them to make wise and rational choices.

##### **EVD 111: Sustainable Development**

Meaning of Sustainable Development; Sustainable Development as a Concept; the WCED and terms of reference; Relationship between environmental problems and developmental problems; Guidelines to Sustainable Development; Importance of sustainability (protection of life supports systems, biotic diversity, ecosystem integrated, preventive and adaptive strategies) treated in detail.

##### **EVD 112: The Physical Environment I**

Classification of rocks; Rock types and their uses; Mountains, plateaus and plains; Volcanic activities, types, features and uses; Earthquakes-causes and distribution; Mass movement and gullying; River systems; Erosion and depositional features; Coastal landforms and features; Waves, tides and currents; Coastal erosion, sea level rise and causes.[These are treated in relationship to their effects/importance to man].

##### **EVD 113 The Human Environment I**

Agricultural activities – factors influencing and types; Causes of soil erosion and fertility loss; Conservation and farming techniques; The global iron and steel industry and other metallic ores, their distribution and processing; Petroleum, refining and effects on environment; Global energy, HEP, nuclear solar, their comparative advantages.

##### **EVD 114 Introduction to Resource Management**

Concepts of resource and management; Natural resource management; Renewable and non-renewable resources; Ecosystem approach to resource management, principles and characteristics; Integrated and conventional ecosystem methods; Conservation and management principles; Cooperative and informal methods in selected communities; Examples of local resources management

##### **EVD 115 Introductory Statistics and Applications I**

Descriptive statistics – meaning of statistics and relevance in environment and development studies; Data collection and levels of measurement; measures of central tendency and deviation; Presentation of data eg line, bar, chart and pie graphs; Introduction to probability theory; The normal distribution, skewness and kurtosis; Sampling methods, systematic, random, stratified; -probability and non-probability.

##### **EVD 116 Introduction to Biodiversity Management**

Meaning and importance of biodiversity; Global and national concerns on biodiversity; Causes of biodiversity loss; Global and national biodiversity conservation efforts - protected areas and reserves; Management regimes for

forestry and biodiversity; Agro-biodiversity programmes; Forest wildlife and conservation status; saltwater and freshwater wetlands etc; International biodiversity conventions and treaties.

### **EVD 117 Perspectives on Environment and Development I**

Human activity and total carrying capacity of the biosphere; Environmental cost of human activities; Energy and material use minimization; Reduction of noxious emissions; Rehabilitation of degraded ecosystems; Socio-political and economic equity; Meaning of environmental mainstreaming and key issues; Environmental concerns and political decision making; Stakeholder involvement in development; Political activity and environmental experience.

### **EVD 118 Introduction to Environmental Ecology**

Concept of ecosystems; Components, interactions and energy flow in ecosystems; Food chains and productivity of different ecosystems; Vegetation and ecosystem dynamics; Plant and animal adaptations; Limitations of growth in ecosystems; Distortions and disruption of growth; Modifications and environmental ecology of biotopes; Human/natural impacts on ecosystems – cases of the Ogoni environmental assessment report, Vietnam war, Gulf of Mexico oil spill, the Asian tsunami, Japanese/tsunami and nuclear power plant disaster considered in outline..

### **GST 121: Use of English II**

The second semester component of the Use of English focuses on elements of grammar and writing. Through the book review exercise, attention will be given to the application of the library skills learnt in the first semester.

### **GST 122: Science and Basic Technology**

This course comprises the scientific approach to knowledge origin of life and evolution of man, energy resources and utilization, pollution and environmental issues as well as the computer and its applications. Recognizing the advancement in science and technology, this course is therefore designed principally to expose students to the rudiments of scientific thought and applications in life and the environment. It also introduces the computer and its applications to various fields of endeavour. This is relevant in communication and educational research and development in contemporary world.

### **GST 123: Citizenship and Peace Studies**

This course provides value-based understanding of people as members of a nation, for good citizenship. Its highlights include rights, privileges, responsibilities, values and morality. It presents family life and relationships as elements of good citizenship. The course exposes students to the need to seek self-reliance through judicious understanding and application of knowledge of health promotion, diseases prevention including HIV/AIDS prevention and rational use of drugs and other health products and services, as well as a commitment to environment safety through disasters preparedness. It also focuses on the harmonies and integral interactions of citizens in a environment of peace in a multi-ethnic and multi-religions entity like Nigeria. It deals with the people's value systems and the basic concepts of peace, conflict and conflict resolution and project, peace as a vehicle of unity and development.

### **EVD 121 Introduction to Environmental Philosophy and Ethics**

The development of environmental philosophy; Ethical approaches to environment; Ethics, natural hazards and human induced hazards; Ethics, anthropocentrism and the Judaic religion; Environmental green parties; the realists versus the fundamentalists; Libertarian ecology, deep ecology and shallow ecology; The humanist theories.

### **EVD 122 The Physical Environment II**

Meaning and importance of weather and climate; Elements of weather and climate; Insolation, distribution and losses; Factors affecting elements of climate; Precipitation and types; Cyclonic activity – low and high pressure cells, Typhoon and tornadoes, land and sea breezes; Tsunamis, causes and effects; Climatic types and vegetation distribution-equatorial rainforests and savannas; Deforestation; Desertification and Erosion.

### **EVD 123 The Human Environment II**

Manufacturing; Industrial revolution; Industrial groups; Factors of industrial location; Industrialization in Nigeria and the world; effects of industrialization; Importance of world transport; Land, ocean and air transport and their effects; Settlement types, factors of location, functions and classification; problems of urbanization, with Nigerian examples.

### **EVD 124 Local Field Studies and Presentations**

Familiarization of students with the local environment; Field demonstration of classroom knowledge in environmental processes; Observation, data collection, mapping and analysis of the distribution of phenomena in the local environment; Presentation of results using power-point format or poster media

### **EVD 125 Introductory Statistics and Application II**

Inferential Statistics – population and sample; estimation of sample size; statistical decision; parametric and non-parametric tests; small sample techniques-the Chi and the t-tests; Mann-Whitney test; One-way analysis of variance; Pearson's and Spearman's correlations; simple linear regression.

### **EVD 126 Introductory Environmental Science**

Biogeochemical cycles and energy flow-transfer of energy through plants; Formation and maintenance of matter; Role of the atmosphere and component gases; solar radiation spectrum; photosynthesis and productivity; Food chains; cyclical element exchange; Human impact on the natural cycles; Climatic modification and accelerated erosion; Groundwater formation, aquifers and artesian systems.

### **EVD 127 Perspectives on Environment and Development II**

Accessibility of political processes; Effectiveness of decision-making and environmental mainstreaming; Poverty reduction processes; Economic coercion vulnerability; Involvement in economic and political system; Minimum levels of equality, social justice; Open and just legal system; Political repression; Quality, education; access to information, freedom of religion etc. These socio-political criteria are used to evaluate governance in relation to development in Nigeria.

### **GST 211: Entrepreneurial Studies I**

Entrepreneurial Studies 1 focuses on entrepreneurship and small businesses. Students will be able to understand the distinction between Entrepreneurship and Small Businesses. They will be exposed to the characteristics and types of entrepreneurs. This course will treat idea-generation, opportunity recognition, the process of creating new businesses as well as how to write business plans and feasibility reports. The course covers all aspects of entrepreneurship, including statutory requirements, policy documents, various phases of small business development, as well as applicable operational procedures.

### **SSC 211: Introduction to Social Science Statistics I**

Meaning and groups of statistics; The role of statistics in the social sciences; Levels of measurement-Nominal, Ordinal, Interval and Ratio; Measures of central tendency; Measures of deviation. Introduction to probability theory; Normal, binomial and Poisson distributions; Skewness and Kurtosis.

### **EVD 211 Introduction to Climate and Vegetation Studies**

Circulation of the atmosphere-Laws of motion; major features and models of the circulation; weather-producing systems-air masses and fronts. Frontal and non-frontal depressions; climate classification and global systems of climate. Energy and water balance of the earth and atmosphere; elements of tropical climatology; Influence of man on the atmosphere; Structure and dynamics of plant communities; Factors influencing plant growth; Survey of characteristics, distribution and controlling factors of principal vegetation types; Man's influence on the distribution of plants and animals.

### **EVD 212 Remote Sensing and Air Photo Interpretation**

Concepts and principles of remote sensing; Remote sensing platforms; Imaging systems and their capabilities; Application of remote sensing techniques in environment and development studies; The development of aerial photographs; Types and geometry of aerial photographs; Fundamentals of air photo interpretation; mapping from aerial photographs.

### **EVD 213 Introduction to Urban Ecology I**

The city as an ecological system; Urban development in Colonial Nigeria; Characteristics of urban area in the colonial era; the post-independent era and characteristics; Nigeria's urban culture; problems related to quality of life; public health and transport, clean water, sustainable food and population policies; sustainable city or eco-city; Roadmap for the achievement of eco-city -agriculture, field to park concept, renewable energy, natural ventilation system, bio-gas from sewage, public transport etc.

### **EVD 214 Economic Development and Planning I**

Meaning of economic development and underdevelopment; Distinction between economic development and economic growth; survey and analysis of development theories and their relevance to the African situation-classical, Marxian, Schumpeterian etc; Obstacles to development and strategies to remove them; balanced and unbalanced growth – technological change; international trade and aid in the development process; policy issues, case studies and the Nigerian Development experience.

### **EVD 215 Environmental Economics and Applications**

Meaning and scope; Economics and the environment; Markets and externalities; Externality under uncertainty (treated in detail); Imperfect competition and externalities; Valuation of environmental impacts – concept of cost benefit; Cost-benefit analysis (with examples); Environmental policy and policy instruments.

### **EVD 216 Principles of Resource Management I**

Concept of integrated natural resource management (INRM); Agriculture in developing countries; Characteristics of INRM; Concept of local knowledge; Methods for studying local knowledge systems – Rapid Rural Appraisal. Participation Rural Appraisal and their characteristics; Importance of local knowledge for resource and environmental management

### **EVD 217 Introduction to Waste Management**

Waste streams, reduction and recycling; Disposal of solid waste; Factors for landfill operations; Biodegradation of organic wastes in landfills; Composting; Incinerators –advantages and disadvantages; Resource recovery from solid wastes; Hazardous waste management, objectives and guidelines; Designation of dangerous wastes; Liquid waste management; Bio-technology in waste management; Problems of waste management in Nigeria; Public-private partnership; Waste and pollution of environmental media.

### **EVD 218 Introduction to Geomorphology and Soil Geography**

The meaning and scope of geomorphology; Rock types, their origin and characteristics; Nature and order of second order relief forms of the continents; Structural landforms; The meaning and scope of soil geography; Factors of soil formation; Soil profiles; Soil physical and chemical characteristics; Soil types and relationship to fertility.

### **GST 221: Entrepreneurial Studies II**

Entrepreneurial Studies II examines entrepreneurial management. Realizing the need for finance in any business venture, the second component of the course is exclusively on practical management, finance, accounting and environmental factors, as well as marketing strategies within the context of entrepreneurship. Students are required to apply on different ventures the principles and strategies taught in the first part of the course.

### **SSC 221: Introduction to Social Sciences Statistics II**

Population and Sample; Probability and non-probability sampling techniques; Statistical estimation theory; Statistical decision theory; The Chi and the Student t-tests; Analysis of Variance-One-Way classification; Correlation analysis – spearman's ranked and Pearson's product moment; Regression analysis – Simple linear and simple non-linear.

### **SSC 222: Tools and Method of Social Enquiry**

The Social Sciences and empirical research; Some old methods of societal problems; Ethical consideration in modern research; Types of research in the humanities;Scientific methodology and its application in the social Sciences; Identified the research problems and reviewing the literature; Scientific theory, law and model; Hypothesis formulation and testing; Writing a research proposal; A mini-project of not more than twelve pages on any issue in the students' academic discipline, worthy of scholarly investigation.

### **EVD 222 Introduction to Environmental Health**

History and concept of environmental health; Infrastructure strategies for the management of environmental health-water supply, sanitation, energy; Environmental risk factors and related diseases; Environmental health in developing countries-integrated child nutrition programmes; Vector control programs, Institutional requirements for environmental health governance.

### **EVD 223 Introduction to Urban Ecology II**

Ecologically damaging patterns of urbanization; cities and globalization; Concept of urban poverty and social infrastructure; Climate change and human settlements; Urbanization and carbon emissions; Urban health sanitation

and social inequalities; Framework for slum upgrading, Urban livelihood and poverty; Water, waste and transport management for urban resilience.

### **EVD 224 Economic Development and Planning II**

The rationale for economic planning; Planning origins; Types and performance records; Socio-political dimensions of development planning machinery and the planning process; Planning decision models; planning data; Objectives and policy formulation; Plan implementation and related problems; Federalism and the development planning experience in Nigeria

### **EVD 225 Ecological Economics and Application**

Ecological economics-meaning and scope; Relationships between human economies and ecosystems; Ecological economic policy versus environmental management paradigm; problems statement and problem resolution; Ecological economic policy, support programmes and implementation.

### **EVD 226 Principles of Resource Management II**

Impact assessment of resource management projects; Principles of the assessment; strategic issues in the assessment; Strategic impact assessment and life-cycle assessment; state of the environment reports; Public involvement in resource management. Environmental audits, monitoring and evaluation (treated in outline).

### **EVD 227 Climate Change and Adaptation**

Concept of climate change; types of climate change and causes; O<sub>3</sub> damage and the global situation; Monitoring and sequestration of CO<sub>2</sub> and other GHGs; Emissions in Nigeria; Industrialization and climate change; Climatic variability and climate change; Climate change concerns and impacts; Climate change adaptation; Ex-post and ex-ante adaptations; Private and public adaptations; Short-term adaptations; Long-term adaptations; Adaptations irrespective of temporal dimensions; Climate risk management Climate change Institutions – the Nigerian climate Change Commission.

### **EVD 228 Introduction to Geographical Information System**

Meaning, nature and scope of GIS or EIS; Objectives of the GIS; survey and development of environmental data; reliability and validity of the data; Collection processes – exploration, land use survey, socio-economic sample, survey, censuses, regional survey, remote sensing etc. Environmental data coding storage and retrieval, data metric measurement scales etc; Application of EIS on short and long term development issues.

