

## **1. Context and Objectives**

### ***Context***

With the evolution of society, the food system has changed from one centered around family food production on individual farms and home food preservation to a complex global system. Contemporary food science and technology contributed greatly to the success of this modern food system by integrating engineering, biological, and physical sciences and many other disciplines in the study of the nature of foods, the causes of deterioration, the principles underlying food production and processing, and the improvement of food safety and quality. Today, with the dynamic changes happening around the world related to food shortages, soil depletion, lack of rainfall, and competition for land and global warming, working in the food industry offers many opportunities that will become both challenging and fulfilling as time goes on. Food scientists and technologists play an important role in ensuring our food security, health and food choice.

### ***Objectives of the Programme***

The programme will provide knowledge and skills in subjects related to food science and technology so as to develop the necessary competence for a career in the food and allied industries, government and standards agencies, and educational and research institutions. Students will also have the opportunity to undertake a 6-month internship at the end of the third year, in organisations relevant to the field of study. The internship aims at (1) developing technical and practical skills of students in the area of food science and technology and (2) familiarizing students with skills that will enable them to contribute to the professionalization of the food sector in Mauritius.

### ***Career Opportunities***

Graduates will be able to work in a number of roles including, food technologist, new product developer, food analyst, food microbiologist and food quality/safety manager in both public and private institutions.

## **2. Programme Learning Outcomes**

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

- apply scientific principles to control the chemical, physical, microbiological, nutritional and sensory properties of food during manufacture and storage
- apply methods of preservation and processing to control deterioration and spoilage mechanisms in foods and to produce safe foods
- apply methods of food analysis to assess quality, nutritive value, safety and compliance with standards
- participate in the development, implementation and maintenance of comprehensive food safety management systems to protect consumer health
- contribute to the development and growth of small and medium food enterprises, and food industries
- identify, relate and apply the content of academic courses to specific work practices and make a worthwhile contribution in the workplace
- demonstrate people related skills - communications, interpersonal, and team working
- demonstrate conceptual skills - researching, collecting and organising information, problem solving, planning and organising, innovation and creativity, systems thinking and self-reliance
- apply the steps involved in a research process
- embark on training programmes at postgraduate level

### 3. Teaching and Learning Methods

This programme is taught through lectures, tutorials, online activities, laboratory practical classes, visits and student-led seminars. It will also include self-study learning (e.g., directed learning, student group work, preparation of reports, case studies) and other learning activities (e.g. self-independent learning, individual reading, use of the library, online learning, preparing for exams).

### 4. Entry Requirements

#### *General Requirements*

In accordance with General Entry Requirements for Admission to the University for Undergraduate Degrees.

#### *Programme Requirements*

SC : Credit in Mathematics and Chemistry/Biology

Two GCE 'A' Level passes in related approved Science subjects (Mathematics, Chemistry, Physics, Biology, Food Studies, Botany, Zoology, Computer Science or Computing)

### 5. Programme Duration

	<b>Normal (Years)</b>	<b>Maximum (Years)</b>
Degree	3.5	5.5

### 6. Minimum LCCS Credits required for Award of the Degree:-

#### **For Degree Award**

A student should have successfully completed a total of 6510 notional learning hours (216 LCCS Credits), inclusive of the practical training, as per the programme structure to be awarded the degree.

#### **For each academic year**

<b>Year of Study</b>	<b>Number of LCCS Credits (Total Learning Hours)</b>
1	74 (2220 Learning Hours)
2	74 (2220 Learning Hours)
3	50 (1500 Learning Hours)
4	18 (540 Learning Hours) + 30 learning hours for Professional Development module
<b>Total</b>	<b>216 (6480 Learning Hours) + 30 hrs for Professional Development module</b>

- Minimum 12 LCCS Credits/year subject to Section 5.
- Maximum 96 LCCS Credits/subject to Section 5.

## For Exit Award

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

- Students may exit with a **Diploma in Food Science and Technology** after having earned **120 LCCS Credits**.
- Students may exit with a **Certificate in Food Science and Technology** after having earned **60 LCCS Credits**.

