Certificate in Forestry – A102

1. Objectives

The programme of study aims at providing training and skills on the science and applications of sustainable management and utilization of our forests, with a view to ensuring environmental and economic sustainability of this increasingly important sector.

Global environmental and economic changes are leading to a shift in the role of forests within the economy, at local, regional and global levels. Apart from the essential role they play in providing important ecosystem services, forests represent a key component of mitigation and adaptation measures for climate change impacts.

The objective of the programme is to provide training to in-service staff of the Forestry Services, school-leavers as well as other environmentally conscious persons wishing to develop their knowledge and skills in the various aspects of Sustainable Forestry. The programme will provide a broad overview of the key components comprising this approach to forest science, forest management, forest utilization, and sustainable development for Mauritius.

After completing this programme, students should have acquired knowledge and skills to:
- Contribute to the improvement and development of forest management systems in the country;
- Contribute to the revitalization of forestry activities for improved socioeconomic benefits to the people of Mauritius;
- Help in the analysis, planning, implementing, monitoring and evaluation of forestry operations and forestry-related activities;
- Contribute to sustainable management and utilization of forest resources in Mauritius;
- Demonstrate a broad understanding of climate change and the role of forests in   mitigation and adaptation for climate change.

Teaching methods used will include formal lectures, tutorials, laboratory practicals, case studies, seminars and field visits.

2. General Entry Requirements

As per General Entry Requirements for Admission to the University for Certificates.

3. Programme Requirements

School Certificate.

4. Programme Duration

	Normal (Years)	Maximum (Years)
Certificate (Part-Time)	2	3

5. Credits per year: Minimum 12 credits; Maximum 18 credits, subject to Regulation 4.

6. Minimum Credits Required for Award of Certificate: 30

Breakdown as follows:

	Credits from	
	Core Taught Modules	**Mini-Project**
Degree	27	3

7. Assessment

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 2-2 ½ hour duration, carrying a weighting of 70%, and Continuous Assessment carrying 30% of total marks for AGRI modules. Modules from other Faculties/Departments will carry a weighting of up to 30% for Continuous Assessment. Continuous Assessment will be based on laboratory/field works, and/or assignments, **and should include at least 1 class test**. Written examinations for all AGRI modules will normally be carried out at the end of the academic year.

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

Modules will carry 3- 6 credits, and a weighting of 1.

8. Academic Teaching in Case of an Emergency

To ensure minimal disruption of normal academic teaching in case of an emergency (eg. closure of the University for more than 2 weeks), the Moodle e-Learning Platform of VCILT will be used to deliver Teaching and Learning content. Relevant learning resources will be posted on the Platform. Assignments (if any) will be submitted using the online submission box. Arrangements will be made to register students on the Moodle platform at the beginning of the academic year.

9. List of Modules - Certificate in Forestry

CORE MODULES

Code	Module Name	Hr / Yr L+P	Credits
AGRI 1039Y(1)	Introductory Statistics and IT	30+30	3
AGRI 1068Y(1)	Silviculture	60+60	6
AGRI 1069Y(1)	Forest Ecology and Biodiversity	30+30	3
AGRI 1070Y(1)	Forest Protection	30+30	3
AGRI 2094Y(1)	Forest and Sustainable Land Management	45+45	4
AGRI 2095Y(1)	Forest Management and Legislation	60+45	5
AGRI 2096Y(1)	Forest Utilisation	30+30	3
AGRI 1000Y(1)	Mini-Project	-	3
Total Number of Credits = 30			

11. Programme Plan – Certificate in Forestry

YEAR 1

CORE MODULES

Code	Module Name	Hr / Yr L+P	Credits
AGRI 1039Y(1)	Introductory Statistics and IT	30+30	3
AGRI 1068Y(1)	Silviculture	60+60	6
AGRI 1069Y(1)	Forest Ecology and Biodiversity	30+30	3
AGRI 1070Y(1)	Forest Protection	30+30	3

