

Module Name Fisheries and Aquaculture	Module Code LIWM722	Credit Points/ECTS 3.0/6.0
Target Group BSc. Graduates in Biology, Environmental Sc & other related areas	Prerequisites Programme prerequisites	
Learning Objectives At the end of the module participants will be able to: <ul style="list-style-type: none"> • Evaluate global/national production trends and emerging issues in fisheries; • Appraise and apply the ecology of fish to fisheries management and aquaculture exploitation; • Evaluate the interaction of fish and the environment (water quality, environmental impacts, etc.); • Appraisal of aquaculture systems and their productivity potential; • Understand and assess the role of gender in fisheries and aquaculture; • Appraisal of measures to reduce fish diseases and fish parasites in aquaculture; • Evaluate socio-economic trends and dynamics in fisheries. 		
Module Subjects Module syllabus <p><i>Capture fisheries and management</i> : global and regional production trends; economic contribution of capture fisheries; status and dynamics of inland fisheries; marine fisheries; fisheries management (fishermen, fishing gears, destructive fishing methods and efforts, environmental impacts of fisheries); emerging fisheries issues (e.g. transboundary conflicts, alien species).</p> <p><i>Fish ecology</i>: introduction; temporal and spatial distribution (abiotic and biotic factors); life history and reproduction strategies; habitats and resources partitioning; food habits; trophic relationships; sampling techniques and methods of fish stock assessment; wild fish diseases and parasites.</p> <p><i>Socio-economics</i>: communities and fish; fisheries management & aquaculture versus gender; socio-economic challenges in fisheries development (human health, sectoral conflicts, trade, poverty alleviation); policies and emerging issues; economic valuation in fisheries and aquaculture.</p> <p><i>Aquaculture</i> : production trends, potential, limitations and risks; site and species selection; water quality and pond management (liming, fertilization, environmental carrying capacity, stocking densities, predation control); main culture systems; key factors affecting fish growth; fish breeding; fingerling production enhancement; manipulation of production systems (feeding rates/frequencies, stocking densities, integrated systems, etc.); nutritional requirements of target fish (tilapia - <i>O. niloticus</i>, African catfish <i>Clarias gariepinus</i>); fish feed formulation; parasites and diseases of zoonotic and economic importance; environmental impacts of aquaculture practices; harvesting techniques; processing and preservation techniques; introduction to mariculture.</p>		
Didactics The contact hours include lectures, laboratory work, field-work, excursions, sampling, sample processing, data analysis and group discussion on case studies (fisheries/aquaculture, socio-economics). Special emphasis will be laid on field-work, practical laboratory work and data interpretation /presentation/ discussion	Assessment Part 1 (60%): written examination	

<p>within a final seminar. Field-work is done at Lake Victoria and experimental fish-ponds at Egerton University. Excursions are organized to cage culture sites, a fish hatchery and a marine fish culture farm.</p>	<p>Part 2 (10%): group work (data analysis)</p> <p>Part 3 (20%): oral individual presentations of data obtained during field/lab sessions</p> <p>Part 4 (10%): individual involvement during practical work</p>
<p>Lecturing Materials Lecture notes, laboratory & field-work manuals, videos, reference materials (text books, publications)</p>	
<p>Resource Persons: Module Coordinator: Dr. Geoffrey Ong’ondo,</p> <p>Capture fisheries and management: Dr. Nyamweya/ Prof. J. Manyala</p> <p>Socio-economics: Dr. Obiero</p> <p>Fish ecology: Prof. J. Manyala</p> <p>Aquaculture: Dr. J. Mungut, Dr. Gichana</p> <p>Fish breeding and Genetics: Dr. Orina</p> <p>Post-harvest and handling: Dr. Kyule</p> <p>Fish parasites & water-borne diseases: Prof. Mbuthia</p> <p>Technical Staff: Mr. Lewis Mungai.</p>	