## Break down of notional learning hours:

The total notional learning hours (i.e. students' workload) for the 3.5 year full time programme will be comprised of the following learning activities:

Teaching and Learning Activity	Total Learning Hours
Contact Teaching	910
Self-Study	1800
Other Learning	2720
<b>Total</b>	<b>6510</b>

## 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 2 - 2½ hours duration, carrying a weighting of 60 %, and Continuous Assessment carrying 40% of total marks. The module AGRI 10137Y(1) - Chemistry Fundamentals and Laboratory Techniques will carry a weighting of 50% for examination and 50% for Continuous Assessment. Continuous Assessment will be based on Class/Laboratory/Field Visits/Case Studies, and /or Assignments, and should include at least 1 Class Test per module.

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.

Assessment of the module Professional Development - AGRI 41001(1) will be based on continuous assessment of students throughout the module and/or submission of a portfolio and for satisfactory completion of the module, a minimum of 40% should be achieved.

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 and Internship which carry 18 LCCS Credits.

## 8. List of Modules

<u>Code</u>	<u>Module Name</u>	<u>Teaching Contact Hours</u>	<u>Self-Study Hours</u>	<u>Other Learning Activities (Hours)</u>	<u>Total Learning Hours</u>	<u>LCCS Credits</u>
AGRI 10128Y(1)	Basic Food Microbiology	40	80	120	240	8
AGRI 10135Y(1)	Biochemistry and Nutrition	60	120	180	360	12
AGRI 10136Y(1)	Food Chemistry and Food Analysis I	60	120	180	360	12
AGRI 10137Y(1)	Chemistry Fundamentals and Laboratory Techniques	40	80	120	240	8
AGRI 10138Y(1)	Basic Food Engineering	60	120	180	360	12
AGRI 10130Y(1)	Introductory Statistics	30	60	90	180	6
AGRI 10139Y(1)	Introduction to Modern Farming	30	60	90	180	6
AGRI 10140Y(1)	Introduction to Management in Food Industries	30	60	90	180	6
AGRI 11530(1)	Effective Scientific Communication: Principles and Practice I	20	40	60	120	4
AGRI 20142Y(3)	Unit Operations in Food Processing	30	60	90	180	6
AGRI 20143Y(3)	Molecular Biology	30	60	90	180	6
AGRI 20144Y(3)	Statistical Methods for Food Scientists	30	60	90	180	6
AGRI 20145Y(3)	Food Chemistry and Food Analysis II	60	120	180	360	12
AGRI 20146Y(3)	Food Processing	60	120	180	360	12
AGRI 20147Y(3)	Food Economics and Marketing	30	60	90	180	6
AGRI 20148Y(3)	Food Quality Management	30	60	90	180	6
AGRI 20149Y(3)	Food Safety Management	30	60	90	180	6
AGRI 20150Y(3)	Food Hygiene	30	60	90	180	6
AGRI 20151Y(3)	Sensory Analysis	30	60	90	180	6
AGRI 22790(3)	Effective Scientific Communication: Principles and Practice II	10	20	30	60	2
AGRI 30125Y(5)	Food Legislation	30	60	90	180	6
AGRI 30126Y(5)	Developments in Food Science and Technology	30	60	90	180	6
AGRI 30127Y(5)	Instrumentation and Process Control in the Food Industries	30	60	90	180	6
AGRI 30128Y(5)	Water and Waste Management in Food Industries	30	60	90	180	6
AGRI 30129Y(5)	Postharvest Management	30	60	90	180	6
AGRI 30130Y(5)	Food Product Development	10	20	30	60	2
AGRI 30000Y(5)	Project				540	18
AGRI 41001(1)	Professional Development	10	0	20	30	0
AGRI 41000(1)	Internship				540	18
<b>TOTAL</b>		<b>910</b>	<b>1800</b>	<b>2720</b>	<b>6510</b>	<b>216</b>