YEAR 2

CORE MODULES

Code	Module Name	Hr / Yr L+P	Credits
AGRI 2094Y(1)	Forest and Sustainable Land Management	45+45	4
AGRI 2095Y(1)	Forest Management and Legislation	60+45	5
AGRI 2096Y(1)	Forest Utilisation	30+30	3
AGRI 1000Y(1)	Mini-Project	-	3

Total Number of Credits = 30

12. Outline Syllabus

AGRI 1039Y(1) - INTRODUCTORY STATISTICS AND IT
Nature of statistical data. Organisation and presentation of data. Measures of central tendency and dispersion. Probability distributions. Relationship between variables. Methods of data collection. IT and computers. Input and Output devices. Secondary storage. Introduction to application softwares.

AGRI 1068Y(1) - SILVICULTURE
Tree species in forests. Tree identification. Seed collection and management. Nursery establishment and operations. Management of seedlings and plantations. Tree physiology and phenology. Forest growth and mensuration. Forest inventories. Silvicultural systems. Nutrient cycling. Felling, Logging and Harvesting. Tree/ forest regeneration. Afforestation and Reforestation.

AGRI 1069Y(1) - FOREST ECOLOGY AND BIODIVERSITY
Types of forests. Forest ecosystems. Ecological zones. Forest succession. Biotic and abiotic components and interactions in forest ecosystems. Energy flows and dynamics. Nutrient and Biogeochemical cycles. Hydrological cycle. Forest Biodiversity. Endemism. Flora and fauna in Mauritian forests. Role of biodiversity in forests. Ex-situ and in-situ conservation and preservation of forest biodiversity. Climate change and forest biodiversity. National and international biodiversity conventions, strategy and action plans (NBSAP and NRs).

AGRI 1070Y(1) - FOREST PROTECTION
Forest pests, diseases and weeds. Floral and faunal Invasive Alien Species. Natural hazards. Fires and soil/land erosion. Anthropogenic activities affecting forests. Climate Change impacts on forests. IAS National Action Plan.

AGRI 2094Y(1) - FOREST AND SUSTAINABLE LAND MANAGEMENT

Types of forest soils. Soil maps. Processes of soil formation. Land use and land cover. Deforestation and its effects on soil/land. Soil fertility and health. Soil and water conservation. Role of wetlands Watershed management. Sustainable Land Management in and for Sustainable Forestry. National and international land related conventions. Land Use, Land Use Change and Forests. Forest land and Climate Change. Vulnerability and Adaptation.

AGRI 2095Y(1) - FOREST MANAGEMENT AND LEGISLATION

Natural versus planted forests. Forest operations. Principles, components and techniques of Sustainable Forestry. Forest surveying. Aerial photography, GIS, Remote Sensing. Image Analysis. Forest economics. Forest policies, strategy and action plans. National laws and regulations (e.g. National Forest Policy, MID). National and international conventions and agreements.

AGRI 2096Y(1) - FOREST UTILISATION

Economic importance of forests. Socioeconomic role of forests. Forests and weather. Timber. Wood products. Christmas trees, and other amenity trees. Edible plants. Fruits. Wildlife. Genetic and species diversity. Apiculture. Sericulture. Pharmaceuticals. Natural Pesticides and Fertilisers. Biofuels. Recreation. Ecotourism. Agroforestry. Role of forests in climate change mitigation. Carbon sink and carbon sequestration. Carbon credits. Clean Development Mechanism.

AGRI 1000Y(1) - MINI-PROJECT

The mini-project will be carried out by students in their final year of study. It is a module that provides the students with the opportunity to design, undertake or conduct an independent piece of research or study in the area of forestry. The mini-project is an investigative undertaking, a structured, organized experiential learning including a desk study, laboratory work, or field work (survey or experimental). The mini-project will be undertaken under academic supervision. The mini-project carries 3 credits and the student is typically expected to spend about 45 hours, spread over the last two semesters, on this module. In case the mini-project involves confidential information, the UoM guidelines and regulations for handling and management of confidential information shall be followed.