

1. Context and Objectives

Context

The next frontier of development remains the ocean. The oceans, estuaries and freshwater bodies have always played an important role in meeting human needs for food, recreation and other resources. They also provide a livelihood for millions of people throughout the world. As a result, sustainable aquaculture is gaining importance as a multi-disciplinary industry that has the potential to meet human needs for food and livelihood, while protecting and maintaining ecosystem structure and functions. Through the adoption of an integrated, holistic and ecosystem-based management approach, aquaculture, mariculture and utilisation of ocean and freshwater resources can be made economically profitable, environmentally sustainable, and socially equitable.

Objective of the Programme

This programme has been devised to be in line with Government policy on developing an Ocean Economy for the Republic of Mauritius (The Ocean Economy Roadmap for Mauritius, 2013; World Bank Report on The Ocean Economy of Mauritius, 2017). Aquaculture, mariculture, biologically active compounds from coastal and marine plant and animal species for use as fertilisers, pesticides, pharmaceuticals, cosmetics, etc. have major potential in this context. To realize this potential, the country needs trained manpower at various levels, scientifically-generated and reliable data and knowledge, as well as the enabling framework. This programme aims to provide graduates with training in advanced aspects of sustainable freshwater, coastal and marine aquaculture, while managing these ecosystems sustainably, and keeping in mind social equity.

Career Opportunities

Upon completion, fresh graduates wishing to make a career in this field, will be equipped with good knowledge and skills in various aspects of aquaculture, which will not only help them up in their own professional development, but will also contribute to promoting sustainable aquaculture ventures in the Republic. Those already in employment will have been enabled to have the necessary competence to play key roles in the development of the Ocean Economy, most specifically in the aquaculture field.

2. Programme Learning Outcomes

The programme is structured towards the acquisition of scientific skills and practical knowledge in aquaculture and food production. In addition, students are exposed with the knowledge and application of concepts, tools and techniques in the management of small, medium large-scale aquaculture.

By the end of this programme, graduates will have developed knowledge, abilities and skills to:

- explain the biological and ecological processes of aquatic ecosystems and the organisms living in it, and the various processes governing life in any type of water body.
- develop cultures of aquatic organisms (such as fish, crustaceans, echinoderms, corals, sponges, algae, etc.) in a wide range of culture environments (from sea enclosures to semi-extensive ponds and high-tech recirculation systems).
- discuss the sensitivity of marine communities in relation to human interventions, including overexploitation, climate change, and habitat destruction.
- explain the concept and practices of sustainable governance and management of large water bodies, including local, regional and international regulations.

- demonstrate the trends of modern aquaculture, nutrition and welfare of cultured species.
- justify the importance of entrepreneurial skills for the development of innovative SMEs in the ocean industry.
- develop innovative concepts for new value-added food and non-food products from the aquaculture industry
- design, plan and carry out research in the various fields of agriculture,
- use appropriate scientific and statistical methods and evaluations for decision making in various sectors of aquaculture,
- demonstrate use of written and oral communication skills.

3. Teaching and Learning Methods

This programme is taught through a series of Lectures/Discussion; online activities, Laboratory Practical Classes; On-site aquaculture Farm Practical Classes; Fish Farm Visits and Student-Led Seminars. It will also include directed learning and self-independent learning.

4. Entry Requirements

General

Successful completion of an undergraduate degree with

- At least a Second Class or a CPA \geq 50%, whichever is applicable or
- A GPA not less than 2.5 out of 4 or equivalent, from a recognised higher education institution.

OR alternate qualifications acceptable to the University of Mauritius.

Programme Requirements

A Bachelor's Degree in Agriculture or Environmental Science or Zoology or Biology (with at least minor/specialization in Aquaculture, Oceanography, Marine Biology, Marine Science, Natural Resource Management, Land and Water Management or other allied fields), or equivalent qualifications acceptable to the University of Mauritius.

Admissions under Mature Students Regulations

'Mature Students' shall be those who fall under the following criteria:

- (i) who are older in terms of age (>30) and do not have the General Entry Requirements for admission at University of Mauritius but have a minimum of

Either

- (a) a recognised undergraduate Diploma in relevant field or any other equivalent qualifications acceptable to the University plus at least 15 years' of relevant work experience

OR

- (b) third class or pass degree in relevant field plus at least 7 years' of relevant work experience

- (ii) who are older in terms of age (>30) and who possess the General Entry Requirements but are lower in terms of admission ranking at the University.