9. Programme Plan – BSc (Hons) Food Science and Technology (with 6-month internship)

YEAR 1

<u>Code</u>	<u>Module Name</u>	<u>Teaching Contact Hours</u>	<u>Self-Study Hours</u>	<u>Other Learning Activities (Hours)</u>	<u>Total Learning Hours</u>	<u>LCCS Credits</u>
AGRI 10128Y(1)	Basic Food Microbiology	40	80	120	240	8
AGRI 10135Y(1)	Biochemistry and Nutrition	60	120	180	360	12
AGRI 10136Y(1)	Food Chemistry and Food Analysis I	60	120	180	360	12
AGRI 10137Y(1)	Chemistry Fundamentals and Laboratory Techniques	40	80	120	240	8
AGRI 10138Y(1)	Basic Food Engineering	60	120	180	360	12
AGRI 10130Y(1)	Introductory Statistics	30	60	90	180	6
AGRI 10139Y(1)	Introduction to Modern Farming	30	60	90	180	6
AGRI 10140Y(1)	Introduction to Management in Food Industries	30	60	90	180	6
AGRI 11530(1)	Effective Scientific Communication: Principles and Practice I	20	40	60	120	4
<b>TOTAL</b>		<b>370</b>	<b>740</b>	<b>1110</b>	<b>2220</b>	<b>74</b>

YEAR 2

<u>Code</u>	<u>Module Name</u>	<u>Teaching Contact Hours</u>	<u>Self-Study Hours</u>	<u>Other Learning Activities (Hours)</u>	<u>Total Learning Hours</u>	<u>LCCS Credits</u>
AGRI 20142Y(3)	Unit Operations in Food Processing	30	60	90	180	6
AGRI 20143Y(3)	Molecular Biology	30	60	90	180	6
AGRI 20144Y(3)	Statistical Methods for Food Scientists	30	60	90	180	6
AGRI 20145Y(3)	Food Chemistry and Food Analysis II	60	120	180	360	12
AGRI 20146Y(3)	Food Processing	60	120	180	360	12
AGRI 20147Y(3)	Food Economics and Marketing	30	60	90	180	6
AGRI 20148Y(3)	Food Quality Management	30	60	90	180	6
AGRI 20149Y(3)	Food Safety Management	30	60	90	180	6
AGRI 20150Y(3)	Food Hygiene	30	60	90	180	6
AGRI 20151Y(3)	Sensory Analysis	30	60	90	180	6
AGRI 22790(3)	Effective Scientific Communication: Principles and Practice II	10	20	30	60	2
<b>TOTAL</b>		<b>370</b>	<b>740</b>	<b>1110</b>	<b>2220</b>	<b>74</b>

**YEAR 3**

<b><u>Code</u></b>	<b><u>Module Name</u></b>	<b>Teaching Contact Hours</b>	<b>Self-Study Hours</b>	<b>Other Learning Activities (Hours)</b>	<b>Total Learning Hours</b>	<b><u>LCCS Credits</u></b>
AGRI 30125Y(5)	Food Legislation	30	60	90	180	6
AGRI 30126Y(5)	Developments in Food Science and Technology	30	60	90	180	6
AGRI 30127Y(5)	Instrumentation and Process Control in the Food Industries	30	60	90	180	6
AGRI 30128Y(5)	Water and Waste Management in Food Industries	30	60	90	180	6
AGRI 30129Y(5)	Postharvest Management	30	60	90	180	6
AGRI 30130Y(5)	Food Product Development	10	20	30	60	2
AGRI 30000Y(5)	Project				540	18
<b>TOTAL</b>		<b>160</b>	<b>320</b>	<b>480</b>	<b>1500</b>	<b>50</b>

**YEAR 4**

<b><u>Code</u></b>	<b><u>Module Name</u></b>	<b>Teaching Contact Hours</b>	<b>Self-Study Hours</b>	<b>Other Learning Activities (Hours)</b>	<b>Total Learning Hours</b>	<b><u>LCCS Credits</u></b>
AGRI 41001(1)	Professional Development	10	0	20	30	0
AGRI 41000(1)	Internship				540	18
<b>TOTAL</b>		<b>10</b>	<b>0</b>	<b>20</b>	<b>570</b>	<b>18</b>

