

MASTER OF SCIENCE IN ENVIRONMENT AND NATURAL RESOURCES

Program Objectives

The objectives of the program are to;

- a) To make students aware of and appreciate why people make certain decisions related to managing environment and natural resources therein.
- b) Equip students with knowledge of environmental systems and appreciate the need for sustainable use of natural resources for development
- c) Promote the use of scientific knowledge in environmental management
- d) Enable students acquire skills and capacity for environmental research
- e) Promote the use of appropriate technology in harnessing natural resources
- f) Enable students acquire skills to effectively disseminate environmental knowledge
- g) Promote the use of inter-disciplinary approach in environmental conservation and management
- h) Enable students develop the conservation ethics for environmental conservation
- i) Equip students with the right attitudes and develop necessary skills to address environment and natural resources challenges and make informed decisions depending on the circumstances

Program structure and content

The program will provide graduates with a good foundation in environment and natural resources concepts and methods of analysis as research scientists. The program of study includes core courses, electives and research work. Core course contain the basic content that every graduate of the program must possess, and are courses that address topical, contemporary and cross cutting environmental issues. They do not assume previous knowledge. Elective courses are relatively specialized and some may require previous knowledge.

Plan A will entail taught course in the first two semesters of the program. Details of courses taught in each of the two semesters are shown in Table A. Following each semester, which is expected to last seventeen weeks, and a 10-week recess term, candidates, will be required to sit and pass examinations. They will then undertake for about six months of original research, which will form the subject of a short dissertation. The research proposal must have been submitted by the second week of the 3rd semester and approved in accordance with the University regulations, and the dissertation must also conform to University regulations. It will normally be submitted within six months of the completion of the research. To pass the dissertation, the candidate shall satisfy the examiners as well as the viva voce committee, in accordance with University regulations and guidelines. The minimum graduation load under Plan A is 44 credited units accumulated over 4 semesters.

Plan B will entail taught course in the first three semesters of the program as indicated in Table B. Following each semester, candidates will be required to sit and pass examinations. They will then undertake for about 8 weeks a piece of research/supervised work/attachment, which will form the subject of a short report. The report will normally be submitted within 6 weeks of the completion of the research. To pass, the candidate shall satisfy the examiners as well as the viva voce committee, in accordance with University regulations and guidelines. The minimum graduation load under Plan B is 61 credited units accumulated over 4 semesters.

Course Outline for Plan A

Year I Semester I		
Code	course Name	
ENR 7101	Environment and Development	3
ENR 7102	Environmental Impact Assessments & Monitoring	4
ENR 7103	Research Methods and Descriptive Statistics	3
ENR 7104	Ecosystems and Livelihoods	3

ENR 7105	Environmental Ethics, Education and Communication	3
ENR 7106	Remote sensing and GIS in Natural Resource Management	4
ENR 7107	Conservation Planning and Practice	3

Code	SEMESTER II Course Name	(CU)
ENR 7201	Field Course	2
ENR 7202	Natural Resource Economics and Valuation	3
ENR 7203	Inferential Statistics and Computing	3
ENR 7204	Project planning and management	3
ENR 7205	Biodiversity survey and analysis	3
ENR 7206	Data administration, Metadata and quality management of information	3
ENR 7207	Ecological Modelling for environmental planning and management	3
ENR 7208	Wetlands ecology and management	3
ENR 7209	Land use planning	3
ENR 7210	Integrated water resources management	3
ENR 7211	Evolutionary & Conservation Genetics	3
ENR 7212	Plant Resources, Planning & Management	3
	Year II Semester III & IV	
ENR 8101	Seminar Series I (Semester I),	2
ENR 8201	Seminar series II (Semester II)	2
	Research and production of a dissertation	10

Course Outline for Plan B

Code	YEAR I SEMESTER I Course Name	(CU)
ENR 7101	Environment and Development	3
ENR 7102	Environmental Impact Assessments & Monitoring	4
ENR 7103	Research Methods and Descriptive Statistics	3
ENR 7104	Ecosystems and Livelihoods	3
ENR 7105	Environmental Ethics, Education and Communication	3
ENR 7106	Remote sensing and GIS in Natural Resource Management	4
ENR 7107	Conservation Planning and Practice	3
SEMESTER II		
ENR 7201	Field Course	2
ENR 7202	Natural Resource Economics and Valuation	3
ENR 7204	Project Planning and Management	3
ENR 7203	Inferential Statistics and Computing	3
ENR 7205	Biodiversity survey and analysis	3
ENR 7206	Data administration, Metadata and quality management of information	3
ENR 7207	Ecological Modelling for environmental planning and management	3
ENR 7208	Wetlands ecology and management	3
ENR 7209	Land use planning	3
ENR 7210	Integrated Water Resources Management	3
ENR 7211	Evolutionary & Conservation Genetics	3
ENR 7212	Plant Resources, Planning & Management	3

YEAR II SEMESTER I		
ENR 8101	Seminar series I	2

ENR 8102	Conflict resolution in Natural Resource management	3
ENR 8103	Environmental politics, policy and legislation	3
ENR 8104	Mineral resources and mining	3
ENR 8105	Energy, Environment and Climate Change	3
ENR 8106	Environmental Health and Sanitation	3
ENR 8107	Facilitation, Interpersonal and Negotiation Skills for Natural Resources Management	3

YEAR II SEMESTER II		
Code	Course Name	(CU)
ENR 8201	Seminar Series II	2
ENR 8202 Research Paper		5

(Footnotes)

- 1 *One hour of Lecture is equivalent to one contact hour or two hours of Tutorial Practical or four hours of field Work
- 2 *One hour of Lecture is equivalent to one contact hour or two hours of Tutorial Practical Field Work
- 3 *One Credit Unit is equivalent to fifteen contact hours
- 4 *One hour of Lecture is equivalent to one contact hour or two hours of Tutorial Practical Field Work

THE PHD PROGRAMME

The general University regulations governing PhD programmes shall apply. This is basically a three-year programme involving research on any aspect of environment and/or natural resources leading to the preparation of a thesis for the PhD of Makerere University.

Research at the Institute

The institute has a number of research programmes. Research results are presented and published at national and international levels, in workshops and journals.

Current research areas include:

- (a) Forest and wildlife management
- (b) Fuel wood needs assessments
- (c) Remote sensing and GIS applications for community land use planning and management, land cover mapping, change analysis, planning and analysis
- (d) Biodiversity studies of plants, animals and ecosystems, including the use of molecular techniques in wildlife genetics
- (e) Analysis of biodiversity data for conservation planning
- (f) Solid waste management
- (g) The limnology of lakes and rivers
- (h) Water quality assessment and monitoring
- (i) Wetlands ecology and management

- (j) Appropriate technology for waste water treatment
- (k) Predictive mapping of biodiversity data
- (l) Conservation Genetics

There are some specialised units within MUIENR including:

- (a) The National Biodiversity Databank (NBDB)
- (b) Remote Sensing/GIS Laboratory
- (c) Molecular Biology Laboratory
- (d) Water and Wetlands Research Laboratory
- (e) Makerere University Biological Field Station (MUBFS)

The National Biodiversity Data Bank (NBDB)

The NBDB was founded in 1990. It monitors the national biological resources in Uganda and provides information to conservationists, government agencies, NGOs, Land Managers and others interested in the conservation and sustainable utilisation of these resources.

Remote Sensing and GIS Laboratory

The Remote Sensing and GIS Laboratory was initiated in 1992 by several departments of Makerere University when it was realised that a training facility in Remote Sensing and