The Department of Life Sciences

"BIOLOGY- THE SCIENCE OF LIFE"

The University of the West Indies,
Mona Campus

The Department of Life Sciences

.....is one of the largest departments in the Faculty of Pure and Applied Sciences with

- **~1000** undergraduates
- **57** graduate students
- **14** full time academic staff
- **30** support (technical and ancillary) staff.

Two Marine Labs

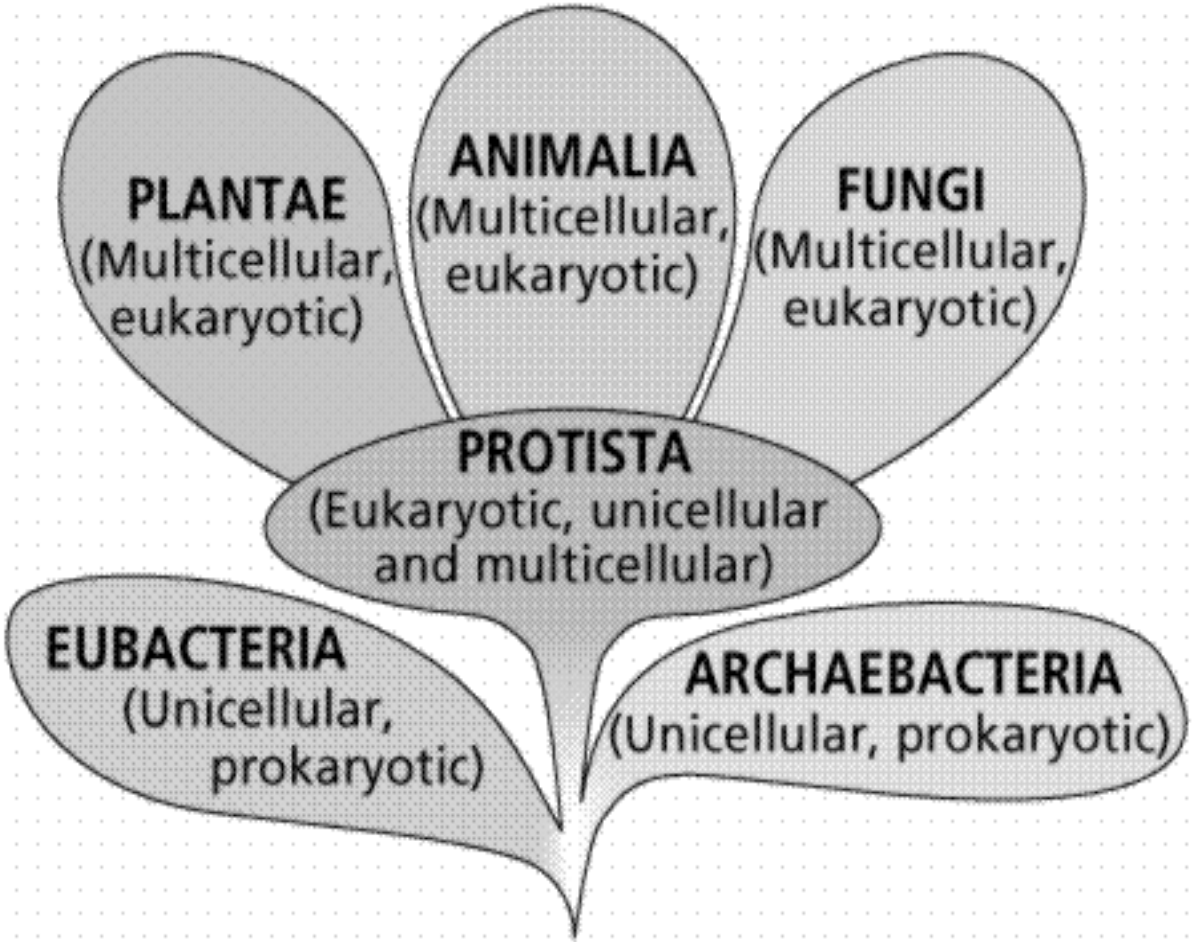
PRML & DBML

Aims and Objectives of The Department of Life Sciences

- **Students will possess advanced knowledge and training in one or more areas of Biology with more specific subject-related skills in one of these.**
- **Students will develop significant information gathering and analytical skills.**
- **Students will be able to take a critical approach to any biological/environmental problems which they may encounter.**
- **The course of study undertaken will form a sound base for further academic or professional advancement.**

The courses taught in the Department

are designed to provide a solid foundation in the **morphology**, **physiology** and **ecology** of organisms in the **six Kingdoms of life** and the **Environments** in which they live.