### **EVD 311 Management of Environmental Hazards I**

Concept and meaning of hazard; Classification of hazards and classification procedures; Use of concepts, models, quantitative methods in hazard studies; Environmental hazards management strategies – rehabilitation, prediction, awareness creation, conservation and protection etc. Some human-induced hazards e.g. forest fires, pesticide and fertilizer use, industrial activities.

### **EVD 312 Transport, Environment and Development**

Transport and the communication web; Types and importance of transport; Relationship between land use and transportation; transport models and cost structures; structural analyses of transport networks; environment; Atmospheric pollution, noise pollution degrading aesthetics; Urban transport problems; transport and noxious emissions; Effect of weather on transport and environment; transport infrastructure planning Nigeria national transport policy.

### **EVD 313 Globalization and Development**

Concept of globalization; Flows of resources, capital, knowledge, ideas, goods and services; How globalization retards development in a spatial context; Globalization and poverty, inequality, livelihoods and development; Knowledge and technology transfer; Transboundary pollution and global health issues.

### **EVD 314 Introduction to Environmental Politics**

Politics of the environment and development; Role of government and interest groups in shaping specific environment and development policies, eg ECOWAS, OPEC treated in detail; Global pressure groups eg Green Peace; Environment and development discourses eg selected UNEP conventions[Rio 1 & Rio 2, WCED ect]; Ideology and knowledge; Politics and environmental change; Pollution abatement strategies; Economic aspects of

sustainability; Pollution control regimes e.g. carbon emissions trading, clean production mechanism and green economy; Economic systems-including globalization; Gender-based dimensions of resource ownership and use; Community resource management and human relationship with nature[in developed and less developed nations].

### **EVD 315 Tourism, Leisure and Environment**

Tourism as development concept; effects on environmental quality; The WTO; Tourism master plans with emphasis on Nigeria; Tourism destinations; Social and economic effects of tourism; positive and negative effects of tourism; and recreation; Ecotourism; Medical tourism; UN efforts in a global perspective; Gender and tourism; poverty alleviation characteristics of tourism.

### **EVD 316 Atmospheric and Ocean Processes**

Trends and concepts in atmospheric and ocean ecology; depressions, low and high pressure cells and atmospheric turbulence; tropical atmospheric disturbances – causes and monitoring; Typhoons, cyclones and tornadoes – selected occurrences; Energy transfer to ocean surfaces; development of ocean waves and wave structure; destructive waves and tsunamis; effects on shipping, settlements and coastlands.

### **EVD 317 Biogeographical & Biodiversity Analysis**

Principles of biogeography and biodiversity studies; Structure and functions of terrestrial and aquatic ecosystems; Population and community ecology; Ecosystem productivity; Vegetation change through time; Vegetation-environment relationships; Dispersal and adaptation in varying biogeographical realms; Importance of biogeography in forest and land management. Selected methods of measuring biodiversity

### **EVD 318 Agricultural Ecosystems and Development**

Theories in agricultural location, models and explanation of world agricultural typology; Ecological and environmental implications of the location of agricultural activities; Creation of artificial/agricultural ecosystems – effects on climate, soil, water and other environmental media; Agricultural enterprise and models; Characteristics and economics of farming systems in the tropics; Problems of Nigerian agricultural development - reviews of Back to Land Programme; Regional agricultural development programmes; NAFPP etc.

### **EVD 319 Methods in Environment and Development I**

Nature of environmental and development raw data; Methods of spatial sampling; surveys, sample size; questionnaire designs; focus group, meaning and rationale; oral testimonies; Description of point patterns; Nearest neighbour statistic and quadrat analysis; Introduction to multivariate patterns and data; introduction to multiple regression and applications.

### **EVD 319.1 Poverty, Environment and Development**

Various definitions of poverty; Poverty indices; Rural and urban poverty; Poverty reduction policies; Poverty and resource management; Poverty, informal business sector and environmental degradation; Relationship of poverty to gender in the third world; Environmental governance, poverty and development; Poverty, energy and agriculture; Perceptions of poverty and development.

### **EVD 321 Management of Environmental Hazards II**

Consideration of natural hazards associated with volcanic activities; earthquakes; mass movement; geomorphic processes and mass wasting; Hazards from cyclonic activities and other meteorological events; Flood hazards; Soil erosion and marine hazards; Drought and desertification; Global and regional warning systems; Disaster monitoring and relocation strategies in management; Global institutional arrangements and practical emergency response procedures in Nigeria and elsewhere.

### **EVD 322 Pollution and Environmental Quality**

Concept of pollution and environmental quality; Pollution from natural and anthropogenic sources; Pollution process and types; Impact of pollution on the environmental media; Impact on economic activities; Pollution, social harmony and control; Permissible limits and standards- the FEPA and WHO etc.

### **EVD 323 Culture, Environment and Development**

Basic concepts of culture, people, place and time relations; The homeland and early migration of man; Growth and migration in modern times; Nature and culture and their environmental contexts; Relationships between culture, environment and development; Technology, culture and indigenous knowledge; Origins and dispersal of ideologies and political order; Patterns of livelihood and effects on development.

### **EVD 324 Management of Resource Conflicts**

Reasons behind rise in conflicts; Relationships between resource exploitation and conflicts; Formal and informal institutions; Consensual negotiations; The process maps; Resource conflicts in Nigeria, negotiations and settlement; Local and community conflicts; Indigenous knowledge approach to settlements of conflicts.

### **EVD 325 Soil and Vegetation Conservation**

Soil-vegetation relationships; Concepts of conservation in relation to soil and vegetation; Soil forming environments as basis for conservation policies; Soil classification - the USDA scheme; Soil degradation, fertility loss -causes and management; The FAO soil fertility rating etc; Recognition of vegetation communities, structure and life-forms; Vegetation analysis and recognition of patterns, recent trends etc; Vegetation degradation -agricultural impacts, deforestation, logging and harvesting of NTFP; Sustainable management schemes; Government conservation policies.

### **EVD 326 Land Evaluation and Reclamation**

Concepts and history of land evaluation; relationships between soil surveys and land evaluation; Concepts of land use and land resources. Rational for, types and methods of land evaluation in developed and developing countries; Classification of land use types and assessment of their development potential; Strategies and natural principles of land reclamation; Traditional and modern land reclamation methods; Infrastructural development on reclaimed lands.

### **EVD 327 Methods in Environment and Development II**

Models and their roles as evaluation techniques; Spatial interaction model; Spatial analysis and application in Environment and Development; Socio-economic techniques e.g. cost-benefit analysis and input-output analysis, travel-cost method, contingent valuation method, opportunity cost analysis, multiple criteria analysis; Time series analysis; Introduction to and applications of ANOVA and multiple regression analysis.

### **EVD 328 Introduction to Hydrology & Water Resources Management**

Meaning, scope and relationship of hydrology with water resources management; Historical development of hydrology and the importance of the hydrologic cycle; the drainage basin and hydrological models; River basin development and groundwater pool; aquifer yield and exploitation; Policies for the management of groundwater and drainage basins; Ecological significance of the drainage basin; Drainage basin management and sustainability; Local water resources management methods.

### **EVD 329 Rural Ecology and Development Policies**

Human settlements and colonization; types of rural settlements and classification; rural central places; agricultural location and models of rural change and development. Strategies of rural development planning; rural infrastructure planning; transformation of the rural area in Nigeria; rural development efforts-national and regional; case evaluations e.g. DIFRRI etc.

### **EVD 411 Environmental and Social Impact Assessments**

Definition of impacts and assessments-environmental, social and political viewpoints; Socio-economic and health impacts of development; Procedures and public participation; Prerequisites for environmental impact assessment; Baseline studies and post impact studies; Methods of impact assessment – checklist, matrices, networks, overlay mapping; Impact measurement and recognition of indicators; Rapid assessment procedures; Mitigating measures and monitoring.

### **EVD 412 Population, Environment and Development**

World population patterns, structures and distribution; Population changes and problems; Causes of internal and international migrations; Relations between birth, morbidity and death rates; Family planning problems; Resource-related population concentrations; Population, environmental and utility stress; Population and health; Impact on development planning; The critical population density and associated problems; Social and economic characteristics; Population structures and their relationship to development; Environmental determinants of population distribution; Population and social infrastructure; Planning and development problems associated with population structures.

#### **413 Environmental Monitoring and Planning**

Meaning and scope of monitoring; Historical development and rationales; Initiation/planning of environmental monitoring programmes; GEM and monitoring of greenhouse gases; Recognition of environmental indicators; Monitoring activities in Nigeria. – NASRDA and remotely sensed data; BASRN; Monitoring of industrial activities – DPR, NOSDRA; Localized programmes and studies - air quality and particulates; Comparisons with EMS; Contributions to sustainable environment .

#### **EVD 414 Environmental Institutions, Regulations and Law**

Institutions versus organization; Evolution of environmental institutions; World Bank and IMF policies and projects; the UNEP, origin and functions; UNESCO and WWF activities; USEPA pioneering regulations; Global awareness activities e.g. UN-sponsored conferences on environment and development; RAMSAR, earth summit, UNCCCF, Copenhagen etc.; Domestication of international treaties and regulations; Environmental laws within and outside Nigeria; Environmental conflicts of interest; Intervention regulations in Nigeria; Problems of liability; Common law of negligence, nuisance, trespass etc.

#### **EVD 415 Health, Environment and Development**

Concept and scope of health in a spatial context; geographic pattern of mobility and mortality in the past and present; Health-environment relationships and impacts on development; Diffusion of diseases in the third World; Climate and health – with emphasis on Nigeria; Modern and traditional medicine approaches to health care; Indigenous knowledge and enterprise in healthcare delivery; Primary health care, distribution of facilities; Health governance.

#### **EVD 416 Environmental and Ecological Audits**

Definition, background and scope of audits; Importance of audits; Self audits and advantages; Disclosure requirements; Environmental audits in Nigeria; Guidelines; Planning, pre-audit and post-audit activities; Importance on environmental and industrial development; Hypothetical audit of a named development project or an industrial organization

#### **EVD 417 GIS Applications in Environment and Development**

Database creation and structuring -vector and raster structure, data manipulation and analysis; Surface analysis and overlay analysis; Application case studies in environmental monitoring, resource management, agricultural, forestry, transportation, urban, regional and development planning.

#### **EVD 427 Human Rights, Environment & Development**

Provisions of the constitutional framework of the FGN; the ECOSOC rights, MDGs etc; Constitutional obligations on the environment and sustainable development; Conventions/international obligations in support of environmental rights; Other non-binding instruments; Policy options e.g. National Environmental Policy etc; Intervention local legislations in support of constitutional obligations; Administrative steps to actualize environmental rights and sustainable development; Addressing the challenges; Problems of achieving rights.

#### **EVD 428 Human Resources Development**

Concept of human resources; Theories and strategies of human resources and manpower development; Human resources and absolute capacity; Formation of human capital-education, health; Mobility; Benefit-cost analysis of investment in human capital; Manpower retraining, educational and healthcare development; Human resources development and national economic performance.

#### **EVD 429 Resource Management and Conservation**

Concepts in environmental resource management and conservation; Evaluation of problems associated with management of national resources; Impact of resource exploitation and utilization on the environment. Case studies in Nigeria and elsewhere; The place of culture and technology in resource management; Methods for the valuation of environmental impacts-multiple criteria, cost-benefit, travel-cost etc; Global and national conservation policies; Treaties and conventions; Conservation method and strategies -heritage sites, reserves; Rationale for conservation.

#### **EVD 431 Environmental Protection Agencies Case Studies**

Concept and history of environmental protection; Benefits of environmental protection agencies; Environmental protection in Nigeria and selected countries – UK EPA, Scottish EPA; US EPA; Ghana EPA; Department of Environmental Affairs, South Africa; National Environmental Management Authority, Kenya; Environmental Protection Agencies in Nigeria; Environmental legislations and agencies in Nigeria; Case studies - EIS of 105 KM Highway Corridor in Durango, Mexico; EA of Bodhghat Hydroelectric Development Project; EIA of Midlands Dam

### **EVD 432 Conflict Assessments and Impacts**

Social and environmental contexts of conflicts; Destructive and constructive conflicts; The conflict funnel and conflict cycle; The social basis of conflicts -internal factors, system context, relations between adversaries; Conditions for the emergence of conflicts in Nigeria and elsewhere; Consequences and impacts of conflicts – psychological, social, economic and physical; Relations with governance, environment and development.

### **EVD 433 Waste Management Studies**

Classification of wastes, sorting and estimation of waste volume; Poverty, toxic waste trade and management; Classification of toxic substances; Factors affecting toxicity; Agents of toxic waste generation; Toxic waste management and disposal methods; Effects of toxic waste disposal; Radioactive wastes and types; Ecological impacts of radioactive materials and wastes; Health effects of radioactive waste; Waste management plans (WMP) and programmes; Examples of waste management guidelines; Case studies of waste management plans in selected cities of the world.

### **EVD 434 Water Resources Management and Institutions**

Concepts in water resources; Approaches to planning and development of water resources; Assessment of water quality; Integrated water resources management (IWRM); Evaluation of surface and groundwater resources, inventory, conservation and recycling; Water demand and privatization; Public and private water supply in Nigeria; Politics and policies of water management, supply and pricing; Institutional arrangements; River basin development projects –policies, problems and prospects. Impacts of dams e.g. Kainji; Case studies of water supply projects in Nigeria and elsewhere

### **EVD 435 Urban Ecology and Development [Case studies]**

Principles of human settlement and models of colonization; the city as a system and rank-size relationship; urban spatial structure; measurement of urban environmental problems in Nigeria – housing; waste disposal, industrial and healthcare infrastructure. Case studies of selected Nigerian cities.

### **EVD 464 Original Research Project**

Approximately 10,000 – word supervised research project on an approved theme based on field work. Project would be typed on A4 paper, double-spaced. Reference will follow the Harvard system and the cover will be navy blue in colour, in accordance with the format for undergraduate projects in the university of Uyo. Students may be required to defend their projects before an external examiner.

### **EVD 466 Field Course**

Field demonstration of classroom knowledge in both physical and human processes, observations, data collection and analysis of phenomena. Presentation of results as mini -projects and with suitable media or posters.

