

FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE.
DEPARTMENT OF FORESTRY AND WOOD TECHNOLOGY

**CURRICULUM FOR POSTGRADUATE DIPLOMA PROGRAMME IN
ENVIRONMENTAL MANAGEMENT**

Preamble

Environmental issues are of major concern to the society today than they were several decades ago. As a result of man's interaction with his environment, serious degradation has set in, sometimes threatening the very existence of man himself. Competition for the dwindling resources from the environment has also led to serious conflicts, which seem to have become part of our social life. Following the dramatic increase in society's concern about the state of the environment emphasis is now being placed on seeking solutions to environmental problems through better management. In Nigeria, Ministry of Environment has been created at both Federal and State levels to tackle environmental issues. The Postgraduate Diploma in Environmental Management reflects the recognition that being aware of environmental problems is only the first step in dealing with them. Consequently, the course is designed not only to promote students' awareness of environmental problems but also to provide the skills necessary to develop management programmes to resolve them.

The Department recognizes the fact that studies on the environment are multi-disciplinary in nature, and that resolving environmental problems requires an integrated approach across a range of disciplines. The resource persons to handle the course will therefore include some additional lecturers from outside the Department.

Objectives

The objectives of this course are to:

- provide training in techniques that are required to quantify environmental systems;
- promote the development of management and planning skills and an understanding of environmental issues and policy formulation;
- facilitate effective collaboration with the Research and Development Unit of the University to develop management programmes for resolving specific environmental problems; and
- enhance the fulfilment of the University's mandate of community service through manpower development in environmental management.

Admission Requirements

In addition to the University's general regulations and guidelines on admission, applicants with the following qualifications shall be eligible for admission:

1. A first degree from the Federal University of Technology, Akure or any other recognized University in any discipline; or
2. Higher National Diploma (HND) at Credit level in any discipline or its equivalent as determined by the University.

All applicants must possess at least five Ordinary Level credits at maximum of two sittings in subjects, which must include English Language, Mathematics, Chemistry, Biology or Agricultural Science, and at least a pass in Physics.

Course Duration

The duration of the course shall be twelve calendar months.

Requirements for Graduation

To be eligible for the diploma, students must have:

- passed all core courses and any required elective recommended by the Department;
- accumulated at least 30 credit units for the entire duration of the programme;
- obtained a minimum CGPA of 1.00 at the end of the course;
- successfully completed all field practicals, term papers, seminars and projects as required by the Department.

LIST OF COURSES

FIRST SEMESTER

Course Code	Course Title	Contact Hours			Unit
		L	T	P	
<i>Core Courses</i>					
FWT 751	Research Methods	1	-	3	2
FWT 753	Elements of Biometrics	1	-	3	2
FWT 701	Principles of Ecology	1	-	3	2
FWT 703	Introduction to Environmental Degradation and Control	2	-	3	3
FWT 755	Research Project	-	-	6	3
<i>Electives</i>					
FWT 705	The Biosphere, Energy and Sustainable Development	1	2	-	2
FWT 707	Social issues in Environmental Management	1	-	3	2
FWT 709	Principles of Waste Management	1	-	3	2
FWT 711	Principles of Watershed Management	1	-	3	2

SECOND SEMESTER

Course Code	Course Title	L	T	P	Unit
<i>Core Courses</i>					
FWT 702	Biodiversity Assessment	1	-	3	2
FWT 704	Environmental Impact Assessment	1	-	3	2
FWT 706	Environmental Conflict Analysis and Resolution	1	-	3	2
FWT 708	Introduction to Environmental Law	1	-	3	2
FWT 750	Seminar	-	2	-	2
FWT 755	Research Project	-	-	6	3
FWT 710	Field Trip	-	-	3	1
<i>Electives</i>					
FWT 712	Community relations and Information Dissemination	1	2	-	2
FWT 714	GIS Applications in Environmental Management	1	-	3	2
FWT 716	Environmental Health Management Systems	1	-	3	2
FWT 754	Project Analysis	1	-	3	2

FWT 701: Principles of Ecology (2 Units)

Definition and scope of ecology; components of the ecosystem and their interactions; forest regeneration, dynamics and monitoring; ecological site and vegetation classification.