Progress through a degree in Life Sciences

Preliminary Biology
≡ CAPE / A Level

Level 1: 12 credits of Biology (+ 12 other)
Introductory : Suitable for all students of Pure and Applied Sciences who need to know some Biology

Level 2: 30 credits
Core courses- for all students wishing to do a Life Science Major/Minor

Level 3: 33 - 42 credits based on Major (+= 60)
"Happy year"- lots of special courses to choose from.
(see next slide for examples)

Programme changes in Life Sciences

- Based on the (2006/07 Q/A Review):

  - **FOUR LEVEL I Courses- Each three credits = 12 credits (in effect since 2010/11 Academic Year.)**
    - **Level I tutorials are compulsory and tutorial assignments contribute towards coursework grade (since 2010/11 A.Y.)**

  - New Level 2 courses are all 3 credits each = 30 credits (since 2011/12)
  - New majors and BSc. programmes for first year students. (since 2011/12)
  - New and Revised 3-credit courses at Final year. (as of 2012/13)

BSc Programmes/Majors/Minors in Life Sciences

- **BSc in Environmental Biology**
- **BSc in Experimental Biology**
- **Majors:**
  - Animal Biology,
  - Applied Plant Sciences,
  - Horticulture,
  - Marine Biology,
  - Terrestrial and Freshwater Biology
- **Minors:** Conservation Biology, Human Biology, Plant Sciences

- **Option:** Biology with Education

Life Sciences Curriculum

Preliminary level

BIOL0011- Preliminary Biology 1
BIOL0012 – Preliminary Biology 2

Level 1

CELL BIOLOGY	MOLECULAR BIOLOGY & GENETICS
LIVING ORGANISMS 1	LIVING ORGANISMS 2

Level 2 2011/12

10 courses

BOTN2401- Plant Form	BIOL2401- Research skills and Practices in Biology	BIOL2408 – Evolution
BIOL2406 – Eukaryotic Microbiology		BIOL2402 –Biometry
BIOL2404- Genetics	BIOL2403 - Principles of Ecology	ZOOL2401 – Animal Form
BOTN2402 – Physiology of Plants		ZOOL2402 – Animal Physiology

Level 3 (2012/13)- Semester 1

EVENINGS	C1	C2	A1	A2	B1	C1
AGSL2401 **Soil and Water Mgmt.**	**MICR3400** **Environ-mental Micro-biology**	BIOL3403 The Biology of Soil	BOTN3401 Principles of Plant Bio-technology	ZOOL3404 Parasitology	ZOOL3409 Aquaculture	BIOL3407 Oceanography
AGCP3405 Landscape and Turf grass	ZOOL3407 Human Biology	**BIOL3402** **Mycology**	BOTN3402 Introduction to Plant Breeding	ZOOL3403 Entomology	BOTN3406 Tropical Forest Ecology	BIOL3408 Coastal Ecosystems

Level 3 Semester 2

AGCP3407 Postharvest Technology-	**BIOL3410 Water Pollution Biology**	BIOL3404 Principles of Virology	BOTN3403 Horticulture	ZOOL3406 The Immune System	BIOL3406 Freshwater Ecology	BIOL3409 Caribbean Coral Reefs
AGCP3406 Fruit Crop Production	**ZOOL3405 Vertebrate Biology**	BOTN3405 Plant Eco-Physiology	BOTN3404 Economic Botany	BIOL3405 Pest Ecology and Mgmt.	BIOL3400 Principles of Conservation Biology	ZOOL3408 Sustainable Use of Fishable Resources
EVENINGS 5 – 9 p.m.	SEMESTER 2 ZOOL3410 Current Topics in Applied Animal Biology (seminars) **R.ROBINSON**					

BIOL3412 Internship **BIOL2407- Diving Technology for aquatic sciences- (Summer Schl)**

4- Credit Courses:
AGBU3012 Research Project **AGBU3008 Internship** **BIOL3018 Project**

