Postgraduate Programme

of

Professional Master in Environmental Management and Control (MEM)

Professional Master Degree in Environmental Management and Control (MEM)

1.0 Introduction

The Professional Master degree programme is designed for a wide range of candidates especially those hoping to have distinguished careers in the environmental field and those who are already involved in environmental related activities but do not possess background academic competence in environmental management. The fundamental philosophy underlying the programme is the training of graduates from a wide range of disciplines and backgrounds, to the highest academic standards in the identification and resolution of environmental issues

The present concern about environmental issues results in an increasing need for environmental expertise. The programme provides an opportunity to study many aspects of the environment and to increase the participants understanding of the multi-disciplinary nature of environmental issues. It is a three semester's programme involving training in selected aspects of both basic and applied environmental science. The course is made up of lectures, tutorials, laboratory classes and field trips. Students will be expected to carry out independent research project on an environmental problem. The programme is designed to cater for a variety of individual interests and future professional needs.

This academic programme is designed to provide the training needed for an understanding of the environment and to build upon this foundation by exploring in some depths, specific aspects such as resource depletion, recycling, re-use and the impact of science and technology on the environment. It is in response to issues bordering environmental management. It is hoped that the programme will provide policy and decision-makers with the concepts, principles, policies, legal framework, and strategies on governance and the mainstreaming of environmental management issues. The present concern about environmental issues results in an increasing need for environmental expertise. The multi-disciplinary character of environmental studies is addressed by using the expertise available in the Centre and other Departments of Olusegun Agagu University of Science and Technology, Okitipupa. Nigeria

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2.0 Justification

(a) Mission

The mission of the Master's degree programme is to produce graduates who are aware of the need for spatial, historical and ecological perspectives on the production, exchange and consumption of goods and services in society and well-qualified to serve on the kind of interdisciplinary teams the Nigeria needs for spatial and environmental management.

(b) Philosophy

The Philosophy of the programme under the Centre for Blue Economy is to train qualified resource managers for more advanced research in related areas. Since resource management is an issue of much interest to varied disciplines, the programme is designed to accommodate people of diverse background that may show interest in the programme. The training at this level will prepare the candidate for advanced research training in related areas at the second level.

(c) Objectives

The specific overall objectives of the programme are to:

i. Promote scholarship, by producing students capable of undertaking research in all fields of environmental resource management;

ii. Train candidates who will contribute to the growth and development of Nigeria through sustainable management of the environment;

iii. Train the candidates in modern techniques of environmental analysis for active involvement in national and international assignment, and in sustainable development;

iv. Produce high caliber researchers who will take up career in University and Research Institutes.

v. Provide training in independent research/study resulting in original contributions to knowledge.

vi. Provide high level skilled manpower relevant to national needs in all facets of national development.

3.0 Degree to be offered and areas of specialization

Master of Environmental Management (MEM)

4.0 Admission Requirements

a. An applicant for admission to the Professional Master's degree programme in Environmental Management shall be:
   (i) a graduate of Olusegun Agagu University of Science and Technology, Okitipupa;
   (ii) a graduate of any other University approved by Senate.

b. An applicant for the Master's degree programme shall possess not lower than a **Second Class (Lower Division)** Honours degree in Geography, Social Sciences, Applied and Physical Sciences, Technology, Education and Law to be eligible for admission. In exceptional cases, candidates with third class degree with Postgraduate Diploma or third class degree with cognate three years' experience may be considered under certain conditions. Candidate with HND with at least Upper Credit with three (3) years cognate experience in related disciplines as above from recognized institution as approved by Senate of Olusegun Agagu University of Science and Technology, Okitipupa may be admitted.

5.0 Duration of the Programme

The Master's Degree in Environmental Management shall run full time & part time. Candidates on this programme shall be required to complete all requirements for the award of the degree,

including satisfactory submission and oral defense of the master's thesis, **not less than three semesters** after first registration. The Professional Master in Environmental Management and control shall normally run for a minimum of three semesters and a maximum of four semesters for full-time studies and a minimum of four (4) semesters and a maximum of six semesters for part-time students. However, application for extension of period of study to complete all requirements for the award of the degree shall be made through the School Postgraduate Committee for the approval of the board. The extension shall not exceed two additional semesters for studentship after which the studentship shall lapse.

6.0 Graduation Requirement

It is a three semester's programme involving training in selected aspect of both basic and applied environmental science. The course is made up of lectures, tutorials, laboratory classes and field trip in the first two semesters and a project work in the third semester. The programme is run on both part-time and full time with lectures on Fridays, Saturdays and Sunday for part-time studies. To be eligible for the award of Professional Master's Degree in Environmental Management, the student shall offer and pass a total of **36 Units** courses comprising; **24 units** of core courses, **6 units** of Electives and **6 units** of Dissertation. In addition, each student's dissertation shall be examined orally in accordance with the Regulation Governing Postgraduates Programme.

