5.2 BIOMEDICINE

Introduction

The Biomedicine programme is a 4 years or 8 semesters full time programme. At the end of the programme, graduates are awarded the Bachelor of Health Science (Biomedicine).

The programme is multidisciplinary in nature and allows students to explore the latest information and technology in the fields of Biomedical Sciences. It encompasses all aspects of laboratory diagnosis, disease prevention and research in the fields of Biomedical Sciences. Industrial training, Biomedical Practicum and Research Project are introduced in the final stage of the studies to equip the students with the knowledge and skills in the diagnostic and clinical laboratory, disease prevention and research fields.

This programme is carefully designed to cater for the manpower requirements of both the private and public sectors of the nation. The curriculum takes cognizance of the need to be proactive in its approach, whereby curricula of institutions from the US, Europe and Australia were used as benchmarks. This is to ensure that the curriculum is of quality and of high standards capable of producing graduates who are competent and globally competitive.

List of Core Courses in the Biomedicine Programme

No.	Course Code	Title of Core Courses in the Biomedicine Programme	Unit
1.	GTU101/3	Structure and Function of Humans I	3
2.	GTU103/3	Fundamentals of Health Informatics	3
3.	GTU104/3	Structure and Function of Humans II	3
4.	GTU106/3	Biochemistry and Basic Genetics	3
5.	GTB105/3	Human Biochemistry	3
6.	GTB106/3	Laboratory Science	3
7.	GTB109/3	Cell Biology Techniques	3
8.	GTB204/3	Molecular Biology Techniques	3
9.	GTB212/3	Basic Microbiology	3
10.	GTB218/3	Immunology II	3
11.	GTB219/3	Pharmacology I	3
12.	GTB221/3	Basic Haematology	3
13.	GTB222/4	Pathology	4
14.	GTB224/3	Immunology I	3
15.	GTB225/3	Epidemiology	3
16.	GTU301/3	Ethics and Law for the Health Professionals	3
17.	GTU302/3	Biostatistics	3
18.	GTU304/3	Research Methodology	3
19.	GTB307/3	Medical Parasitology	3
20.	GTB310/3	Clinical Biochemistry	3

No.	Course Code	Title of Core Courses in the Biomedicine Programme	Unit
21.	GTB316/3	Transfusion Science and Blood Banking	3
22.	GTB317/3	Clinical and Laboratory Haematology	3
23.	GTB318/3	Pharmacology II	3
24.	GTB319/3	Toxicology	3
25.	GTB320/3	Medical Virology and Mycology	3
26.	GTB321/3	Clinical Diagnostic Laboratory Management	3
27.	GTB322/3	Medical Bacteriology	3
28.	GTB408/9	Biomedical Practicum	9
29.	GTB411/8	Research Project	8
30.	GTB412/10	Industrial Training	10
	Total Credit Unit of Core Courses		**109**

At the completion of the programme, graduates will be able to:

PO1: Apply core knowledge in biomedical sciences and display theoretical and practical skills in diagnosis and research.

PO2: Perform laboratory diagnostic tests based on standard protocols; manage diagnostic and/or research laboratories; perform research projects under supervision; and utilise up-to-date information and communication technologies.

PO3: Demonstrate and apply critical and creative thinking skills in solving problems and making decisions in diagnostic laboratories.

PO4: Apply communication skills at working environment in a diagnostic laboratory, medical and research institutions.

PO5: Work in groups to solve health-related problems and participate as a team player in community healthcare and services.

PO6: Demonstrate ethics and professional values in performing diagnostic and solving problems in laboratory investigations.

PO7: Apply lifelong education and ICT skills to enhance laboratory services and research in biomedical sciences.

PO8: Apply management skills and display entrepreneurship skills in biomedical fields and relevant professions.

PO9: Demonstrate and apply leadership skills through active involvement in activities related to teaching, service and research in biomedical sciences.

Recommended Registration Guidelines for the Core Courses of the Biomedicine Programme

Code	Core Courses	Unit	Code	Core Course	Unit
	Year 1 Semester 1			**Year 1 Semester II**	
GTU101/3	Structure and Function of Humans I	3	GTU104/3	Structure and Function of Humans II	3
GTU106/3	Biochemistry and Basic Genetics	3	GTB105/3	Human Biochemistry	3
GTU103/3	Fundamentals of Health Informatics	3	GTB109/3	Cell Biology Techniques	3
GTB106/3	Laboratory Science	3			
		12			9

Code	Core Courses	Unit	Code	Core Course	Unit
	Year 2 Semester 1			**Year 2 Semester II**	
GTB204/3	Molecular Biology Techniques	3	GTB212/3	Basic Microbiology	3
GTB221/3	Basic Haematology	3	GTB218/3	Immunology II	3
GTB224/3	Immunology I	3	GTB219/3	Pharmacology I	3
			GTB225/3	Epidemiology	3
			GTB222/4	Pathology	4
		9			16

Recommended Registration Guidelines for the Core Courses of the Biomedicine Programme

Code	Core Courses	Unit	Code	Core Course	Unit
	Year 3 Semester 1			**Year 3 Semester II**	
GTU301/3	Ethics and Law for the Health Professionals	3	GTU302/3	Biostatistics	3
GTB317/3	Clinical and Laboratory Haematology	3	GTU304/3	Research Methodology	3
GTB318/3	Pharmacology II	3	GTB307/3	Medical Parasitology	3
GTB319/3	Toxicology	3	GTB310/3	Clinical Biochemistry	3
GTB321/3	Clinical Diagnostic Laboratory Management	3	GTB316/3	Transfusion Science and Blood Banking	3
GTB322/3	Medical Bacteriology	3	GTB320/3	Medical Virology and Mycology	3
		18			18

Code	Core Courses	Unit	Code	Core Course	Unit
	Year 4 Semester 1			**Year 4 Semester II**	
GTB408/9	Biomedical Practicum	9	GTB411/8	Research Project	4
GTB411/8	Research Project	4	GTB412/10	Industrial Training	10
		13			14