Postgraduate Programme of Professional Master

in Disaster and Risk Management (DRM)

Professional Master in Disaster and Risk Management (DRM)

1.0 Introduction

The programme is in response to the management of the increase in the magnitude and frequency of natural and man-made disasters around the world. It is hoped that this programme will provide policy and decision-makers with the concepts, principles, policies, legal framework and strategies on governance and the mainstreaming of Disaster and Risk Reduction into good development practices.

2.0 Justification

Mission and Philosophy:

The philosophy of the programme is to provide graduates with a holistic approach to the understanding of Disaster and Risk Management issues for sustainable development.

Objectives: The objectives of the course are to:

1. provide participants with opportunities for improving their understanding of Vulnerability analysis, patterns and conceptual approaches to vulnerability across ecological and social dimensions/perspectives; and
2. To enable Policy-makers/mainstream contemporary risk assessment capabilities and application in disaster management.

3.0 Degree to be offered

Professional Masters in Disaster and Risk Management

4.0 Admission Requirements

Admission to the Professional Master in Disaster and Risk Management is open to holders of Bachelor's degrees in Social Sciences, Sciences, Engineering, Social Medicine, Environmental Sciences, Town Planning, Agriculture, Forestry and Communication or Information Technology

with a minimum of second-class lower degree (2^2) from Olusegun Agagu University of Science and Technology, Okitipupa or any recognized by the senate of the University. In addition, candidates with HND with at least Upper Credit and at least with three (3) years cognate experience in Social Sciences, Sciences, Environmental and Engineering and other related disciplines from recognized institution as approved by Senate of Olusegun Agagu University of Science and Technology, Okitipupa. Graduates with 3rd Class degree with Postgraduate Diploma from recognized Universities or third-class degree with cognate three years' experience in the listed disciplines may also be considered.

5.0 Duration of Programme

The Professional Master in Disaster and Risk Management 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.

6.0 Graduation Requirements

To be eligible for the award of the Professional Master in Disaster and Risk Management, the student must offer and pass **46** units of courses comprising; **36** units of core courses, **4** units of electives and **6** units of Dissertation / Long Essay.

7.0 (a) Course Structure and Description:

First Semester Courses

Course Code	Course Title	Units
DRM 701	Research and Analytical Methods	3
DRM 703	Introduction to Hazards and Disaster Management	3
DRM 705	Disaster Preparedness and Vulnerability Reduction	3
DRM 707	Assessment of Risk, Vulnerability and Capacity	3
DRM 709	Engineering for Natural Disaster Preparedness and Mitigation	3
	Elective (select at least 2 Units)	
DRM 711	Environmental Health and Sanitation	2
DRM 713	Community Participation in Environmental Resource	2

	Management	
	Total Semester	**17**

Second Semester

Course Code	Course Title	Units
DRM 702	Geo-information, Space Technology and Disaster Management	3
DRM 704	Disaster Response and Recovery Strategies	3
DRM 706	Emergency Development Planning and Management	3
DRM 708	Public Health Aspects of Disaster Management	3
DRM 710	Wetlands/Riverine Disaster Management	3
	Elective (select at least 2 Units)	
DRM 712	Climate Change and Environment	2
DRM 714	Environmental Impact Assessment	2
	Total Semester	**17**

Third Semester Courses

Course Code	Course Title	Units
DRM 715	Life Saving Skill Education for Disaster Mitigation	2
DRM 717	Legal Aspects of Disaster Management	2
DRM 719	Field Work	2
DRM 721	Dissertation	6
	Total Semester	**12**

(b) Course Description

1. **DRM 701: Research and Analytical Methods (3 Units)**:

Nature and characteristics of the research processes and data; instrumentation and measurement; measurement of central tendency, dispersion, variability indices and coefficient of variation. Field work and methods of data collection, research design, hypothesis testing and the comparison of sample values; probability assessment and the normal curve and multiple linear regression, principal components and factor analysis; canonical correlation.

2. **DRM 702: Geo-information, Space Technology and Disaster Management (3 Units):**

Provides knowledge on basic concepts of Remote Sensing, Global Positioning System (GPS), Cartography and Geographic Information System (GIS), and their application in disaster management. Application of network analysis. Buffering and proximity technique used in relief and rescue operations.

3. **DRM 703: Introduction to Hazards and Disaster Management (3 Units):**

Extreme Geo-Physical events, Geo-mophological: earthquake, volcanic eruptions, landslides, avalanches. Atmospheric: tropical cyclones, tornadoes, hail, ice and snow. Hydrologic: river floods/coastal floods, drought. Biologic: epidemic diseases, wildfires and the management of these hazards.

This basically involves major accidents resulting from technological advancement. These include transport accidents: air, train, vehicular and shipwrecks. Industrial failures: explosive and fires, release of radio: active and toxic materials. Construction failures: unsafe public building and facilities involving structural failures and dam collapse, oil spills and fires, mine explosions and the management strategies of these hazards.