## **6. Teaching Staff**

<b>S/N</b>	<b>NAME OF ACADEMIC STAFF</b>	<b>AREAS OF SPECIALIZATION/ RESEARCH INTEREST</b>	<b>DISCIPLINE</b>	<b>QUALIFICATIONS</b>	<b>RANK</b>
1.	Philip A. Akpan	Urban Ecology; Transport & Development Studies; Regional Planning; Tourism	Geography &Regional Planning	PhD (1992) Ife MSc (1982) Ife BSc (1976) Ibadan	Prof
2.	Idorenyin B. Inyang	Medical Geography; Rural Ecology & Development Studies	Geography & Development Planning	PhD (1991) Calabar MSc (1980) Ife BSc (1970) Ife	Prof
3.	Imoh E. Ukpong	Biogeography & Biodiversity studies; Environmental Philosophy & Resources Management	Geography& Environmental Management	PhD (1989) Ibadan MSc. (1983) Calabar B.A. (1978) Lagos	Prof
4.	Ekanem M. Ekanem	Climatology & Climate Change Studies;	Geography & Meteorology	PhD (1998)Ibadan MSc (1986) Ilorin	Prof

		Environmental Processes		BSc (1985) Ilorin	
5.	Imoh J. Ekpoh	Climatology & Climate Change Studies; Agro-Climatology	Geography & Environmental Science	PhD (1991) Birmingham MSc (1983) Calabar BSc (1980) Calabar	Prof
6.	Emmanuel P. Udofia	Quantitative Methods; Waste Management; Climatology	Geography & Environmental Management	PhD (2003) RUST MSc (1988) Ibadan BSc (1986) Ibadan	Assoc . Prof
7.	Robert E. Ekpenyong	Cartography & Geographic Information Systems; Development Studies	Cartography & Development Studies	PhD (2012) Uyo MGIS (1999) Ibadan MSc (1989) Lagos BSc (1985) Calabar	Snr. Lect.
8.	Charles E. Udosen	Geomorphology; Erosion & Watershed Studies; Environmental Management	Geography & Environmental Management	PhD (2000) Ibadan MSc (1991) Ibadan BSc (1987) Uyo	Snr. Lect.
9.	Rogers I. Wilcox	Climatology; Resource Management; & Development Studies	Geography & Resource Management	PhD (2008) UNIPORT MSc (2002) UNIPORT BSc (1998) UNIPORT	Snr. Lect.
10.	Emmanuel M. Akpabio	Water Resources & Development Studies; Environmental Institution and Corporate Social Responsibility	Geography & Development Studies	PhD (2007) Uyo MSc (2004) Uyo BSc (1999) Uyo	Snr. Lect.
11.	Uwem J. Ituen	Geographic Information Systems; Methodology; Development Studies	Geography & Resource Management	PhD (2007) Uyo MSc (2001) Lagos BSc (1998) Uyo	Snr. Lect.
12.	Joseph C. Udoh	Development Studies; Risk management & Geographic Information System	Geography & Resource Management	PhD (2010) Uyo MGIS (2002) Lagos MSc (1992) Lagos B.A. (1984) Lagos	Snr. Lect.
13.	Atser Jacob	Regional & Urban Planning; Urban Infrastructure Development	Urban & Regional Planning	PhD (2010) Uyo MURP (2001) Uyo BSc (1991) UNIPORT	Snr. Lect.
14.	Faith Ekong	Urban & Regional Planning; Urban Water Supplies	Urban Planning & Environmental Management	PhD (2005) ESUT MURP(1998) Ibadan BSc (1990) Uyo	Snr. Lect.
15.	Beulah Ofem	Urban & Regional Planning; Transport Management	Urban Planning & Development Studies	PhD (2011) Uyo MURP (1994) Ibadan BSc (1989) UNICROSS	Snr. Lect.

16.	Edet I. Ikurekong	Development Studies; Town Planning & Environmental Management	Urban Planning & Environmental Management	PhD (2006) Uyo MURP (1986) Benin BSc (1982) Calabar	Snr. Lect.
17.	Enobong C. Umobong	Environmental & Ecological Economics	Environmental Economics	MSc (1995) Ibadan BSc (1992) Uyo	Snr Lect.
18.	Augustine M. Imikan	Development Institution; Tourism & Rural Ecology	Geography & Development Studies	PhD (2010) Uyo MSc (2004) ESUT BSc (1985) Calabar	Lect. II
19.	Comfort M. Abraham	Geomorphology & Environmental Management	Geography & Environmental Management	PhD (2010) Uyo MSc (1998) Uyo BSc (1992) Uyo PGD (2002) Calabar	Lect. II
20.	Injubong E. Ansa	Water Resources & Urban Ecology	Geography & Development Studies	PhD (2014) Uyo MSc (2007) Uyo BSc (1999) Uyo	Lect. II

### 7. Support Staff

Markson Obot, HND, M.Sc.	Chief Cartographer
Mary Thompson Ukut OND	Chief Computer Operator
Ema-Carol Archibong, B.A	Senior Clerical Officer
Jonah Isaiah	Met. Record
Ekemini Jonah	Met. Record
Magdalene Edem	Caretaker
Ini Akpan	Lab Assistant, GIS

### 8. Facilities, Equipments and Expertise

1. Compatible GIS facility, with functional computers and softwares
2. Resource rooms with relevant books and journals
3. Lecture Rooms with interactive boards
4. Multi media projector for presentations
5. Diploma Programme in Environment & Development
6. PGD Programme in Environment & Development
7. M.Sc. Programme in Environment & Development
8. Ph.D. Programme in Environment & Development

APPENDIX III Contd

**DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING**  
**B.Sc. IN ENVIRONMENT AND DEVELOPMENT**  
**(PART-TIME)**  
**SCHOOL OF CONTINUING EDUCATION**

**UNIVERSITY OF UYO, UYO**  
**AKWA IBOM STATE, NIGERIA**

**Introduction**

To generate environment friendly attitudes with a view to ensuring sustainable development via the utilization of our natural resources, an integrated link between ecology and policy, and between ecology and resource management is required. This should form the basis for the formulation of policies on environmental ethics as well as provide the framework within which environmental and developmental decisions are made and implemented. Desirable therefore is a fundamental undergraduate programme in environment and development which seeks to integrate environmental concerns into political, economic and developmental decision making.

**Philosophy**

The Department of Geography and Regional Planning, in line with other disciplines, embraces Nigeria's philosophy of education which is based on the integration of the individual into a sound and effective citizen...(Nigeria: National Policy on Education, 1981, P7). In this regard the Department seeks to contribute in its own way to the development of the full potentials of the student so as to make him a useful individual for himself and to the society. The Environment and Development Programme is therefore geared specifically at achieving a sustainable development and integration through proper resource management and environment control. The underlying is philosophy therefore Universalistic Environmentalism, which emphasizes the utilization of environmental resources to solve problems in rational, dispassionate and unprejudiced manner for Environmental Development and Sustainability.

**Vision**

Excellence in knowledge of Nigeria's environment for sustainable development.

**Mission**

The undergraduate programme in Environment and Development seeks through teaching and learning to produce knowledgeable individuals in the understanding of the environment and associated phenomena, versed in the integration of the environment with development as an approach to achieving sustainable local, national and regional development.

**Objectives of the Programme**

The undergraduate programme in Environment and Development seeks to achieve the following objectives;

- (vi) Enable students explore the spatial relationships of the environment in line with current formulations in the social and environmental sciences.
- (vii) Expose students to the concept of Environment and Development as it relates to the physical, social and cultural aspects of modern society
- (viii) Enable students cultivate a sense of environmental friendliness towards society and an intelligent interest in environmental preservation as a factor thrust of development.
- (ix) Develop skills in monitoring, measurement of development indices and assessment.
- (x) Provide middle and high level manpower for environment related agencies, development related agencies, state and non-state agencies, consultancies and advocacies, the academic etc.

**Admission Requirement**

In addition to satisfying the general requirements of the University of Uyo and of the Faculty of Social Sciences, the following requirements must be met:

- (iii) FIVE "O" Level/SSCE/NECO credits which must include English Language, one Science subject (Biology/Physics, Chemistry/Agric. Science) and one Social Science subject, (Geography/Economics/Government). A (P7) pass in Mathematics is required.
- (iii) Two "A" level passes, one each from the science and social science groups above (candidate having met the preliminary "O" level requirements) may be awarded waiver of one year.
- (iv) Holders of the Diploma in Environment and Development of the University of Uyo may be awarded waiver of one academic year.

- (v) Holders of Diplomas in the social, earth and environmental sciences of other Universities or institutions recognized by the Senate of the University of Uyo (candidate having met the preliminary “O” level requirements) may be admitted into an appropriate level of the programme.

### Mode of Study

The mode of study is Part Time

### Duration of the Programme

The duration of the programme shall be a minimum of eight (8) semesters for candidates with waivers and ten (10) semesters for “O” level entrants.

### Requirements for the award of degree in Environment and Development

A student shall qualify for the award of B.Sc. (Hons) in Environment and Development when he has:

- (iv) Completed and earned a minimum of 157 credit hours for a five-year program and 122 credit hours for a four-year programme. To earn credit, a grade not below E must be achieved.
- (v) Achieved grades not below E in the University required courses and research project, and an overall cumulative grade point average of not less than 1.00.
- (iii) Achieved grades not below E in all faculty foundation courses.
- (vi) Achieved grades not below E in all compulsory and required courses.
- (vii) Met all financial obligations to the University of Uyo and the Department.
- (viii) Satisfied University requirements relating to good character.
- (ix)

### The Course Credit System

Instruction shall be by the “Course Credit” system, which regulations include the following:

- (v) Every student shall be required to register for a minimum of 13 Credit units per semester and a maximum of 18 Credit Units.
- (vi) A system of continuous assessment shall be used for every course and shall contribute 30% of the total score for each course.
- (vii) To qualify to take examination in the course, a student must record up to 75% attendance in lectures.
- (viii) Students shall be required to carry forward failed course and to register for these courses first before registering for the next level courses.

### Measurement of Performance in Examinations and Award of Degrees

Score	Grade	Grade Point	Description
70 - 100%	A	5.00	Excellent
60 - 69%	B	4.00	Very Good
50 - 59%	C	3.00	Good
45 - 49%	D	2.00	Fair
40 - 44%	E	1.00	Pass
< - 39%	F	0.00	Fail

### Award of Degree on a Five-Point Degree shall be as follows:

- 1<sup>st</sup> Class: 4.50.00
- 2<sup>nd</sup> Class: (Upper Division): 3.50 – 4.49
- 2<sup>nd</sup> Class: (Lower Division): 2.40 – 3.49
- 3<sup>rd</sup> Class: 1.50 – 2.39
- Pass: 1.00 – 1.49
- Fail: 0.00 – 0.90

### COURSES

#### YEAR ONE

#### FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GST 111	Use of English	2	R
GST 112	The Nigerian People and Culture	2	R
GST 113	History and Philosophy of Science	2	R
EVD 111	Sustainable Development	2	C

EVD 112	Physical Environment I	2	C
EVD 113	Human Environment I	2	C
EVD 114	Introduction to Resource Management	2	C
EVD 115	Introduction to Statistics and Applications I	2	R
Elective	(within Faculty of Social Sciences)	2	R
	<b>Total</b>	<b>18</b>	

## YEAR ONE

### SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GST 122	Introduction to Logic and Philosophy	2	R
GST 121	Use of English	2	R
EVD 121	Introductory Statistics and Applications II	2	C
EVD 122	Physical Environment II	2	C
EVD 123	Human Environment II	2	C
EVD 124	Ecosystems and Ecological Distortions	2	C
GPY 125	Introduction to Environmental Science	2	C
Elective	(within Faculty of Social Sciences)	3	R
	<b>Total</b>	<b>17</b>	

## YEAR TWO

### FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GST 211	Introduction to Computer Science	2	R
SSC 211	Introduction to Statistics for Social Science I (prerequisite SSC 221)	2	R
EVD 211	Perspectives on Environment & Development I	2	C
EVD 212	Methods in Environment and Development	2	C
EVD 213	Introduction to Waste Management	2	C
GPY 226	Introductory Climatology and Biogeography	2	C
Elective	(from faculties of Science/Agriculture/Environmental Studies)	2	R
	<b>Total</b>	<b>14</b>	

## YEAR TWO

### SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
SSC 221	Introduction to Statistics for Social Science II (prerequisite SSC 211)	2	R
SSC 222	Methods and Tools of Social Enquiry	3	R
EVD 222	Environmental Health	2	C
EVD 223	Perspectives on Environment and Dev. II	2	C
GPY 224	Air Photo Interpretation and Remote Sensing		
EVD 225	Introduction to Environmental Philosophy	2	R
EVD 226	Local Field Studies in Environment & Dev.	3	C
	<b>Total</b>	<b>17</b>	

## YEAR THREE

### FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
GST 311	Application of Computer	2	R
EVD 311	Climate Change and Adaptation	2	C
EVD 312	Introduction to Environmental Information	2	R

	System		
EVD 313	Introduction to Urban Ecology I	2	R
EVD 314	Economic Development and Planning I	2	R
EVD 315	Environmental Economics and Application	2	R
EVD 316	Principles of Resource Management I	3	C
EVD 317	Biogeographical Analysis	2	R
	<b>Total</b>	<b>17</b>	

### YEAR THREE

#### SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
EVD 321	Climate, Environment and Agriculture	2	C
GPY 322	Introduction to Hydrology	2	R
EVD 323	Introduction to Urban Ecology II	2	C
EVD 324	Economic Development and Planning II	2	C
EVD 325	Ecological Economics and Application	2	C
EVD 326	Principles of Resource Management II	3	C
EVD 327	Culture, Environment and Development	2	C
EVD 328	Conflict Impact Assessment	2	C
	<b>Total</b>	<b>17</b>	

### YEAR FOUR

#### FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
EVD 411	Transport, Environment and Development	2	C
EVD 412	Agricultural Ecosystems	2	C
EVD 413	Management of Environmental Hazards I	2	R
EVD 414	Soil and Vegetation Conservation	2	C
GPY 433	Land Evaluation and Reclamation	2	C
GPY 436	Environmental Stability and Change	2	C
GPY 447	Water Resources Planning and Management	2	R
	<b>Total</b>	<b>14</b>	

### YEAR FOUR

#### SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
EVD 421	Globalization and Development	2	C
EVD 422	Principles of Political Ecology	2	R
EVD 423	Environmental Ethics	2	C
EVD 424	Tourism, Leisure and Environment	2	C
EVD 425	Management of Environmental Hazards II	2	C
EVD 426	Resource Conflicts and Resolution	2	C
EVD 427	Pollution and Environmental Quality	2	C
EVD 428	Human Resources Development	2	C
	<b>Total</b>	<b>17</b>	

### YEAR FIVE

#### FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
EVD 451	Environmental Regulations and Law	2	C
EVD 452	Environmental and Social Impact Assessment	3	R
EVD 453	Population, Environment and Development I	2	R
EVD 454	Environmental Monitoring and Planning	2	C
	Choose and TWO of the following optional		

	courses		
EVD 455	Health, Environment and Development	2	
EVD 456	Global Environmental Institutions	2	
EVD 457	The Behavioural Environment	2	
EVD 458	Principles of Urban Ecology	2	
	<b>Total</b>	<b>15</b>	

## YEAR FIVE

### SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT	STATUS
EVD 461	Poverty, Environment and Development	2	C
EVD 462	Population, Environment and Development II	2	C
EVD 463	Environmental and Ecological Audits	2	C
EVD 464	Original Research Project	6	C
	Choose any TWO of the following optional courses		
GPY 429	Resource Management and Conservation	2	
EVD 465	Politics and Ecology of Natural Resources	2	
EVD 466	Water Resources Institutions	2	
EVD 467	Economics of Natural Resources	2	
EVD 468	GIS Applications Env. and Development	2	
	<b>Total</b>	<b>16</b>	

#### **EVD 111: Sustainable Development**

Meaning of Sustainable Development; Sustainable Development as a Concept; the WCED and terms of reference; Relationship between environmental problems and developmental problems; Guidelines to Sustainable Development; Importance of sustainability (protection of life supports systems, biotic diversity, ecosystem integrated, preventive and adaptive strategies) treated in detail.

