

Course Description

The Bachelor of Science Degree in Applied Science focuses on applied practical scientific methods. All options are highly analytical in nature and involve strong communication skills and use of knowledge-based systems. The course is designed to produce graduates who, upon graduation are equipped to contribute at the planning and research level. They will be able to collect, analyze and interpret data and findings in a variety of fields. The graduates of the course will demonstrate an awareness of the importance of integrity, ethics and professionalism in the execution of their profession.

Course Goals

On the completion of the course, graduates will be well rounded individuals with the ability to (depending on their option):

1. Lead teams responsible for research design and planning Environmental projects and teams engaged in industrial analysis.
2. Initiate collaboration on acquisition of results to achieve practical solutions to environmental and industrial problems.
3. Demonstrate expertise in conducting procedures to ensure Quality Assurance.
4. Benefit from the opportunities available for graduate studies locally and abroad.

Course Objectives

The course is designed to prepare graduates with the competencies to:

1. Apply the techniques of experimental design to research and to current situations in environmental and industrial analytical problems.
2. Identify the possible model systems from their training that may be used to answer the questions.
3. Evaluate environmental problems or industrial situations and provide solutions.
4. Present scientific results and conclusions in a language understood by the non-Scientist.
5. Prepare articles acceptable for publication in applied and technical scientific journals.

6. Conduct graduate studies up to the doctoral level.

Course Design

There are three options in the Applied Science Degree:
Environmental Science
Industrial and Analytical Chemistry
Forensic Chemistry

This course of study is composed of 121 credit hours for both the Environmental Science (ES) option and the Industrial and Analytical Chemistry (IAC) option and 125 credit hours for the Forensic chemistry option

This is accomplished over eight (8) fifteen (15) week semesters. Full or part-time registration per semester will depend on the number of modules the student registers for. A student registering for less than X credits will be considered as a part-time student.

Course Structure

Year 1-Semester 1

Module	Hours per Semester			
	The	Tut	Lab	Cr
Academic Writing 1	-	45	-	3
Introduction to Ethics	30	15	-	3
Information Technology	15	15	45	3
College Mathematics 1B	30	30	-	4
Fundamentals of Chemistry	30	15	45	4
Preliminary Physics I	30	15	45	4
Community Service Project	-	-	45	1
Sub Total:				22

Year 1-Semester 2

Module	Hours per Semester			
	The	Tut	Lab	Cr
General Biology	30	15	45	4
Preliminary Physics II	30	15	45	4
Calculus 1	30	15	-	3
Introduction to the Physical Environment	45	-	-	3
Sub Total:				14
Total for Year 1:				36

Year 2-Semester 1

Module	The	Hours per Semester		
		Tut	Lab	Cr
General Chemistry 1	45	15	-	4
General Chemistry Laboratory 1	-	-	45	1
Academic Writing 2	-	45	-	3
Introductory Statistics 1	30	15	-	3
Sub Total:				11

Year 2-Semester 2

Module	The	Hours per Semester		
		Tut	Lab	Cr
Analytical Chemistry	30	15	45	4
General Chemistry 2	45	15	-	4
General Chemistry Laboratory 2	-	-	45	1
University Elective	15	30		3
Introduction to Forensic Science	30	15	45	4
Sub Total:				16
Total for Year 2:				27

Year 3-Semester 1

Module	The	Hours per Semester		
		Tut	Lab	Cr
Introduction to Forensic Chemistry	30	15	45	3
Organic/Medicinal chemistry	30		45	3
Legal Ethics for Forensic Scientists	30	15	-	3
Introduction to Forensic Computing	15		45	2
Fibre Analysis	30		45	3
Sub Total:				14

Year 3-Semester 2

Module	The	Hours per Semester		
		Tut	Lab	Cr
Crime Scene Investigation	30		45	3
Substances of Abuse	30		45	3
Chemical Identification Techniques t	30		45	3
Research Methodology	30	15	-	3
Introduction to DNA Profiling	30		45	3
Sub Total:				15
Total for Year 3:				29

Summer Work Experience/Externship: 6 WEEKS 3 Credits

Year 4-Semester 1

Module	Hours per Semester			
	The	Tut	Lab	Cr
Elective (Crime Scene Documentation, Bodies of Evidence, Environmental Forensics and Human ID)	30	15	-	3
Fire and Explosion Investigation	30		45	3
Criminalistics	30	15	45	4
Advanced Forensic Analytical Methods	30	15	45	4
Sub Total:				14

Year 4-Semester 2

Module	Hours per Semester			
	The	Tut	Lab	Cr
Ballistics	30	15	45	4
Drugs and Toxicology	30		45	3
Entrepreneurial Skills	15	30	45	4
Methods of Chemical and Toxicological Analysis	30		45	3
Sub Total:				14
Year 4 Total				28
Course Grand Total:				120

Entry Requirements

Applicants must satisfy the following:

- Five passes at the CSEC General Proficiency Level with grades 1, 2 or Grade 3 as of June 1998, or at GCE 'O' Level with grades at A, B or C which must include English Language and Mathematics and at least 2 Science subjects from the following list: Chemistry, Physics, Biology, Geography, Geology, Integrated Science.
- An Interview is required.
- Candidates with other types of academic qualifications will be evaluated in accordance with the University's regulations governing academic equivalence.
- Persons seeking advanced placement will need to present appropriate documents in order to obtain exemptions. Entry through a Prior Learning Assessment route is available to persons with experience in the appropriate subject areas. Persons who graduated with the Associate Degree in Laboratory Technology and Diploma in

Chemical Technology will matriculate provided that they have a GPA of 3.0 or results corresponding to a Grade B. They will also be eligible for exemptions from equivalent modules.

Certifications

On successful completion of the course of study, the graduate will receive the Bachelor of Science in Applied Science with a major in Industrial & Analytical Chemistry.

Career Opportunities

Graduates of the course should find employment as Forensic Chemists and Technologists in the private and public sectors.

The graduates in Industrial & Analytical Chemistry would have the invaluable scientific skills and could add the appropriate business training to start their own businesses. With the high demand for improved environmental practices and for quality in commercial products, and services, the enterprising graduates can create their own profitable employment opportunities.

Applications

Application forms are available from the Admissions Office of the University of Technology, Jamaica. Applications should be completed and returned on or before the stated deadline (stated on the annual brochures) and be addressed to:

The Admissions Officer
University of Technology, Jamaica
237 Old Hope Road
Kingston 6

Phone: (876) 927-1680-8 or
Fax: (876) 927-1925, 977-4388

Visit our website: www.utechjamaica.edu.jm

Any further inquiries can be addressed to:

The **Programme Director**
Bachelor of Applied Science
Faculty of Science and Sport
University of Technology, Jamaica
237 Old Hope Road, Kingston 6
Telephone: (876) 927-1680-8 Ext. 2314/2329
Fax: (876) 927-1699



University of Technology,
Jamaica

Faculty of Science and Sport

School of Natural and Applied
Science



Bachelor of Science Degree
in
Applied Science
Forensic Chemistry Option
Full-Time & Part Time