Majors/Minors/BSc. Programmes in Life Sciences

- **Majors:**
  - Animal Biology,
  - Applied Plant Sciences,
  - Horticulture,
  - Marine Biology,
  - Terrestrial and Freshwater Biology
- **Minors:** Conservation Biology, Human Biology, Plant Sciences
- **BSc in Environmental Biology**
- **BSc in Experimental Biology**
- **Option:** Biology with Education

The Animal Biology Major (36)

Human Biology; Parasitology; Immunology
Entomology; Advanced topics in Applied Animal Sciences

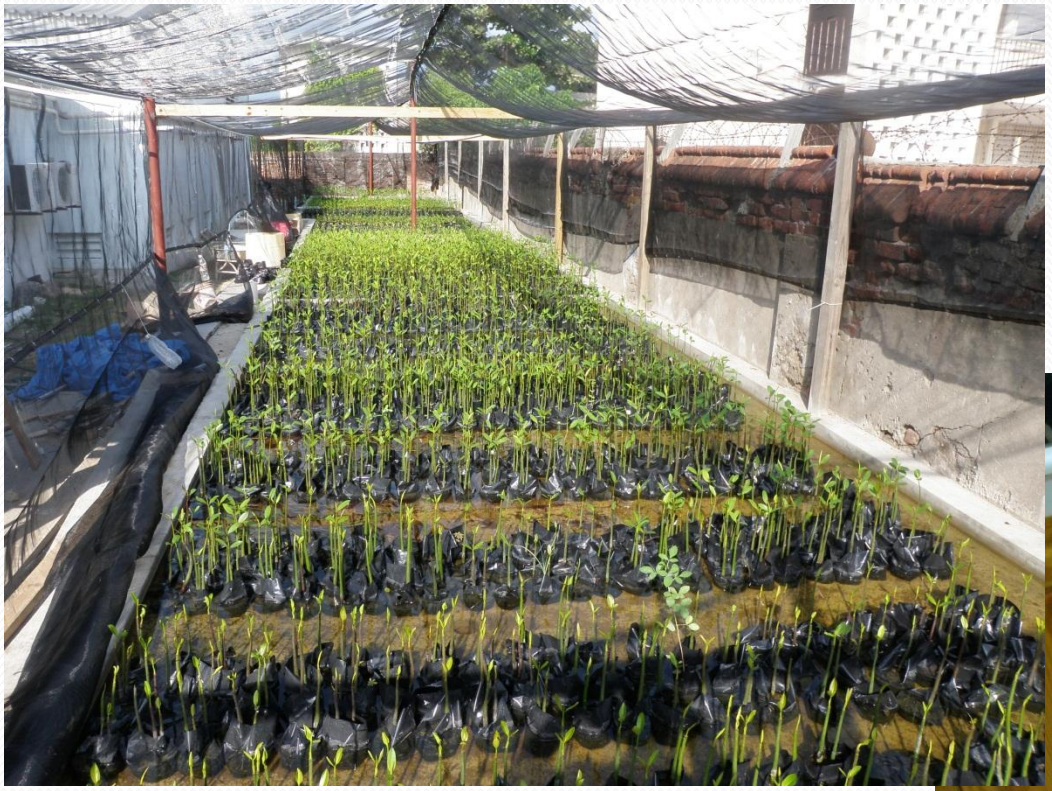
The Applied Plant Sciences Major (36)

Medicinal & Economic Botany; Forest Ecology & Conservation
Plant Biotechnology; Plant Breeding; Plant-Pest Interactions

The Marine Biology Major (33)

Oceanography; Caribbean Coral Reefs; Coastal Ecosystems; Sustainable use of Marine Fisheries; Diving for Marine Biologists; Aquaculture

Major in Horticulture (42)



Landscape and Turfgrass Production; Management of Soil; Post-Harvest Technology
Fruit Crop Production
Internship; Research Project

Plant Breeding, Pest Ecology and Management; Medicinal and Economic Botany;
Principles of Plant Biotechnology

Terrestrial and Freshwater Biology Major (33)

Freshwater Ecology;
Tropical Forest Ecology;
Conservation Biology;

BSc. in Environmental Biology (63)

Combines: Terrestrial and Freshwater Biology courses & Marine Biology courses.