#### **EVD 112: Physical Environment I**

Classification and influence of rocks; rock types and uses; Mountains, plateau and plains; volcanic activities, types, features and uses; Earthquakes-causes and distribution; Mass movement and gullyng; river systems; erosion and depositional features; coastal landforms and features; waves, tides and currents; coastal erosion, sea level rise and causes.

#### **EVD 113 Human Environment I**

Agricultural activities – factors influencing and types; soil erosion and fertility loss; Conservation and farming techniques; Minerals-iron and steel; their distribution and processing; the global iron and steel industry; other metallic ones; Petroleum, refining, use; effects on environment; Electricity, advantage, HEP, nuclear, solar, wind.

#### **EVD 114 Introduction to Resource Management**

Concepts of resource and management; Natural resource management; renewable and non-renewable resources; Ecosystem approach, principles and characteristics; integrated and conventional methods. Indigenous knowledge; participatory appraisals; conservation principles.

#### **EVD 115 Introductory Statistics and Applications I**

Descriptive statistics – meaning of statistics and relevance in environment and development; Data collection and levels of measurement; measures of central tendency and deviation; Introduction to probability theory; the normal distribution, skewness and kurtosis; sampling methods-probability and non-probability.

#### **EVD 121 Introductory Statistics and Application II**

Inferential Statistics – population and sample; statistical decision; parametric and non-parametric tests; small sample techniques-the Chi and the t-tests; Mann-Whitney test; One-way analysis of variance; Pearson's and Spearman's correlations; simple linear regression.

#### **EVD 122 Physical Environment II**

Meaning and importance of weather and climate; Elements of weather and climate; insolation, distribution and losses; Factors affecting elements of climate; Precipitation and types; cyclonic activity – low and high pressure cells, typhoon and tornadoes, land and sea breezes; Tsunamis, causes and effects; Climatic types and vegetation distribution-equatorial rainforests and savannas; Deforestation; Desertification and Erosion.

### **EVD 123 Human Environment II**

Manufacturing; Industrial revolution; Industrial groups; Factors of industrial location; Industrialization areas in Nigeria and the world; effects of industrialization; Importance of world transport; Land, ocean and air transport and their effects; settlement types, factors of location, functions and classification; problems of urbanization, with Nigerian examples.

### **EVD 124 Ecosystems and Ecological Distortions**

Concept of ecosystems; Components, interactions and energy flow in ecosystems; grazing and detrital food chains; Vegetation and ecosystem dynamics; plant and animal adaptations; Limitations of growth in ecosystems; distortions and disruption of growth; Modifications and environmental ecology of biotopes.

### **EVD 125 Introduction to Environmental Science**

Biogeochemical cycles and energy flow-transfer of energy through plants; Formation and maintenance of matter; Role of the atmosphere and component gases; solar radiation spectrum; photosynthesis and productivity; Food chains; cyclical element exchange; Human impact on the natural cycles; climatic modification and accelerated erosion; Groundwater formation, aquifers and artesian systems.

### **EVD 211 Perspectives on Environment and Development I**

Human activity and total carrying capacity of the biosphere; Environmental cost of human activities; Energy and material use minimization; Reduction of noxious emissions; Rehabilitation of degraded ecosystems; Socio-political and economic equality; Environmental concerns and political decision making; Stakeholder involvement in development; Political activity and environmental experience.

### **EVD 212 Methods in Environment and Development**

Sampling methods – systematic, random and stratified; Estimation of sample size; survey methods; Rural appraisal, questionnaire design, interviews and hypotheses formulation; participatory learning and action; oral testimonies.

### **EVD 213 Introduction to Waste Management**

Waste streams, reduction, disposal and recycling; components of waste management programmes; Landfills and incinerators; toxic and hazardous waste; Radioactive waste-management and disposal; problems of waste management in Nigeria, public-private partnership; solid waste and pollution of environmental media.

### **GPY 226 Introductory Climatology and Biogeography**

Circulation of the atmosphere-Laws of motion; major features and models of the circulation; weather-producing systems-air masses and fronts. Frontal and non-frontal depressions; climate classification and global systems of climate. Influence of man on the atmosphere; structure and dynamics of plant communities; Factors influencing plant growth; survey of characteristics, distribution and controlling factors of principal vegetation types; man's influence on vegetation.

### **EVD 222 Environmental Health**

History and concept of environmental health; Infrastructure strategies for the management of environmental health-water supply, sanitation, energy; Environmental risk factors and related diseases; Environmental health in developing countries-integrated child nutrition programmes; vector control programs, Institutional requirements for environmental health governance.

### **EVD 223 Perspectives on Environment and Development II**

Accessibility of political processes; effectiveness of decision-making; poverty reduction processes; Economic coercion vulnerability; Involvement in economic and political system; minimum levels of equality, social justice; open and just legal system; political repression; Quality, education; access to information, freedom of religion etc. These socio-political criteria are used to evaluate governance in relation to development in Nigeria.

### **GPY 224 Air Photo interpretation and Remote Sensing**

Concepts and principles of remote sensing; Remote sensing platforms; Imaging systems and their capabilities; Application of remote sensual techniques in environment and development studies; the development of aerial photographs; types and geometry of aerial photographs; fundamentals of air photo interpretation; mapping from aerial photographs.

### **EVD 225 Introduction to Environmental Philosophy**

The development of environmental philosophy; anthropocentrism and the Judaic religion; environmental green parties-the realists versus the fundamentalists; Libertarian ecology, deep ecology and shallow ecology; the humanist theories.

### **EVD 226 Local Field Studies in Environment and Development**

This is a guided local field study aimed to produce an independently written report on a suitable environment and development issue at this level.

### **EVD 311 Climate Change and Adaptation**

Concept of climate change; types of climate change and causes; O<sub>3</sub> damage and the global situation; monitoring and sequestration of CO<sub>2</sub> and other GHGs; Emissions in Nigeria; Industrialization and climate change; Impacts of climate change; Adaptations to climate change; Climate change Institutions – the Nigerian climate Change Commission.

### **EVD 312 Introduction to Environmental Information System**

GIS adapted to EIS; Nature, scope and objectives of the EIS; survey and development of environmental data; reliability and validity of the data; Collection processes – exploration, land use survey, socio- economic sample, survey, censuses, regional survey, remote sensing etc. Environmental data coding storage and retrieval, data metric measurement scales etc; Application of EIS on short and long term development issues.

### **EVD 313 Introduction to Urban Ecology I**

The city as an ecological system; urban development in Colonial Nigeria; Characteristics of urban area in the colonial era; the post-independent era and characteristics; Nigeria's urban culture; problems related to quality of life; public health and transport, clean water, sustainable food and population policies; sustainable city or eco-city; Roadmap for the achievement of eco-city -agriculture, field to park concept, renewable energy, natural ventilation system, bio-gas from sewage, public transport etc.

### **EVD 314 Economic Development and Planning I**

Meaning of economic development and underdevelopment; Distinction between economic development and economic growth; survey and analysis of development theories and their relevance to the African situation-classical, Marxian, Schumpeterian etc; Obstacles to development and strategies to remove them; balanced and unbalanced growth – technological change; international a trade and aid in the development process; policy issues, case studies and the Nigerian Development experience.

### **EVD 315 Environmental Economics and Application**

Meaning and scope; Economy and the environment; Markets and externalities; externality under uncertainty (treated in detail); imperfect competition and externalities; valuation of environmental impacts – concept of cost benefit; cost-benefit analysis (with examples); Environmental policy and policy instruments.

### **EVD 316 Principles of Resource Management I**

Concept of integrated natural resource management (INRM); Agriculture in developing countries; characteristics of INRM; concept of local knowledge; Methods for studying local knowledge systems – Rapid Rural Appraisal. Participation Rural Appraisal and their characteristics; Importance of local knowledge for resource and environmental management

### **EVD 317 Biogeographical Analysis**

Principles and functions of biogeography; structure and functions of terrestrial and aquatic ecosystems; population and community ecology; vegetation change through time; vegetation- environment relationships; principles of adaptation.

### **EVD 321 Climate, Environment Agriculture**

Climate change concerns in agriculture; Climate concerns and adaptation; climate impacts on agriculture; Climatic variability and climate change; Ex-post and ex-ante adaptations; Private and public adaptations; short-term adaptations; Long-term adaptations; Adaptations irrespective of temporal dimensions; climate risk management

### **GPY 322 Introduction to Hydrology**

Meaning and scope of hydrology; historical development of hydrology, Basic concepts – systems approach, hydrologic cycle, the drainage basin,; River basin development – morph metric analysis; Drainage basin form and processes; water as hydromorphic mineral, its characteristics, motion and importance; Ecological significance of the drainage basin; watershed management and sustainability;

### **EVD 323 Introduction to Urban Ecology II**

Ecologically damaging patterns of urbanization; cities and globalization; concept of urban poverty and social infrastructure; climate change and human settlements; urbanization and carbon emissions; urban health sanitation and social inequalities; Framework for slum upgrading, urban livelihood and poverty; water, waste and transport management for urban resilience.

### **EVD 324 Economic Development and Planning II**

The rationale for economic planning; planning origins; types and performance records; socio-political dimensions of development planning machinery and the planning process; planning decision models; planning data; objectives and policy formulation; plan implementation and related problems; Federalism and the development planning experience in Nigeria.

### **EVD 325 Ecological Economics and Application**

Ecological economics-meaning and scope; Relationships between human economies and ecosystems; Ecological economic policy versus environmental management paradigm; problems statement and problem resolution; Ecological economic policy, support programmes and implementation.

### **EVD 326 Principle of Resource Management II**

Impact assessment of resource management projects; principles of the assessment; strategic issues in the assessment; strategic impact assessment and life-cycle assessment; state of the environment reports; public involvement in resource management. Environmental audits, monitoring and evaluation (treated in outline).

### **EVD 327 Culture, Environment and Development**

Basic concepts, people, place and time, the homeland and early migration of man; Growth and migration in modern times; Nature and culture and their environmental contexts; Technology, culture and indigenous knowledge; Origins and dispersal; ideologies and political order; patterns of livelihood and effects on development.

### **EVD 328 Conflict Impact Assessments**

Social and environmental contexts of conflicts; Destructive and constructive conflicts; the conflict funnel and conflict cycle; The social basis of conflicts-internal factors, system context, relations between adversaries; conditions for the emergence of conflicts in Nigeria and elsewhere; consequences and impacts of conflicts –psychological, social, economic and physical ;relations with governance, environment and development.

### **EVD 411 Transport, Environment and Development**

Transport and the communication web; Types and importance of transport; Relationship between landuse and transportation; transport models and cost structures; structural analyses of transport networks; environment; Atmospheric pollution, noise pollution degrading aesthetics; Urban transport problems; transport and noxious emissions; Effect of weather on transport and environment; transport infrastructure planning Nigeria national transport policy.

### **EVD 413 Agricultural Ecosystems and Development**

A study of the ecological and environmental implications of the location of agricultural activities; creation of artificial ecosystems –effects on climate, soil, water and other environmental media; Agricultural enterprise and models; Theories in agricultural location, models and explanation of world agricultural typology; characteristics and economics of farming systems in the tropics; problems of Nigerian agricultural development-reviews of Back to Land Programme; Regional agricultural development programmes; NAFPP etc.

### **EVD 415 Management of Environmental Hazards I**

Concept and meaning of hazard; Classification of hazards and classification procedures; use of concepts; models, quantitative methods in hazard studies; Environmental hazards management strategies – rehabilitation, prediction, awareness creation, conservation and protection etc. Some human-induced hazards e.g forest fires, pesticide and fertilizer use, industrial activities.

#### **EVD 416 Soil and Vegetation Conservation**

Concept of conservation in relation to soil and vegetation, soil profiles and soil forming environments; soil classification - the USDA scheme; soil fertility loss-causes and management; the FAO soil fertility rating; recognition of vegetation communities; vegetation structure and life-forms; vegetation analysis – recent trends; degradation-agricultural impacts, deforestation; logging and harvesting of NTFP; sustainable management schemes; soil-vegetation correlation and interrelationships; regeneration through vegetation management; Government policies on conservation.

#### **EVD 421 Globalization and Development**

Concept of globalization; Flows of resources, capital, knowledge, ideas, goods and services; How globalization retards development in a spatial context; globalization and poverty, inequality, livelihoods and development; knowledge and technology transfer; Transboundary pollution and global health issues

#### **EVD 422 Principles of Political Ecology**

Politics of the environment; Role of government and interest groups in shaping specific environment and development policies; Environment and development discourses; ideology and knowledge; politics and environmental change; Economic systems-including globalization; Gender-based dimensions of resource ownership and use; community resource management and human relationship with nature.