7.0 Courses Structure

First Semester Courses

Course Code	Course Title	Units
MEM 701	Principles of Environmental Management	3
MEM 703	Remote Sensing and GIS Application in Environmental Management	3
MEM 705	Global Environmental Politics	3
MEM 707	Environmental Institutions and Regulations	3
	Elective (select at least 3 Units)	
MEM 709	Waste Management	3
MEM 711	Hydrology and Water Resources Management	3

	Total Semester	**15**

Second Semester

Course Code	Course Title	Units
MEM 702	Environmental Hazard and Disaster Management	3
MEM 704	Environmental Impact Assessment (EIA), Auditing and Reporting	3
MEM 706	Climate Change and Environment	3
MEM 708	Soil Conservation and Management	3
	Elective (select at least 3 Units)	
MEM 710	Population, Resources and Environment	3
MEM 712	Biodiversity Conservation	3
	Total Semester	**15**

Dissertation

Course Code	Course Title	No. of Units
MEM 713	Dissertation	6

Course Description

1. **MEM 701: Principles of Environmental Management: 3C**

   Meaning of Environment, Resources in the environment, Effects of human activities on the environment, Relationship among population, environment and development, National and global actions on environmental management, Environmental problems in Nigeria including biodiversity loss, pollution of air, soil and water, desert encroachment and coastal flooding.

2. **MEM 702: Environmental Hazard and Disaster Management: 3C**

   Concepts of disaster and hazards, hazard and disaster management programme and policies, government responses at national, state and local levels, multinational corporate

response, role of non-governmental organizations in disaster management, urban environmental problem, environmental effects of various urban activities and how they are currently controlled and mitigated.

3. **MEM 703: Remote Sensing and GIS Application in Environmental Management 3C**
   Remote Sensing and GIS are vital in Remote Sensing and GIS Application in Environmental Management. The course is expected to demonstrate how the two can be applied in management and planning of the environment. Topics to be covered include: principles of Remote Sensing and GIS, types and characteristics of major remote sensing system and data, application of RS data in environment studies, fundamentals of GIS, integrated use of RS and GIS and selected case studies.

4. **MEM 704: Environmental Impact Assessment, Auditing and Reporting: 3C**
   The major link between EIA and sustainable management of environmental resources: principles and procedures of EIA and how they can promote environmental management are to particularly be emphasized. The major topics to be covered include project selection, design and implementation; EIA and human health, the natural environment and properties, EIA and alternative project designs as well as required mitigation and monitoring measures, the carrying capacity for the zone in which the project is planned; off-site effects, including trans-boundary and cumulative effects.

5. **MEM 705: Global Environmental Politics: 3C**
   The major themes involved in global environmental politics constitute the focus of this course. How politics and environment are fused together in an international relations system. Emphasis shall be on the various international treaties, protocols and conventions on various aspects of the global environment.

6. **MEM 706: Climate Change and Environment: 3C**
   Global warming and climate change, causes of global warming and climate change. Consequences of climate change, climate change policies - Montreal Protocol, Kyoto Protocol.

7. **MEM 707: Environmental Institutions and Regulations: 3C**

The purpose of this course is to show how history and policy have shaped institutions and regulations as they pertain to natural resources and the environment. This course addresses the premise that environmental land managers need to understand the legal context of their work. This course provides an introductory overview of Nigeria's public policy, institutions and regulations pertaining to the environment and natural resources. The course will also focus on the development of environmental legislation at both the federal, state and local levels of government and how they are administered and implemented.

8. **MEM 708: Soil Conservation and Management: 3C**

   This course shall examine the major techniques in soil conservation and management such as organic agriculture, manuring, use of chemical fertilizers, cover cropping, mulching, fallow cycles, legume crops farming and other good land use practices. Social and environmental implications of soil conservation and management in Nigeria shall be examined.

9. **MEM 709: Waste Management: 3C**

   The major topics to be covered include the types, characteristics and environmental consequences of waste as well as the various techniques of waste management including land filling, incinerator and recycling.

10. **MEM 710: Population, Resources and Environment: 3C**

    This course is to examine the concept of population and resources especially from the context of their relationships and how such relationships influence the environment. Topics to be covered include dynamic of human population and its impact on resource exploitation and environmental quality, human population and carrying capacity as well as resource availability and population growth.

11. **MEM 711: Hydrology and Water Resources Management: 3C**

    Water need and sources; techniques for monitoring and data acquisition; water budget; water quality assessment; water resource conservation and management; River Basin Development.

12. **MEM 712: Biodiversity Conservation: 3C**

    This course shall examine the major themes and issues involved in biodiversity conservation such as environmental complex, limiting factors and tolerance range. Also to be considered are the importance of biodiversity conservation as well as the major approaches to conservation such as least zone approach and maximum yield approaches.

13. **MEM 713: Dissertation: 6C**

    Students are to write dissertation under an appointed supervisor which should be a product of their own research work undertaking in line with the research proposal.