FWT 702: Biodiversity Assessment (2 Units)

Assessment of flora and fauna components of the ecosystem; field sampling procedure; data analysis and interpretation.

FWT 703: Introduction to Environmental Degradation and Control (3 Units)

Causes of environmental degradation; Deforestation; Desertification; Pollution; Erosion; Flooding; Direction and control of emergency response and remediation; land reclamation, reforestation and shelterbelts establishment.

FWT 704: Environmental Impact Assessment (3 Units)

Types of environmental impact (negative, positive, short-term, medium term and long term); methodologies for EIA, impacts and mitigation measures; environmental monitoring and investigations; EIA report preparation. Specific case studies.

FWT 705: Biosphere, Energy and Sustainable Development (2 Units)

The solar system; the earth environment; relationship between energy and the environment; impact of fossil fuels on the environment; global concerns of ozone depletion and climate change; alternative and renewable energy sources.

FWT 706: Environmental Conflict Analysis and Resolution (2 Units)

Sources of conflict on environmental resources; types of conflict; conflict analysis and strategies for conflict resolution; contemporary case studies of real world environmental challenges.

FWT 707: Social Issues in Environmental Management (2 Units)

Participation as a development strategy; gender issues; livelihood strategies; stakeholder groups; social and political determinants; common property resources; land tenure.

FWT 708: Introduction to Environmental Law (2 Units)

Historical development of environmental laws in Nigeria; national environmental laws and international treaties on environment; case studies of environmental litigations; legal and institutional framework for enforcing environmental laws.

FWT 709: Principles of Waste Management (2 Units)

Principles for safety; managing wastes from generation through final disposal; types of wastes (domestic, municipal and industrial); management techniques relating to waste generation, handling, minimization, prevention, storage, processing, treatment, transfer.

FWT 710: Field Trip (1 Unit)

Site visits to specific locations for on-the-spot assessment of environmental degradation, monitoring and environmental auditing.

FWT 711: Principles of Watershed Management (2 Units)

Wetland and floodplain management; forest hydrology and sedimentology; land use impacts on watersheds; urban environment and watershed management; stream buffer zone; water quality monitoring.

FWT 712: Community Relations and Information Dissemination (2 Units)

Social aggregation and integration; norms and values of rural communities, application of the theoretical principles of communication as they pertain to a specific audience, content area, or situation; Conveying risk, legal and emergency information.

FWT 714: GIS Applications in Environmental Management (2 Units)

Introduction to Geographic Information Systems (GIS); displaying spatial data on environmental variables; getting information about features; analysis of feature relationships.

FWT 716: Environmental Health Management Systems (2 Units)

Study of principles of health and safety management; recognition, evaluation and control of hazards; environmental behaviour and toxic effects of chemical substances in the environment.

FWT 750: Seminar (2 units)

Instruction on preparation, presentation and discussion of critical reviews of topics important to forestry, wood technology and environmental management. This will be followed by individual student's presentation of above reviews.

FWT 751 Research Methodology (2 Units)

This course is designed to expose students to the various approaches to research and documentation. Topics to be covered include types of research, information resources for research, types of research reports, and report writing.

FWT 753 Elements of Biometrics (3 Units)

Data description through descriptive statistics; common probability distributions; tests of hypotheses; analysis of variance; correlation and regression analysis.

FWT 754 Project Analysis (2 Units)

Classification of renewable resource projects; project evaluation techniques; estimation of costs and revenues; risks and uncertainties; analysis of selected forestry and environmental resources projects.

FWT 755 Research Project (3 Units)

A dissertation of not more than 7,000 words on original research in the student's area of interest, under staff supervision.