#### **EVD 423 Environmental Ethics**

Meaning and scope; Ethical approaches to environment; Ethics, natural hazards and human induced hazards; ethical issues in engineering construction; biotechnology, international trade and industrialization; Environmental ethics and warfare; Relationships between environmental ethics and philosophy.

#### **EVD 424 Tourism, Leisure and Environment**

Tourism as development concept; effects on environmental quality; The WTO; Tourism master plans with emphasis on Nigeria; Tourism destinations; Social and economic effects of tourism; positive and negative effects of tourism; and recreation; Ecotourism; UN efforts in a global perspective; Gender and tourism; poverty alleviation characteristics of tourism.

#### **EVD 425 Management of Environmental Hazards II**

Consideration of natural hazards associated with volcanic activities; earthquakes; mass movement; geomorphic processes and mass wasting; Hazards from cyclonic activities and other meteorological events; flood hazards; soil erosion and marine hazards; drought and desertification; global and regional warning systems; disaster monitoring and relocation strategies in management.

#### **EVD 426 Resource Conflicts and Resolution**

Reasons behind rise in conflicts; relationships between resource exploitation and conflicts; formal and informal institutions; consensual negotiations; The process maps; resource conflicts in Nigeria, negotiations and settlement; Local and community conflicts; Indigenous knowledge approach to settlements of conflicts.

#### **EVD 427 Pollution and Environmental Quality**

Concept of pollution; Pollution from natural and anthropogenic sources; Pollution process and pollution; types and sources; impact of pollution on economic activities; pollution, social harmony and control; permissible limits and standards- the FEPA and WHO.

#### **EVD 428 Human Resources Development**

Concept of human resources; theories air strategies of human resources and manpower development; human resources and absolute capacity; formation of human capital-education health; mobility; benefit-cost analysis of investment in human capital; manpower retraining, educational and healthcare development; human resources development and national economic performance.

### **GPY 433 Land Evaluation and Reclamation**

Concepts and history of land evaluation; The relationship between soil surveys and land evaluation; Concepts of land use and land resources. Rational for, types and methods of land evaluation in developed and developing countries; classification of land use types and assessment of their development potential; strategies and natural principles of Land reclamation; Traditional and modern land reclamation methods; Infrastructural development on reclaimed lands.

### **GPY 436 Environmental Stability and Change**

Concept of environmental change, stability and equilibrium; dynamic equilibrium in environmental systems; Theories of uplift; subsidence and landform development; climate change; global warming and sea level rise; globalization of the anthropogenic environment; disruption of the global equilibrium; rural-urban environment transitions; The need to manage environmental change with development indices.

### **GPY 447 Water Resources Planning and Management**

Water resources inventory and conservation; evaluation of surface water resources; evaluation of groundwater resources; assessment of water quality; Approaches to planning development of water resources; water supply and pricing; water resources management in Nigeria; River basin development projects –policies, problems and prospects.

### **EVD 451 Environmental Regulations and Law**

Sources of environmental regulations; Local knowledge systems; Activities of the UN-UNEP, WHO, USEPA etc. Sources of environmental law within and outside Nigeria; Environmental conflicts of interest; problems of liability; common law negligence, nuisance, trespass etc, Intervention regulations in Nigeria; the global scenario.

### **EVD 452 Environmental and Social Impact Assessments**

Definition of impacts and assessments-environmental, social political viewpoints; Socio-economic and health impacts of development; procedures and public participation; prerequisites for environmental impact assessment; Baseline studies and post impact studies; Methods of impact assessment – checklist, matrices, networks, overlay mapping; impact measurement and recognition of indicators; rapid assessment procedures; Mitigating measures and monitoring.

### **EVD 453 Population, Environment and Development I**

World population patterns, structures and distribution; population changes and problems; causes of internal and international migrations; relations between birth, morbidity and death rates; Family planning problems; resource-related population concentrations; population, environmental and utility stress; population and health; impact on development planning.

### **EVD 454 Environmental Monitoring and Planning**

Meaning and scope of monitoring; Historical development and rationals; initiation of environmental monitoring programmes; GEM and monitoring of greenhouse gases; Recognition of environmental indicators; Monitoring activities in Nigeria. – NASRDA and remotely sensed data; BASRN; Monitoring of industrial activities – DPR, NOSDRA; Localized programmes and studies-air quality and particulates; camphene with EMS; contributions to development.

### **EVD 455 Health, Environment and Development**

Concept and scope of health in a spatial context; geographic pattern of mobility and mortality in the past and present; health-environment relationships and impacts on development; diffusion of diseases in the third World; Climate and health – with emphasis on Nigeria; Modern and traditional medicine approaches to health care; indigenous knowledge and enterprise in healthcare delivery; primary health care, distribution of facilities; health governance.

### **EVD 456 Global Environmental Health**

Institutions versus organization; Evolution of environmental institutions; World Bank and IMF policies and projects; the UNEP, origin and functions; UNESCO/and WWF activities; USEPA pioneering regulations; Global awareness activities –UN conference on Human Environment; RAMSAR, earth summit, UNCCCF, Copenhagen etc.

### **EVD 457 The Behavioural Environment**

Concepts-geographical, operational perceptual environments, physical, social, economic, political and demographic; Man-environmental interrelationships-environmental determination and environmental possibilism; Factors that influence human perception, cognition, thoughts and action in relation to human spatial behaviour; The place of sensation, cognition, environmental images and mental maps in man's environmental preference. How the behavioural environment determines developmental preferences and choice.

### **EVD 458 Principles of Urban Ecology**

History of urbanization; the pre-industrial and modern city; spatial structure of urbanization; the central theory, city interlands and systems; urban economic activities and problems; sustainable urban water resources management; space and social determinants of health; Crime and violence prevention; Municipal adaptation plan for climate change.

### **EVD 461 Poverty, Environment and Development**

Various definitions of poverty; poverty indices; rural and urban poverty; poverty reduction policies; Poverty and resource management; Poverty, informal business sector and environmental degradation; relationship of poverty to gender in the third world; environmental governance, poverty and development; poverty, energy and agriculture; perceptions of poverty and development.

### **EVD 462 Population, Environment and Development II**

The critical population density and associated problems; social and economic characteristics; population structures and their relationship to development; environmental determinants of population distribution; population and social infrastructure; planning and development problems associated with population structures.

### **EVD 463 Environmental and Ecological Audits**

Definition, background and scope of audits; Importance of audits; self audits and advantages; disclosure requirements; Environmental audits in Nigeria; guidelines; planning, pre-audit and post-audit activities; Examples of audits in Nigeria; Importance on environmental and industrial development.

### **EVD 464 Original Research Project**

Approximately 10,000 – word research project based on field work. Project should be typed on A4 paper, double-spaced. Reference should follow the Harvard system and the cover should be navy blue in colour. Students will be required to defend their projects before an external examiner.

### **EVD 465 Politics and Ecology of Natural Resources**

Political and economic background to environmental issues; Pollution abatement strategies; economic aspects of sustainability; pollution control regimes and integrated resource management; Ecology of natural resources, environmental racism and resource conflicts; politics of resource and environmental management; environmental effects of resource use and economic/development implications; OPEC and other organizations.

### **EVD 466 Water Resources Institutions**

Concepts in water resources; integrated water resources management (IWRM); Virtual water and water footprint; hydrohegemony and hydrosolidarity; water conflicts and water wars; green, blue, gray and black water; indigenous water management in Nigeria; water demand and privatization; water conservation and recycling; water treaties; impacts of megdams; politics and policies of water management in Nigeria and elsewhere.

### **EVD 467 Economics of National Resources**

A history of economic thought on national resources and the environment; Economics of fisheries and forestry; Economics of mining, petroleum and national gas; Economics of environmental degradation.

### **EVD 528 GIS Applications in Environment and Development**

Database creation and structuring-vector and raster structure, data manipulation and analysis; surface analysis and overlay analysis; Application case studies in environmental monitoring, resource management, agricultural, forestry, transportation, urban, regional and development planning.

### **GPY 429 Resource Management and Conservation**

Concepts of environmental, resource management and conservation; Evaluation of problems associated with management of national resources; Impact of resource exploitation and utilization on the environment. Case studies

in Nigeria and elsewhere; the place of culture and technology in resource management; methods for the valuation of environmental impacts-multiple criteria, cost-benefit, travel-cost etc; Global and national conservation policies; treaties and conventions; conservation method and strategies-heritage sites, reserves; rationale for conservation.

<b>TEACHING STAFF</b>	<b>SPECIALIZATION</b>	<b>RANK</b>	<b>STATUS</b>
P. A. Akpan, Ph.D	Urban & Dev. Studies	Prof.	Contract
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I. Ukpong, Ph.D	Biogeography & Env. Mgt.	Prof.	Full Time
E. M.Ekanem Ph.D	Climate & Env. Processes	Assoc. Prof.	Full Time
R. Ekpenyong MSc., MGIS	Dev. Studies and GIS	Snr. Lect.	
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N. Udodia, Ph.D	Law & Env. Ethics	Lect. I	Full Time
F. Ekanem, Ph.D	Env. Philosophy & Gender	Lect. I	Full Time
E. Umobong, M.Sc.	Env. & Resources Management	Snr. Lect.	Full Time
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O. Olajide, Ph.D	Forestry Econs. & Ecology	Snr. Lect.	Full Time
P. Ogban, Ph.D	Soil Fertility & Mgt.	Assoc. Prof.	Full Time
A. Afangideh, Ph.D	Climate & Pollution Studies	Snr. Lect.	Visiting
K. Essien, M.Sc.	Dev. Studies, Tourism	Asst. Lecturer	Full Time

#### **SUPPORT STAFF**

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Jonah Isaiah	Met. Records
Ekemini Jonah	Met. Records
Magdalene Edem	Caretaker

#### **FACILITIES, EQUIPMENT OF EXPERTIES**

1. Compatible GIS facility, with functional computers
2. Resource room with relevant books and journals
3. Large Postgraduate Lecture Room
4. Multi media projector for presentations
5. A functional M.Sc. Programme in Environment & Development

#### **APPENDIX III Contd**

**DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING  
UNIVERSITY OF UYO, UYO  
AKWA IBOM STATE, NIGERIA  
POSTGRADUATE DIPLOMA  
IN  
ENVIRONMENT & DEVELOPMENT  
SCHOOL OF CONTINUING EDUCATION**

## **INTRODUCTION**

Since the World Commission on Environment and Development in 1987, nations, including Nigeria have continued to express the need to generate environment-friendly attitudes with an aim to ensure sustainable development. The need is anchored on the utilization of resources, proper ecosystem management, establishment of integrated links between ecology and policy with a view to achieving inter and intra-generational equity. Thus, integration of environmental policies into developmental decision making has remained paramount, but largely elusive to many nations. The Postgraduate Diploma in Environment and Development is a broad spectrum programme designed to initiate knowledge of the link between environment and development and to excite committed involvement in solving environmental problems through recognition of practical solutions for the enhancement of human well-being.

## **PHILOSOPHY OF THE PROGRAMME**

The quality of the Nigerian environment is increasingly becoming a developmental issue of major significance as a factor of health, quality of life and well-being, food security and social infrastructure. However, improving the quality of the environment to enhance development has been found to be slow, complex and acrimonious. This is because the foundations for building a sustainable environmental awareness have largely not been laid. Rather, environmental regulations, having become national issues, have posed even more problems to development due to the transboundary nature of environmental problems, conflicting policies and varying developmental interests of the component states. The Postgraduate Diploma in Environment and Development adopts a policy oriented perspective to explore the links between environment and development and to relate these to the Nigerian and global situations.

## **VISION**

Excellence in knowledge of the environment for sustainable development:

## **MISSION STATEMENT**

The PGD in Environment and Development seeks through teaching and learning to produce knowledgeable individuals in the understanding of the Environment and associated phenomena, versed in the integration of environment with development, as an approach to achieving sustainable local, national and regional development.

## **OBJECTIVES OF THE PROGRAMME**

The PGD in Environment and Development seeks to achieve the following:

- (i) Enable students to understand the spatial relationships of the environment and the links with development in line with current formulations and criteria for sustainable development.
- (ii) Enable students to understand the concept of environment and development as it relates to the physical, social and cultural aspects of modern society.
- (iii) Enable students cultivate a sense of environmental friendliness towards the society and an intelligent interest in environment preservation as a factor of development.
- (iv) Develop analytical skills in environmental and developmental issues, including monitoring and measurement of indices.
- (v) Provide middle and senior level manpower for environmental agencies, developmental agencies, the civil service, non-state agencies and consultancies.
- (vi) Provide opportunities for students wishing to pursue M. Sc programmes in Environment and Development, Environmental Resource Management etc.

## **ELIGIBILITY**

The following categories of persons are eligible to undertake the PGD in Environment and Development:

- (i) holders of first degrees in Geography, Urban Planning, Economics, Sociology, Psychology, Political Science, Land Surveying, Estate Management, Engineering, Chemistry, Microbiology, Physics, Science, Education, Business and other relevant disciplines, Agriculture Sciences.

- (ii) Holders of Higher National Diplomas in the above and related areas are also eligible.

### MODE OF STUDY

The mode of study is Part-Time:

### DURATION OF PROGRAMME

The duration of the programme is a minimum of three (3) Semesters:

### REQUIREMENTS FOR GRADUATION

The PGD in Environment and Development requires 42 credit hours of course work and three (3) credit hours of compulsory research essay at the end of the Students' study. The student must pass and obtain at least a C grade in each course in order to be awarded the PG Diploma.

### CLASSIFICATION OF GRADES

Course grades will be classified as follows:

A	=	70+	
B	=	60	- 69
C	=	50	- 59
F	=	0	- 49

All failed courses will be resisted once in the appropriate semester, after which participation in the course may be withdrawn.

### COURSE STRUCTURE

Four compulsory courses and one elective course are offered in each semester. Each course carries three credit hour loads.