4. **DRM 704: Disaster Response and Recovery Strategies (3 Units):**

Seeks to provide adequate knowledge on the immediate and long-term management of post-impact phase of a disaster. Typical field cases may be adopted for studies. Involves assessing environmental quality of disaster area-air, water, soil etc.

5. **DRM 705: <u>Disaster Preparedness and Vulnerability Reduction (3 Units):</u>**

The course covers the concept and factors in global environmental changes of international dimensions. International air pollution (trans-boundary pollution), climate change, sea – level rise. Environmental degradation, desertification, deforestation, loss of natural resources and farming. Disaster preparedness, and vulnerability techniques to disaster reduction.

6. **DRM 706: <u>Emergency Development Planning and Management (3 Units):</u>**

This course will cover basic development planning and management theories and issues with regards to disaster prone area. It will cover basic concept of development, national development process, regional development theories, planning problem regions, environment planning policies and procedure, development planning best practices.

7. **DRM 707: <u>Assessment of Risk, Vulnerability and Capacity (3 Units):</u>**

Concern with the general principles of disaster management – disaster event characteristic, characterization of impacts, hazard vulnerability determination, disaster preparedness, risk identification, emergency risk management and risk management, mitigation, response and recovery plan, and emergency management system. Provide knowledge in method of risk identification, evaluation and communication. Risk assessment checklist, risk and benefit assessment, social impact assessment process and models, risk prediction, insurance cover.

8. **DRM 708: <u>Public Health Aspects of Disaster Management (3 Units):</u>**

This course will promote improved disaster preparedness and response in the health sector and increase capacity of health workers and volunteers to response to disasters. Critical issues include: the management and co-ordination of health personnel and equipment, emergency health facilities, first aids, movement of victims, public health risks of disasters and handling pandemic health emergencies-influenza (fowl/swine flu), cholera, anthrax etc.

9. **DRM 709: Engineering for Natural Disaster, Preparedness and Mitigation (3 Units):**

Provides detail knowledge on the role of Engineering in disaster management. Basic issues are the design and construction of hazard-resistant habitats before, during and after disasters; the construction of disaster shelters, emergency housing, retrofitting, building-for-safety, building codes, and provision of critical infrastructure.

10. **DRM 710: Wetlands/Riverine Disaster Management (3 Units):**

Provide detailed knowledge on the effects of riverine disaster such as floods, riverbank erosion, riverbank protection and reclamation of wetlands. Case studies and best practices will be examined.

11. **DRM 711: Environmental Health and Sanitation (2 Units):**

Global situation of water supply, drinking water and sanitation, outbreak of water borne diseases, public health and pollution problems caused by human excreta and waste water, microbiology of drinking water, indicators and criteria, epidemiology of pathogens and waterborne diseases, disinfections and its alternative, design of small-scale wastewater treatment systems, household centered environmental sanitation, material flux analyses, sanitation and hygiene education. Environmental Health policies and programs in Nigeria.

12. **DRM 712: Climate Change and Environment (2 Units):**

Composition and functions of the atmosphere; atmospheric monitoring and observation; climate and human activities; climate change definition; evidences, causes and effects on the environmental management implications of climate change; global strategies and the role of organizations, e.g. WMO, UNEP, etc.

13. **DRM 713: Community Participation in Environmental Resource Management 2U:**

Concepts of participation, rationale for public and private participation, objectives of public and private participation, identification of various community's modes and techniques of participation in environmental management. Role of NGOs.

14. **DRM 714: Environmental Impact Assessment (2 Units):**

Concepts and organization of ecosystems; predicting impact; procedures for environmental impact assessment; integration with development planning procedures; impact assessment of water resources; transportation, power production, mining and other relevant projects; urbanization, industrialization, and resource conservation considerations; design concepts and alternative strategies for impact reduction monitoring.

15. DRM 715: Life Saving Skill Education for Disaster Mitigation (2 Units):

This is a disaster preparedness course geared towards training of emergency preparedness resources, such as search and rescue personnel. Covers search and rescue methods, fire safety methods, psychosocial support skills, first aid skills etc.

16. DRM 717: Legal Aspects of Disaster Management (2 Units):

This course provide basis for the formulation of environmental laws and policies, the legal aspect of hazards risk management, the legal and institutional structures, and by-laws relevant to disaster risk reduction. It will also cover issues relating to the formulation of building codes, ordinances and other regulatory requirements for building in disaster prone area. It will cover national, regional and international laws and conventions.

17. DRM 719: Field Work (2 Units):

To provide opportunities to visit disaster risk areas, disaster management projects and agencies so as to appreciate the challenges and constrains to disaster management. This is a supervised week-long fieldwork when students are expected to conduct hazard, risk and vulnerability assessment of impacted sites and evaluate existing hazard management policies and strategies appreciate authorities. These activities are compiled and submitted as project by students.

18. DRM 721: Dissertation (6 Units):

The project shall be original work on an approved topic on the area of disaster risk management. The project is expected to contribute to knowledge and in accordance to the regulations of the Graduate School as approved by the Senate.