5. Programme Duration

	Normal (Years)	Maximum (Years)
Master's Degree (P/T)	2	4
Postgraduate Diploma (P/T)	2	4

6. Minimum LCCS Credits required for Award of the Degree

A student should have successfully completed a total of 2220 notional learning hours (74 LCCS Credits), inclusive of the practical training, as per the programme structure to be awarded the degree.

For Each Academic Year

Year of Study	Number of LCCS Credits (Notional Learning Hours)
1	30 (900 Learning Hours)
2	44 (1320 Learning Hours)
Total	74 (2220 Learning Hours)

For Exit Award

The student can exit the programme with a Postgraduate Diploma or Postgraduate Certificate, as follows:

- Students may exit with a Postgraduate Diploma in Aquaculture after having earned 50 LCCS Credits.
- Students may exit with a Postgraduate Certificate in Aquaculture after having earned 24 LCCS Credits.

Break Down of Notional Learning Hours

The total notional learning hours (i.e. students' workload) for the 2 years part-time programme will be is comprised of the following learning activities:

Learning Activity	Notional Learning Hours
Contact Teaching	250
Self-Study	500
Other Learning	750
Project	720
Total	2220

7. Assessment and Deadlines

The achievement of the modules learning outcomes will be assessed through a variety of methods (e.g., exams, class tests, reports, field visits). Each module will be assessed over 100 marks (i.e. expressed as %) with details as follows (unless otherwise specified).

Assessment will be based on a written examination of 3 hours duration, carrying a weighting of 60 %, and Continuous Assessment carrying 40% of total marks. Continuous Assessment will be based on Class/Laboratory/Field Visits/Case Studies, and /or Assignments, and should include at least 1 Class Test.

An overall total of 40 % for combined Continuous Assessment and Written Examination components would be required to pass a module, without minimum thresholds within individual Continuous Assessment and Written Examination.

Modules will carry the weightings of 1 or 3 depending on their status (Introductory or Intermediate). Weighting for a particular module is indicated within parentheses in the module code.

Modules will carry LCCS Credits in the range of 2 to 12, except for the dissertation which carries 24 LCCS Credits.

8. List of Modules – 74 LCCS Credits

<u>Code</u>	<u>Module Name</u>	Teaching Contact Hours	Self-Study Hours	Directed Learning (Hours)	Total Learning Hours	<u>LCCS Credits</u>
AGRI 60015Y(1)	Research Methodology	30	60	90	180	6
AGRI 60016Y(1)	Entrepreneurship and Innovation for the Aquaculture Industry	10	20	30	60	2
AGRI 60017Y(1)	Aquatic Ecosystems and Resources	50	100	150	300	10
AGRI 60018Y (1)	Sustainable Aquaculture	60	120	180	360	12
AGRI 60019Y(1)	Value addition to food and non-food products from the Aquaculture Industry	60	120	180	360	12
AGRI 60020Y(1)	Environmental Quality and Governance	40	80	120	240	8
AGRI 60000Y(1)	Project				720	24
TOTAL		250	500	750	2220	74

Total Number of LCCS Credits = 74 LCCS Credits (2220 Learning Hours)

9. Programme Plan - MSc Aquaculture (Part-Time)

YEAR 1

<u>Code</u>	<u>Module Name</u>	Teaching Contact Hours	Self-Study Hours	Directed Learning (Hours)	Total Learning Hours	<u>LCCS Credits</u>
AGRI 60015Y(1)	Research Methodology	30	60	90	180	6
AGRI 60016Y(1)	Entrepreneurship and Innovation for the Aquaculture Industry	10	20	30	60	2
AGRI 60017Y(1)	Aquatic Ecosystems and Resources	50	100	150	300	10
AGRI 60018Y (1)	Sustainable Aquaculture	60	120	180	360	12
TOTAL		150	300	450	900	30

YEAR 2

<u>Code</u>	<u>Module Name</u>	Teaching Contact Hours	Self-Study Hours	Directed Learning (Hours)	Total Learning Hours	<u>LCCS Credits</u>
AGRI 60019Y(1)	Value addition to food and non-food products from the Aquaculture Industry	60	120	180	360	12
AGRI 60020Y(1)	Environmental Quality and Governance	40	80	120	240	8
AGRI 60000Y(1)	Project				720	24
TOTAL		100	200	300	1320	44

Total Number of LCCS Credits = 74 LCCS Credits (2220 Learning Hours)