First Semester Credit Hours	-	15
Second Semester Credit Hours	-	15
Third Semester Credit hours	-	15
<b>Total</b>	=	<b>45</b>

### COURSES

The Postgraduate Diploma in Environment and Development offers the following courses, defined by the code EVD with load of 3 credit hours each.

#### FIRST SEMESTER

COURSE CODE	TITLE	CREDIT HOURS	STATUS
EVD 511	Principles of Sustainable Development	3	Compulsory
EVD 512	Methods in Environment and Development Research	3	Compulsory
EVD 513	The Physical and Human environments	3	Compulsory
EVD 514	Resource Management and Conflicts	3	Compulsory
EVD 515	Waste Management and Environmental Health	3	Elective *
EVD 516	Land Evaluation, Reclamation and Management	3	Elective *
	<b>Total</b>	<b>15</b>	

\* Students are to choose one elective

#### SECOND SEMESTER

COURSE CODE	TITLE	CREDIT HOURS	STATUS
EVD 521	Perspectives in Environment and Development	3	Compulsory
EVD 522	Environmental and Ecological Economics	3	Compulsory
EVD 523	Environmental impacts of Development Projects	3	Compulsory
EVD 524	Governance, Environment and Development	3	Compulsory
EVD 525	Environmental and Ecological Audits	3	Elective *

EVD 526	Tourism, Leisure and Environment	3	Elective *
	<b>Total</b>	<b>15</b>	

\* **Students are to choose one elective**

### THIRD SEMESTER

COURSE CODE	TITLE	CREDIT HOURS	STATUS
EVD 531	Pollution and Environmental Quality	3	Compulsory
EVD 532	Climate Change and Adaptation	3	Compulsory
EVD 533	Poverty, Environment and Development Policies	3	Compulsory
EVD 534	Research Essay	3	Compulsory
EVD 535	Environmental Philosophy, Ethics and Gender	3	Elective *
EVD 536	Environmental Ecology	3	Elective *
	<b>Total</b>	<b>15</b>	

\* **Students are to choose one elective**

### COURSE DESCRIPTION

#### **EVD 511 Principles of Sustainable Development: 3 CH**

Definitions of sustainable development; sustainable development as a concept; sustainable development in developed and developing countries; Principles of sustainable development– environmental/ecological principles; socio-political principles/socio-political criteria.

#### **EVD 512 Methods in Environment and Development 3 CH**

Research data collection and levels of measurement; sampling methods (probability and non-probability); random, stratified and systematic; survey methods; questionnaire design; interviews; PRA, and oral testimonies; estimation of sample size; parametric ANOVA; Spearman's Rank and Pearson's correlation; simple linear regression;

#### **EVD 513 The Physical and Human Environments 3 CH**

Classification, importance and types of rocks; types and importance of mountains, plateaus, plains; volcanic activities-features and importance; earthquakes-causes and distribution; mass movement and associated land forms; river and coastal system/landforms; precipitation-causes and types; cyclonic activity-types; factors influencing agriculture and types; soil erosion and fertility loss; factors of industrial location; settlement types; location and function; problems of urbanization.

#### **EVD 514 Resource Management and Conflicts 3 CH**

Renewable and non-renewable resources; ecosystem management approach, its nature and themes; general principles of ecosystem management; integrated ecosystem/natural resource management: concept, justification and challenges; characteristics of INRM; importance of local knowledge and participatory appraisal; emergence of resource related conflicts; formal and informal institutions; limitations of consensual negotiation; sustainable livelihood approach; process map; conflict impact assessment and humanitarian problems.

#### **EVD 515 Waste Management and Environmental Health 3 CH**

Waste reduction, disposal and recycling; biotechnology; toxic and hazardous waste management; nuclear and radiates; history and concept of environmental health; epidemiology; infrastructure strategies for the management of environmental health-water supply, sanitation, energy; environmental risk factors and related diseases; environmental health in developing countries-integrated child survival programs; political will and role of governments; community participation; private and public sector roles, institutional requirements for environmental health governance.

#### **EVD 516 Land Evaluation, Reclamation and Restoration 3 CH**

Land evaluation-history, relationship with soil survey, information sources; aims and procedure; types of evaluation and purpose; classification and determinants of land resource; definition and purpose of land reclamation; approaches; institutional policies; consequences of reclamation; case examples-Niger Delta oil spills and Jos plateau; open cast mines in Nigeria; restoration procedures – self restoration, hydrological restoration of coastal sites.

#### **EVD 521 Perspectives in Environment and Development 3 CH**

Human activity and total carrying capacity of the biosphere; environmental cost of human activities; energy and material use minimization; reduction of noxious emissions; rehabilitation of degraded ecosystems; socio-political and economic equity; environmental concerns and political decision making; importance of stakeholders; recognition of indigenous knowledge.

### **EVD 522 Environmental and Ecological Economics 3 CH**

Environmental economics/resources economics and the concept of externality; economics of environmental quality; economy of the environment ; market and market, failure, market power, non-existence of markets and externality; correcting for externalities. Ecological economics and human economies; problem statements in ecological economics; aspects of ecological problem resolution; ecological economic policy, support programmes and implementation.

### **EVD 523 Environmental Impacts of Development Projects 3 CH**

Definition of impacts and impact assessment, goals and objectives of EIA; projects that require EIA; minimum contents of an EIA; the procedure; base line studies; methods- the checklist, matrices, index and overlay mapping; impact measurement and prediction; mitigating measures; rapid assessment procedures; post impact studies; public participation.

### **EVD 524 Governance, Environment and Development 3 CH**

Concept of governance; governance and sustainable development; ecology and social change; natural resource and governance; governance for sustainable development; land tenure system: concept, nature and structure; land tenure and environment, soil conservation and sustainable agriculture; constitutional arrangement for environment and development; constitutional basis for environmental management.

### **EVD 525 Environmental and Ecological Audits 3 CH**

Definition, background and scope of audits; importance of audits; self audits and advantages; disclosure requirements; environmental audits in Nigeria; guidelines; planning, pre-audit and post-audit activities; example of audits in Nigeria; importance in environmental and industrial development.

### **EVD 526 Tourism, Leisure and Environment 3 CH**

Tourism-effects on development and environmental quality; tourism in Nigeria; tourism destinations; social and economic effects; positive and negative effects of tourism and recreation; tourism master plans; environmental effects of tourism; ecotourism; UN efforts; gender and tourism; poverty alleviation, characteristics of tourism.

### **EVD 531 Pollution and Environmental Quality 3 CH**

Concept of pollution, globalization of pollution, natural and anthropogenic sources of pollution, classification of pollutants; air, land/soil and water pollution; pollution from primary economic activities-farming, oil exploration and mining; pollution from global transport; urban pollution; health risks of pollution including oil spills, chemical and medical wastes, radiation; ecosystem damage and impact in food chains; permissible limits and standards-FEPA,WHO etc; remediation of impacted sites-bioremediation, a forestation, clean-up etc.

### **EVD 532 Climate Change and Adaptations 3 CH**

Climate change-types and causes; monitoring of greenhouse gases; the global situation; sequestration of CO<sub>2</sub>; world emissions; industrialization and climate change; emissions in Nigeria; effects of climate change; adaptation programmes; UNEP activities and other funding agencies; global awareness, treaties and conventions; Nigeria's climate change commission.

### **EVD 533 Poverty, Environment and Development Policies 3 CH**

Various definitions of poverty; poverty indices; rural and urban poverty; relationships between poverty and environmental resources; poverty, gender and environment; poverty informal economic sector and environmental degradation; poverty reduction policies and programmes; poverty energy and agriculture; perceptions of poverty; poverty and governance.

### **EVD 534 Research 3 CH**

This is a supervised review (or case study) paper not exceeding 5000 words on any aspect of the environment with a strong human element. It is expected to draw from experiences gained during the coursework in terms of theory, skills and techniques. It is also expected to contain elements of primary or secondary data. Emphasis will be on presentation and proficiency in facts of the discourse.

**EVD 535 Environmental Philosophy, Ethics and Gender 3 CH**

Environmental ethics as part of environmental philosophy; anthropocentrism and the Judaic religion; environmental “green” parties-the realists versus the fundamentalists; libertarian ecology and deep ecology; shallow ecology or conservation ethics and the humanist theories, environment and feminism, social ecology; environmental feminism in Nigeria.

**EVD 536 Environmental Ecology 3 CH**

Concept of ecosystems; components, interactions and energy flow; vegetation and ecosystem dynamics; limitations of growth in ecosystems; ecosystem modifications and distortions; case studies of forest fires; effects of climate change in ecosystems; industrial pollution radiation and pesticide use; modifications of biogeochemical cycles by man; deforestation; desertification and erosion-causes and management; impacts on human economic.

TEACHING STAFF	SPECIALIZATION	RANK	STATUS
I. Ukpong, Ph.D	Biogeography & Env. Mgt.	Prof.	Full Time
P. A. Akpan, Ph.D	Urban & Dev. Studies	Prof.	Contract
I. B. Inyang, Ph.D	Dev. Studies & Med. Geography	Prof.	Contract
E. M.Ekanem Ph.D	Climate & Env. Processes	Assoc. Prof.	Full Time
A. Afangideh, Ph.D	Climate & Pollution Studies	Assoc. Prof.	Visiting
P. Ogban, Ph.D	Soil Fertility & Mgt.	Assoc. Prof.	Full Time
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E. Akpabio, Ph.D	Dev. Studies & Institutions	Lect. I	Full Time
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N. Udodia, Ph.D	Law & Env. Ethics	Lect. I	Full Time
F. Ekanem, Ph.D	Env. Philosophy & Gender	Lect. I	Full Time
K. Essien, M.Sc.	Dev. Studies, Tourism	Asst. Lecturer	Full Time

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**FACILITIES, EQUIPMENT OF EXPERTIES**

1. Compatible GIS facility, with functional computers
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# **MASTER OF SCIENCE (MSc/MRes) IN ENVIRONMENT AND DEVELOPMENT**

## **1. PHILOSOPHY OF THE MASTER OF SCIENCE PROGRAMME**

The relationship between environment and development in Nigeria, the West African sub-region and the developing world has become a key social, economic, political, policy and research issue since the UN's Brudtland Commission and the Rio Declaration. Consequently, international and local development agencies, environmental organizations and the academic sector have continued to make demands for individuals with the relevant skills and expertise in the understanding, analysis and interpretation of such complex socio-political relationships. This MSc programme is proposed for individuals who aim to develop future career in research-based organizations which require vocational skills on issues relating to environment and development, particularly in developing nations such as Nigeria. The programme is designed for graduates with relevant degrees and higher diplomas who need guided practical research experience.

The quality of the global environment is increasingly becoming a policy issue of major significance as a factor of economic development, health, quality of life and well-being, food security and social infrastructure. But improving the quality of the environment has been found to be slow, complex and acrimonious. Environmental regulations having become national issues, have posed even more complex problems to development due to the transboundary nature of environmental problems, conflicting policies and varying developmental interests of component countries. The MSc in Environment & Development adopts a social science approach in exploring these developmental issues as they relate to the environment, and has the following as aims and objectives:

## **2. AIMS OF THE MSc PROGRAMME IN ENVIRONMENT & DEVELOPMENT**

### **The aims of the programme are**

- (i) To provide postgraduate training in research into environment and development issues in Nigeria and indeed other developing nations.
- (ii) To provide foundation for direct employment in research institutions, international and local development agencies, environmental organizations, the public and private sectors and consultancy.

## **3. OBJECTIVES**

- (i) To integrate the different approaches to environmental issues into a common framework for understanding the origin, effects and solutions to developmental problems.
- (ii) To consider the role of indigenous knowledge and hitherto untapped sources in policy formulation and also the social dimension to the definition of environment and development issues.
- (iii) To show how the environmental debate is constantly changing in its dimension and form and provide students with significant, valid and challenging research experience.
- (iv) To help in understanding the problem and available methods for developing and implementing environmental policy in relationship to development
- (v) To provide theoretical and practical backgrounds as well as vocationally useful skills for careers in resource management, research and consultancy.
- (vi) To provide a sound basis for assessing current Nigerian environmental problems and their regulations
- (vii) To offer training in some of the practical skills needed to research topics in environment and development and to present findings effectively.

## **4. TARGET**

The MSc in Environment & Development is designed to meet the needs of the following groups.

- (i) Scientists wishing to understand more fully the economic, social and political contexts of the environment, resource use and the development process
- (ii) Those wishing to study environment and developmental problems in an integrated perspective, fully and critically as components of the emerging global/national policies
- (iii) Those who need to understand environment and development policies more clearly for their work in the public or private sectors or other relevant organizations.

## 5. DURATION OF PROGRAMME

The minimum duration of the MSc in Environment & Development shall be three semesters or 18 calendar months and shall not exceed four semesters or 24 months at the maximum.

## 6. THE UNIQUENESS OF THE COURSE LIES ON

- i. Its focus on Nigeria, and other developing nations.
- ii. The mix of vocational, skills-based training and courses which deals with the fundamentals of the environment and development process
- iii. The focus on social sciences and humanity approaches, i.e, environment including man.
- iv. Its location in Uyo, capital of Akwa Ibom State, a major oil producing State with an emerging industrial build-up along the SE coast of Nigeria.

## 7. TEACHING IN THE DEPARTMENT OF GEOGRAPHY

The course will benefit from the considerable range of expertise that is currently involved in teaching and continuously developing relevant courses in the Department of Geography and Regional Planning. The MSc in Environment & Development will deepen further the research focus in topical environmental issues in Nigeria and the developing world and explore their relationship to development. The Department has established a reputation for studies in urban geography, transport, health, agriculture and rural land use, soils, atmosphere, pollution, biogeographical studies, geographic information systems studies, regional/ economic development, process studies, developmental issues associated with the environment, environmental/resource management, and research collaborations among others.

## 8. AREAS OF CONCENTRATION

Students have many areas to choose from depending on interest. The MSc course structure enhances rigorous training, including theoretical and practical methodology. Students, having gained analytical and technical skills could place emphasis around the following themes:

- (a) Development theories and policy.
- (b) Rural and urban development issues
- (c) Environmental assessment and auditing in developing countries
- (d) Geographical information systems and remote sensing.
- (e) Ecosystem conservation and natural resources management.
- (f) Environmental/landuse change and monitoring e.g. erosion, deforestation, desertification, flooding etc.
- (g) Resource conflicts and management, conflict impact assessment (case studies in developing countries)
- (h) Environmental ethics, law and gender.