Endangered habitats- on land

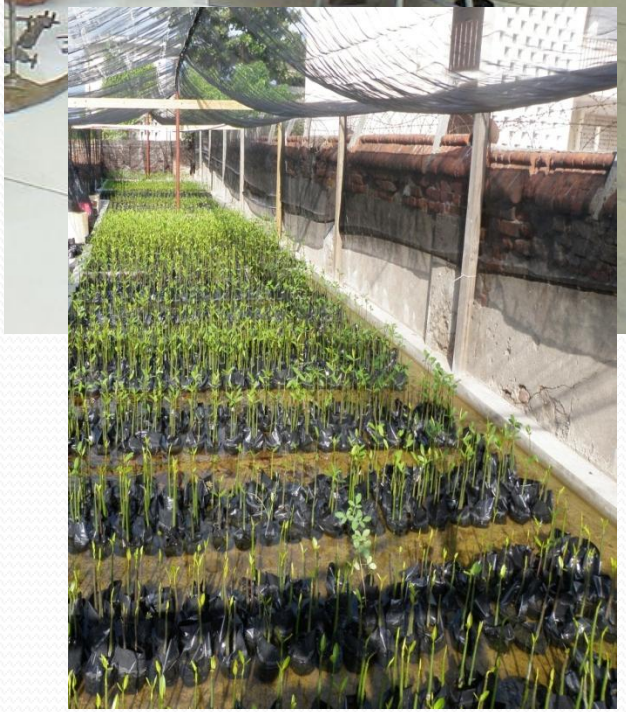
Marine/coastal habitats

BSc. in Environmental Biology (63)

Endangered species

B.Sc. in Experimental Biology (63)

B.Sc. in Experimental Biology (63)



33 credits of final year courses which must be chosen from :
GROUP A
BIOL3404 Principles of Virology**
BIOL3405 Pest Ecology and Management
BIOL3402 Biology of Fungi**
BIOL3403 The Biology of Soil
GROUP B
BOTN3401 Principles of Plant Biotechnology
BOTN3402 Introduction to Plant Breeding
BOTN3403 Fundamentals of Horticulture
BOTN3404 Economic Botany
BOTN3405 Plant Ecophysiology
GROUP C
ZOOL3403 Entomology
ZOOL3404 Parasitology
ZOOL3407 The Human Organism
ZOOL3405 Vertebrate Biology**
ZOOL3406 Immunology
Plus
BIOL3018 Project (4 cr.) OR BIOL3412 Internship (3 cr.)

Biology with Education Option (63)

All second year courses: exposure to the advanced core courses- foundation to teach at the high school level

Career options with a degree from the Department of Life Sciences

- The Department of Sciences degree programme is designed to prepare students for careers in several very broad areas.

Marine Biologist	Teacher/ Lecturer	Entrepreneur/ Private Farmer	Tissue culture specialist	Fishery Biologist
Plant Pathologist	Fruit Specialist	Conservation Biologist	Forest Ecologist	Freshwater Biologist
Landscaper	Soil Scientist	Entomologist	Parasitologist	Nematologist

Other career options

Agronomist	Medicinal Botantist	Animal Geneticist	Animal/ Plant Breeder	Forester
Policy Planner	Marketing specialist	Environmental Law	Agribusiness Manager	Weed Scientist
Coastal Manager	Veterinarian	Food Technologist	Forensic Botantist/ Entomologist	Plant Protection Officer
Post-harvest Technologist	Agricultural Banker	Environmental Consultant	Ornamental Horticulturalist	Extension Officer

Other career options

Agro-Environmentalist	Human Ecologist	Museum Curator	Medical Entomologist
Farm Manager	Taxonomist	Paleobotanist	Paleozoologist
Public Health Officer	Biomedical Molecular Biologist	Veterinary Parasitologist	Medical Parasitologist
Forensic Molecular Biologist	Animal Nutritionist	Commercial Crop Researcher	**Biological Research**

The Distinctive UWI graduate

- **Critical and creative thinker**
- **Problem solver**
- **An effective communicator**
- **Knowledgeable and informed**
- **Competent**
- **A team player**
- **IT skilled and literate**
- **Socially and culturally responsive**
- **Ethical**
- **Innovative and Entrepreneurial**
- **Lifelong self-motivated learner**