



Mzuzu University

CURRICULUM FRAMEWORK

Outline of courses offered throughout the programme

MSc Fisheries and Aquatic Sciences

Programme	Courses Semester 1 Compulsory	Courses Semester 1 Optional
<i>MSc - Fisheries and Aquatic Sciences</i>	Research methods and biometry	Environmental Impact Assessment
	Analysis and Management of Aquatic Environment	Environmental Geomatics (GIS)
	Aquaculture & Fisheries Economics	
	Aquaculture and Fisheries Extension	
	Research – Proposal development	
	Seminars	

Programme	Courses Semester 2 Compulsory	Courses Semester 2 Optional
<i>MSc - Fisheries and Aquatic Sciences</i>	Research methods and biometry	Fish Nutrition
	Bioeconomic modelling	Environmental Geomatics (GIS)
	Aquatic Resources Management.	Environmental Impact Assessment
	Fish Processing & Quality Management	
	Research – Proposal development and defense	
	Seminars	

## Description of modules

**Research Methods and Biometry:** The course intends to equip students with essential knowledge and skills of design analysis, interpretation and reporting on a scientific investigation. Furthermore, students are expected to apply different statistical packages in their research.

**Aquaculture & Fisheries Economics.** The course aims at enhancing students' understanding of economic analysis of the environment and natural resources. Furthermore, students will apply economic models for renewable resources and exhaustible resources to solve environmental and natural resource issues facing Malawi and economically analyse environment and natural resources. The module enables students to understand and apply economic theory and methodologies to the better understanding of environmental problems, and to become competent in applying economic analysis to improve the design of environmental policy.

**Aquaculture and Fisheries Extension.** The aim of the course is to equip students with comprehensive knowledge and skills of extension applicable to aquaculture and fisheries management. At the end of the course, students are expected to understand the principles and roles or functions of extension, know and apply appropriate extension methodologies to modern current conditions in Malawi, and transfer knowledge of aquaculture and fisheries to farmers and fishers and guide them to use it.

**Fish Nutrition.** The course is intended to equip students with the understanding the basic principles of fish nutrition and the function of individual nutrients. Students will also be acquainted students with the biochemical functions of different biomolecules and learn basic concepts of feed formulation and different feed processing techniques. The course will help students to learn nutritional requirements of commercially important fish and shellfish; and learn different methods of analyzing feed intake and effect of nutritional factors.

**Fish Processing & Quality Management:** This course aims to equip students with techniques and skills of dealing with post harvest fish losses: Fish handling, processing, preservation, packaging and marketing

**Aquatic Resources Management:** This course is for students interested in aquatic (water) resources to understand basic principles of water resources management, including surface and groundwater hydrology, water quality, water law and aquatic ecosystem.

**Analysis and Management of Aquatic Environment:** To acquaint the students with the theoretical and practical aspects of the aquatic environment and biodiversity. To impart

fundamental and advanced knowledge on different aspects of Aquatic pollution and waste water management

**Environmental Impact Assessment** focuses on the understanding of the current approaches, concepts and requirements for environmental impact assessments. In particular, specific knowledge on the types of environmental impacts caused through the different phases (e.g. construction, operation and decommissioning) of energy production infrastructure will be gained.

**Environmental Geomatics (GIS)** delivers a knowledge of the concepts and foundations underlying Geographical Information Systems (GIS), Earth Observation (EO) and Global Positioning Systems (GPS), an understanding of different remote sensing platforms, instruments and data types, and builds an appreciation of the use of GIS and EO in environmental management.

**Seminars.** The module will enhance students' creativity and independence in literature search. Students are expected to review literature on a chosen topic. Topics include: Choosing a topic, literature review and Paper Presentation.