Several transferable and professional skills will be improved upon or acquired by the student from the course work and research e.g. (a) Use of appropriate qualitative and quantitative field techniques (b) Project planning and time management, (c) Real world problem-solving (d) Critical evaluation of literature (e) Scientific report writing (f) Effective use of computers, GPS and other electronic information devices (g) Oral presentation.

## 9. COURSE STRUCTURE:

Although the course is largely a practical course, students will require a thorough understanding of theoretical concepts and methodological issues in environment and development so as to complete good quality research. All students will undertake six courses in full or in part in each semester, depending on educational need or vocational interest as guided by the programme coordinator. A three-point grading system (A = > 70%; B = 60 – 69%; C = 50 – 59) will be used to grade the MSc examinations. Written, examination will constitute 60% while term papers/discourse will carry 40%.

Seven courses are available in the first semester. Students will be expected to offer three compulsory courses and three elective courses in this semester. Students are expected to register for five courses (including the MSc dissertation) in the second semester with opportunity to offer two elective courses of interest in that semester. The total course work credit for both semesters will be 30. The MSc dissertation carries 6 credit hours; upon earning a total credit of 36, a student may be awarded the Master of Research (MSc) in Environment and Development of the University of Uyo with no further specialization attached.

The course structure is as given

First Semester

Course Code:

Course Title

Cr Hr.

EVD 611	Perspectives on environment and development		(Compulsory)
		3	
EVD 612	Quantitative and qualitative methods in social science research (Compulsory)		3
EVD 613	Physical environmental processes (Compulsory)	3	
EVD 614	Change detection and rural/urban landuse (Elective)	3	
EVD 631	Geography of tourism and leisure (Elective)	3	
EVD 632	Health and environment (Elective)		3
EVD 633	Nigerian and international environment law (Elective)	3	

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### Second Semester

EVD 621	Office practice and management (Compulsory)	3	
EVD 641	Economics of natural resources (Elective)		3
EVD 642	Environmental ethics and gender (Elective)	3	
EVD 643	GIS in environment and development research (Elective)		3
EVD 644	New social movements, the environment and local Resistance (Elective)	3	
EVD 624	Field work/seminar (Compulsory)	3	
EVD 625	Dissertation (Compulsory)	6	

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## 10. COURSE DESCRIPTIONS

### **EVD 611 Perspectives on environment and development**

In this course, the theoretical perspectives on environment and development will be analysed; the perspectives in Nigeria and other developing countries will be compared and debated. It will be used as the foundation for the study of social, environmental and economic aspects of development and its implication for the environment in Nigeria.

### **EVD 612 Quantitative and qualitative methods in social science research:**

The role of statistics in social science research; descriptive/inferential statistics and data transformations. Linear modeling and factor analysis, computer aided data analysis using SPSS etc. Questionnaire design, participatory rural/local appraisal, and rapid rural appraisal; interview techniques and oral testimonies.

### **EVD 613 Physical environmental processes**

Background concepts in current environmental processes - in the geosphere, hydrosphere and atmosphere. Environmental sensitivity and change; atmospheric – ocean processes and terrestrial – aquatic processes. Selected environmental hazards e.g. erosion, flooding, tsunamis, global warming etc. Review of research methods for practical research in physical environmental processes.

### **EVD 614 Change detection and rural/urban landuse**

The rural and urban parts of Nigeria are used as examples for regulating environmental quality through developmental practices such as agriculture, conservation and landscaping, industrial location, waste management and environmental infrastructure e.g. roads and drainage. Land-use controls are considered e.g. landscape protection, rural tourism, evaluation and valuation techniques, forestry and rural sustainability; agro-environmental schemes and their evaluations; urban residential issues slum/squatter settlements etc.

### **EVD 631 Geography of tourism and leisure**

Tourism can hasten development but may influence the environmental quality of certain areas. The development of tourism in Nigeria and other developing countries. Evaluation of tourism master plans; the social and economic effects of tourism in developing countries; positive and negative effects of tourism and recreation; the environmental effects of tourism; its social dimensions; economic advantages and disadvantages, ecotourism; UN efforts in promoting tourism; gender and tourism. Tourism as poverty alleviation strategy in developing countries.

### **EVD 632 Health and environment**

Geographical approaches to the study of health and healthcare; investigation of spatial variations in disease incidence; the epidemiology of selected diseases, links between environment and health; problems of location and access to healthcare facilities; research methods in healthcare investigation.

### **EVD 633 Nigerian and international environment law**

(No background in legal studies is necessary for students wishing to offer EVD 633). The rise of Nigerian, ECOWAS and international laws on environment; environment law through edicts – FEPA, State Environmental Protection Agencies sanitation edicts etc. Problems of compensation and liability. Enforcement of environment laws – assessment of NOSDRA and NESREA etc.

### **EVD 621 Office practice and management**

Practical problems of using information and of practicing as an office manager in a developmental/environmental organization; site evaluation, EA and EIA; audit and monitoring processes; evaluation of management systems including integrated ecosystem management strategies . Policy formulation, legal/contractual problems and negotiation; roles of the consultant and expert witness; decision making ; field visits.

### **EVD 641 Economics of natural resources**

Economic background to environmental issues; concept of market failure, resource depletion theory; cost-benefit analysis and pollution abatement strategies. Economic aspects of sustainability, pollution control regimes and integrated environmental management. Forests fisheries, minerals, water, acid rain and global warming – environmental effects of resource use and economic implications.

### **EVD 642 Environmental ethics and gender**

Environmental ethics as part of environmental philosophy; the land ethic of Aldo Leopold; the Stanford ecology school led by Paul Ehrlich; anthropocentrism and the Judaic religion; the environmental ‘green’ parties – the realists versus the fundamentalists; the libertarian ecology and deep ecology; shallow ecology or conservation ethics and the humanist theories; Environment and feminism, social ecology; environment and ethical decisions:

### **EVD 643 GIS in environment and development research**

GIS is used to store and manipulate information about environment and development issues; the origin of GIS, the technology and methods; The GIS package – IDRISI, Map Analysis Package, CRIES etc; remote sensing, data capture and manipulation; information display techniques; population/ environment data base; economic atlases etc

### **EVD 644 New social movements, the environment and local resistance**

Theoretical literature in new social movements related to the environment field in the last 30years. Pressure groups in Nigeria and other developing countries; their origin and relationship with the environment. The Niger Delta, violent resistance and security implications; environmental conflict and process resolution maps. The impact of such movements in theoretical, policy and practical terms.

### **EVD 624 Fieldwork/seminar**

A review (or case study) paper, not exceeding 7000 words on any aspect of the environment is expected to draw from experiences gained during course work in terms of theory, skills and techniques. The paper is expected to contain part of the field data obtained during a 3 – month field study undertaken immediately after the second semester written examinations. Emphasis will be on presentation and proficiency in the relevant facts of the discourse.

### **EVD 625 Dissertation**

The M.Sc dissertation will be written under an assigned supervisor. It will be a 25,000 word report initially submitted in draft and examined by a board of departmental internal examiners, at least one month to the end of the programme. The final report will be examined by an external assessor in the relevant field according to the PG School regulations of the University of Uyo.

## **11. ADMISSION REQUIREMENTS**

Applicants who desire to read for the Master of Science in Environment & Development must possess at least a second class honours degree in the social sciences, pure and applied sciences, environmental and earth sciences, humanities, engineering etc. Possession of a post graduate diploma in the social sciences, environmental sciences or education may be required of candidates seeking admission with lower degree classification and higher national diplomas.

## 12. PROGRAMME ADMINISTRATION

The MSc in Environment & Development is proposed as a regular academic programme of the Postgraduate School, University of Uyo. It is available only as a full-time programme of research and vocational training.

## 13. TEACHING STAFF/SUPPORT STAFF

Name / <i>Specialization</i>	Rank/Status
E. J. Usoro, MPhil, PhD (Ibadan) ( <i>Geomorphology/Env. Processes</i> )	Prof./Full-time
P. A. Akpan, MSc PhD(Ife)( <i>Urban Geog./Development Studies</i> )	Prof./ Full-time
I. B. Inyang,MSc(Ife) PhD(Cal.)( <i>Dev. Studies/MedicalGgeography</i> )	Prof./Full-time
Imoh Ukpong MSc(Cal) PhD(Ibadan)( <i>Biogeography/Env.Mgmt</i> )	Prof./Full-time
Robert Ekpenyong MSc(Lagos)MGIS(Ibadan)( <i>GIS/ComputerMethods</i> )	Sn.Lect/Full-time
Ekanem Ekanem MSc(Ilorin)PhD(Ibadan)( <i>Climatology/Env.Processes</i> )	Sn. Lect/Full-time
Emmanuel Udofia MSc(Ibadan) PhD(RUST)( <i>Env.Mgmt/Qty. Methods</i> )	Sn. Lect/Full-time
Charles Udosen MSc PhD(Ibadan)( <i>Env Mgmt/Geomorphology</i> )	Sn Lect/Full-time
Emmanuel Akpabio MSC,PhD(Uyo)( <i>Res. Mgmt/Qualitative Methods</i> )	Lect.II/Full-time
Uwem Ituen,MGIS(Lagos) PhD(Uyo)( <i>Rural Landue /GIS/Dev. Studies</i> )	Lect,II/Full-time
Joseph Udoh,MGIS(Lagos) PhD(Uyo)( <i>Env Monitoring/GIS/Dev Studies</i> )	Lect II/Full-time
Julia Moses MSc (Uyo)( <i>Biogeography/Gender/ Env.Mgmt</i> )	Lect II/Full-time
Robert Dode, MSc PhD(P.H)( <i>Pressure Groups , New Social Movt.</i> )	Lect I/Part-time
Nokom Udofia LLM(Uyo) ( <i>Environment Law</i> )	Lect II/Part-time
Francis Ekanem PhD(Calabar) ( <i>Env. Philosophy/Ethics</i> )	Lect II/Part-time
Mackson Obot MSc	Chief Cartographer Full-time
Ekong Daniel MSc, MGIS	Senior Technical Officer (GIS/Cartography) Full-time

## APPENDIX III Contd

DEPARTMENT OF GEOGRAPHY & NATURAL RESOURCES MANAGEMENT  
FACULTY OF SOCIAL SCIENCES, UNIVERSITY OF UYO, NIGERIA

# DOCTOR OF PHILOSOPHY (PH.D) IN ENVIRONMENT AND DEVELOPMENT

## Introduction

In today's [21<sup>st</sup> century] postmodern, job oriented and globalised economies, where labour follows capital, the old liberal model of teaching traditional subjects alone in postgraduate programmes is a losing model. The Doctor of Philosophy programme in Environment and Development [like the PGD and M.Sc. of the same programme currently being taught in the Department of Geography and Natural Resources Management] seeks to consolidate vocational relevance in the Geography discipline at the highest level of expertise.

## Philosophy of the Doctor of Philosophy Programme

The relationship between environment and development in the world has become a key social, economic, political, policy and research issue since the UN's Brundtland Commission and the Rio Declaration. Ever since there have been much collaboration in developmental activities between developed and less developed nations, and between international and local development agencies. In addition, environment and development organizations and the academic sector have made demands for individuals with expansive skills and expertise in the areas involving analysis and interpretation of complex socio-cultural, socio-economic, and socio-political relationships. The Ph.D. programme in Environment and Development is proposed for individuals who aim to develop future careers or consolidate their positions in research-based organizations which require vast theoretical and vocational skills on

issues relating to environment and development, particularly in less developed nations such as Nigeria and their relationship with developing nations. The programme is designed for individuals with relevant higher degrees who need to consolidate their knowledge through guided practical research experience.

Since global development problems are also global environment problems, the quality of the global environment has become a policy issue of major significance, as a factor of economic development, health, quality of life and well-being, food security and social infrastructure. Improving the quality of the environment has enhanced quality of development, but these have been found to be slow, complex and acrimonious. Environmental regulations having been domesticated have become national issues, posing even more complex problems to development due to the transboundary nature of these problems, conflicting policies and varying developmental interests of component countries. The Ph.D. in Environment and Development adopts majorly a social science approach in exploring these developmental issues as they relate to the environment.

### **Vision**

The vision is to achieve excellence in knowledge of the human environment for sustainable development.

### **Mission**

The Ph.D. in Environment and Development seeks through teaching and research to produce knowledgeable individuals in the understanding of the human environment and associated phenomena, versed in the integration of environment with development as an approach to achieving sustainable local, national, regional and global development.

### **The aims of the programme are**

- (i) To provide specialized postgraduate training in research into environment and development issues globally and in Nigeria and other less developed nations.
- (ii) To consolidate expertise and also provide foundation for direct employment in developmental, environmental and social research institutions, international and local development agencies, environmental organizations, non-state/non-governmental organizations, the public and private sectors and consultancy

### **The objectives of the programme are**

- (i) To put into practice integrated approaches to environmental issues and evolve a common framework for analyzing the genesis, effects, impact goals and solutions to development problems.
- (ii) To extract hitherto untapped sources, particularly local knowledge in policy formulation with a view to adding social dimensions to the definition of environment and development issues.
- (iii) To engage in the constantly changing environmental debate, its dimension and form and generate significant, valid and challenging research activities.
- (iv) To analyse the problems associated with available methods for developing and implementing environmental policy in relationship to development and to develop solutions to the problems.
- (v) To provide theoretical and practical backgrounds and vocationally useful skills for careers in resources management, research, consultancy and academics.

### **The transferable skills which will be improved upon include**

- (a) Use of appropriate advanced qualitative and quantitative field methods and critical literature review techniques,
- (b) Project planning and time management,
- (c) Scientific report writing and oral presentation, and
- (d) Effective use of computers, GPS and other electronic information devices.

### **Learning Outcomes**

**Graduates of the Ph.D. in Environment and Development will be expected to**

- (i) Independently formulate and execute research in accordance with the highest academic standards in the social sciences and allied disciplines, thus contributing to the body of knowledge in environment and development.
- (ii) Develop and apply research techniques independently in local or national situations.
- (iii) Convert knowledge of complex socio-cultural, socio-economic and socio-political processes into relevant modeling concepts and apply this to real world situations.
- (iv) Demonstrate state-of-the-art expertise in environment and development and translation of research knowledge into policy recommendations.

**Target**

**The Ph.D. in Environment and Development is designed to meet the needs of the following**

- (i) Scientists wishing to explore fully the intricate relationships among the economic, social, cultural and political contexts of the environment, resource use and the development process.
- (ii) Scientists who wish to research on environment and development problems in an integrated perspective, fully and critically as components of the emerging national and global policies.
- (iii) Scientists who need to consolidate their knowledge on environment and development policies for their work in the private or public sectors and other relevant organizations.

**Areas of focus**

Students have many areas of focus, depending on interest. The Ph.D. course structure, having enhanced rigorous discuss in theoretical and practical methodology, as well as analytical and technical skills could place emphasis around the following themes:

- (a) Development theories and policies
- (b) Rural and urban development issues
- (c) Environmental assessment and auditing in developing countries
- (d) Ecosystem conservation, management, and natural resources management
- (e) Resource conflicts and management, conflict impact assessments
- (f) Non-state and international development organizations
- (g) Current environmental problems; flooding and extreme events, climate variability and biodiversity loss
- (h) Environmental rights, ethical issues, law, rights to sustainable development
- (i) Gender and environment
- (j) Industry-community relations, corporate social responsibility
- (k) Environmental/Ecological economics

**Duration of the Programme**

The minimum duration of the Ph.D in Environment and Development will be six semesters (regular) or eight semesters (part-time), with other conditions of studentship in accordance with the rules of the Postgraduate School, University of Uyo.

**Admission Requirements**

Applicants who desire to read for the Doctor of Philosophy in Environment and Development must possess at least a Master of Science or Master of Research degree (with minimum of 60% average) in Environment and Development, Development Planning, Geography and Resources Management (or any other Social Science degree with relevant background/experience in the field of Environment and Development) of the University of Uyo or any other University recognized by the University of Uyo Senate for the purpose of admissions.

**Conditions for the Award of the Doctor of Philosophy Degree**

The student must earn a total of 52 credit hours as follows:

(a)	Course work/Seminars	46 Credit Hours [23 credit hours/semester]
(b)	Thesis	<u>6 Credit Hours</u>
	<b>Total</b>	<b><u>52 Credit Hours</u></b>
		=====

The student having satisfied all other requirements prescribed by the University of Uyo or the Postgraduate School will be awarded the Ph.D in Environment and Development without further classification or area of specialization.

### Programme Administration

The Ph.D. in Environment and Development is proposed as a regular/part-time academic programme of the Postgraduate School, University of Uyo. It is available as a programme of course work and research.

### Programme Structure for the Ph.D Degree

#### Compulsory Courses

- EVD 711:** Advanced Development Theories & Concepts [3 credits (1<sup>st</sup> Semester)]  
**EVD 712:** Advanced Techniques in Environment & Development Research [3 credits (1<sup>st</sup> Semester)]  
**EVD 721:** Environmental Philosophy & Ethics [3 credits (2<sup>nd</sup> Semester)]  
**EVD 722:** Theory & Practice of Resource Management [3 credits (2<sup>nd</sup> Semester)]  
**EVD 719:** Environment & Development Seminar [2 credits (1<sup>st</sup> Semester)]  
**EVD 729:** Environment & Development Seminar [2 credits (2<sup>nd</sup> Semester)]

#### 1<sup>st</sup> Semester Courses

S/No.	Course Code	Course Title	Credit Hours	Status
1	EVD 711	Advanced Development Theories & Concepts	3	Compulsory
2	EVD 712	Advanced Techniques in Environment & Development Research	3	Compulsory
3	EVD 719	Environment & Development Seminar I	2	Compulsory
4	EVD 713	Environmental Politics	3	Elective
5	EVD 714	Tourism & Development (Case Studies)	3	Elective
6	EVD 715	Regional Planning & Development	3	Elective
7	EVD 716	Transport, Environment & Development	3	Elective
8	EVD 717	Urban & Rural Development Policies (Case Studies)	3	Elective
9	EVD 718	Climate Change & Adaptations	3	Elective

#### **EVD 711 Advanced Development Theories**

Critique on the definitions of development, development and under-development, economic growth and economic-development; Analysis of development theories and their relevance to African situation-classical Marxian, Schumpeterian theories etc; Sustainable development: Analysis of the principles of sustainability; International development agenda e.g. Millennium Development Goals; Participatory development and development indicators.

#### **EVD 712 Advanced Techniques in Environment & Development Research**

Sampling techniques – random, systematic, stratified etc; Quadrante and transect sampling, WHO's rapid assessment methods; Regression models and other curve fitting techniques; participatory appraisals; focused group activities; Questionnaires; Interviews; Oral testimonies (Panos); Computer applications

#### **EVD 719 Environment & Development Seminar I**

Seminar at the end of the First semester based on relevant literature reviews on topical global or national issues or secondary information on past or current phenomena; seminar should reflect grasp of concepts and will be delivered using multimedia or appropriate ICT platform.

#### **EVD 713 Environmental Politics**

Renewable and non-renewable resources and the global environment; Environmental quality and human health; UN strategies for management of environmental quality; Environmental decision making; Environmental governance – UN regulations and national institutions; Rights to environment (in Nigeria); Politics of environmental conservation; carbon trading and carbon taxes.

**EVD 714 Tourism & Development (Case studies)**  
 UN efforts in promoting tourism; Gender and Tourism; Tourism and poverty alleviation in developing countries; Analysis of tourism policies/masterplans – Nigeria’s Tourism Masterplan; Policies/Masterplans from S.E. Asia; Russia/Ukraine; South America; South Africa; Their social and economic dimensions.

**EVD 715 Regional Planning & Development**  
 Principles of regional planning; Regional inequalities; Regional planning models (growth pole, centre-periphery) etc. Population characteristics and migration; Principles of the economics of development and underdevelopment, with reference to less developed countries. Case studies of regional planning projects (in agriculture and industry) in the less developed countries in Africa, South America and S. E. Asia; Case studies of regional development agencies e.g. NDDC in Nigeria etc.

**EVD 716 Transport, Environment & Development**  
 Transport and the communication web. Perspectives of the relationship between global land use and transportation; Global transport pollution; Transport models and cost structures; Shipping and containerization – evolution and impacts; Transport infrastructure planning; Analyses of transport policies e.g. Nigeria.

**EVD 717 Urban & Rural Development Policies ( Case studies)**  
 Principles of human settlements and models of colonization; types of rural settlements and classification; agricultural location and models of rural change and development; strategies of rural development and infrastructure planning; transformation of the rural area in Nigeria; rural development efforts in Nigeria and elsewhere; case evaluations rural development programmes e.g. DIFRRI etc. The city as a system and rank-size relationship; urban spatial structure; measurement of urban environmental problems in Nigeria – housing; waste disposal, industrial and healthcare infrastructure. Case studies of selected Nigerian cities.

**EVD 718 Climate Change & Adaptations**  
 Global concern, concept, types and causes; Monitoring and sequestration of CO<sub>2</sub> and other GHG<sub>s</sub>; Emissions, national and global; Actual and potential impacts; Ex-post and ex-ante adaptations; Short-term, long-term and temporal dimensions; climate risk management; International and global climate change protocols e.g. Kyoto etc.

**2<sup>nd</sup> Semester Courses**

S/N0	COURSE CODE	COURSE TITLE	CREDIT HOURS	STATUS
1	EVD 721	Environmental Philosophy & Ethics	3	Compulsory
2	EVD 722	Theory & Practice of Resource Management	3	Compulsory
3	EVD 702	Environment & Development Seminar II	2	Compulsory
4	EVD 723	Environmental Protection Agencies (Case studies)	3	Elective
5	EVD 724	Global Development Institution (case studies)	3	Elective
6	EVD 725	Migration, Population Change & Development	3	Elective
7	EVD 726	Health, Environment & Development	3	Elective
8	EVD 727	Biodiversity Conservation & Management	3	Elective
9	EVD 728	Gender, Environment & Development	3	Compulsory

**EVD 721 Environmental Philosophy & Ethics**  
 Emergence of environmental philosophy and ethics; Critiques of the land ethic of Aldo Leopold and Paul Ehrlich’s school of Stanford ecology; Critique of anthropocentrism and relationship with the Judaic religion; Evolution of environmental green movements; Analyses of the Libertarian ecology, deep ecology, shallow ecology, conservation ethics and humanist theories; social ecology and ethical decisions.

**EVD 722 Theory and Practice of Resource Management**

Concepts of sustainable development and environmental protection; Analysis of the allocation of resources using spatial decision support systems (SDSS), Development and evaluation of resource management strategies- ecosystem approach, integrated ecosystem approach; Resource conflicts; Prospect assessments – strategic and life cycle assessment; State of environment reports; Impact pathway evaluation used by GTZ and DFID etc; management of projects.

**EVD 702 Environment & Development Seminar II**

Seminar at the end of second semester presented as a research proposal which may or may not contain field data; Seminar should introduce the research problem, theory, models and method of investigation, with appropriate references; Presentation will adopt multimedia or any appropriate ITC platform.

**EVD 723 Environmental Protection Agencies (Case Studies)**

Concept and history of environmental protection, Role of environmental protection agency; Environmental protection in selected countries; Overview of environmental laws and regulations; Nigerian environmental laws and regulations, case studies of environmental impact statements; environmental appraisals; Post-activity environmental/ecological impact audit studies; Egs. from Nigeria – the UNEP environmental report on Ogoni etc.

**EVD 724 Global Development Institutions (Case Studies)**

Evolution of development institutions, World Bank and International Monetary Fund policies and projects; World Health Organization, World Meteorological Organization and United Nations Environmental Programme – Habitat, United Nations Educational, Scientific and cultural organization etc.; case studies of global development efforts, achievements and criticisms.

**EVD 725 Migration, Population Change & Development**

Global migration, migration data and measurement; Past and present patterns of population movement – global, regional and national patterns; Consequences of migration; population structure, labour and development; Analysis of migration policies in Europe and Africa.

**EVD 726 Health, Environment & Development**

Concept of health; Global patterns of mortality; Health-environment relationships and impact on development; Diffusion of diseases, Climate and health; Modern and traditional medicine approaches to health care; Indigenous knowledge and enterprise in healthcare delivery; Health governance in developed and less developed countries.

**EVD 727 Biodiversity Conservation & Management**

Global concerns in biodiversity conservation. Importance of biodiversity; Causes of biodiversity loss; Global and national biodiversity conservation efforts – Reserves, Protected areas; Management regimes for forest biodiversity; Agro biodiversity programmes. Forest products – timber and non-timber; Forest and wild-life conservation status; Mangroves and wetlands; Freshwater swamp forests etc., International biodiversity conventions e.g. RAMSAR; Biodiversity and climate change.

**EVD 728 Gender Environment and Development**

Concept of gender; Role of gender in environmental conservation; Gender and development; Case studies of gender policies – the University of Uyo gender policy; Nigerian gender policy; UN policy and rights.

**EVD 740 Doctoral Thesis**

A supervised original research report written in the English, not less than 25,000 words. The report must show evidence of strong theoretical and conceptual content with verifiable primary or secondary data. The analytical depth must benefit from the extensive course work and discussions earned during the programme. The report will initially be submitted in draft and examined by a board of departmental examiners at least one month to the end of the programme. The final report will be examined by an external assessor according to the PG School regulations of the University of Uyo.

S/NO	COURSE CODE	COURSE TITLE	CREDIT HOURS	STATUS
1	EVD 740	Doctoral Thesis	6	Compulsory

### Teaching Staff

Names	Areas Of Specialisation/Research Interests	Rank	Status
P. A. Akpan, Ph.D	Urban Ecology, Transport and Development Studies, Regional Planning, Tourism	Professor	Contract
I. B. Inyang, Ph.D	Medical Geography, Rural Ecology, Waste Management and Development Studies	Professor	Contract
I. E. Ukpong, Ph.D	Biogeography, Biodiversity Studies, Environmental/Resource Management, Environmental Philosophy	Professor	Full-Time
E. M. Ekanem, Ph.D	Climatology, Climate Change, Environmental Processes, Development Studies	Associate Professor	Full-Time
R. Ekpenyong, MGIS, Ph.D	Development Studies, Cartography, Geographic Information Systems, Modeling & Methodology	Senior Lecturer	Full-Time
E. P. Udofia, Ph.D	Quantitative Methods, Waste & Environmental Management, Climatology	Senior Lecturer	Full-Time
C. Udosen, Ph.D	Geomorphology, Erosion/Watershed Studies and Environmental Management	Senior Lecturer	Full-Time
R. Wilcox, Ph.D	Resource Management, Climatology, Rural Ecology, Tourism and Development Studies, Biogeography	Senior Lecturer	Full-Time
E. Akpabio, Ph.D	Development Studies, Water Resources and Institutions, Environmental Regulations, Corporate Social Responsibility	Lecturer I	Full-Time
U. Ituen, Ph.D	Development Studies, Methodology, Change Detection, GIS. Cartography, Resource Management	Lecturer I	Full-Time
J. Udoh, Ph.D	Development Studies, Risk Management and Change Detection, G.I.S Cartography Resource Management	Lecturer I	Full-Time
A. M. Imikan, Ph.D	Environmental Management , Development Institutions, Tourism, Rural Ecology Regional Planning	Lect. II	Full-Time
C. Abraham, Ph.D	Geomorphology and Environmental Management, Environmental Monitoring, Biogeography	Lect. II	Full-Time
J. Esin, Ph.D	Quantitative Methods, Environmental Management, Urban Ecology and Development Institutions	Lect. II	Full-Time
I. Ansa, Ph.D	Water Resources, Development Studies, Urban Ecology, Development Institutions	Lect. II	Full-Time

### Support Staff

Markson Obot, HND, M.Sc.	Chief Cartographer
Mary Thompson Ukut OND	Chief Computer Operator
Ema-Carol Archibong, B.A	Senior Clerical Officer
Jonah Isaiah	Met. Record

Ekemini Jonah	Met. Record
Magdalene Edem	Caretaker
Ini Akpan	Lab Assistant, GIS

**Facilities, Equipment and Expertise**

1. Compatible GIS facility with functional computers
2. Resource room with relevant books
3. Postgraduate Lecture Room
4. PGD Programme in Environment & Development
5. M.Sc. Programme in Environment & Development