Biosystems Technology Degree Program – Faculty of Technology

Main Objectives

1. To offer a quality degree programme for students who enter the university through Advanced Level Biosystems Technology stream.
2. To produce graduates qualified to be professional Biosystems Technologists locally as well as internationally.
3. To provide expertise to design, develop and manage Biosystems in modern working environment.
4. To provide qualified manpower to enhance the productivity, quality, efficiency and sustainability of local industries through the use of relevant technologically developed Biosystems.
5. To produce technologists with broad knowledge on Biosystems.
6. To produce graduates qualified to teach in the Biosystems Technology streams in schools and in Technical Colleges and to transfer the knowledge in technology to the society.

Specific objectives

The curriculum of this degree programme focuses on producing Technologists with the knowledge and technical expertise on Biosystems in Agricultural, Biomedical, Bioprocessing and Environmental fields. Relevant knowledge on Basic Science and Statistics, soft skills, ICT, entrepreneurship and basic management would be provided through the relevant course units. This degree programme will focus on providing broad knowledge on the following specific areas.

i. Agricultural systems & Food production: Developing new farming and industry machinery for the production and harvesting of raw materials for food and beverages.
ii. Food Processing: Developing efficient systems and equipment to process, handle and to ensure the quality and taste of the food and health and safety of production.
iii. Biomaterials: Developing biomaterial production systems for the bio-energy and construction industries such as fuel crops or timber for furniture.
iv. Environmental Engineering: Developing renewable energy resources, designing systems for sustainable development and environmental protection and preservation including pollution control and recycling systems.
v. Research & testing: Developing and testing food production methods, testing products and systems to ensure achievement of quality requirements.

Course Structure (Bachelor of Biosystems Technology)

Level I Semester I

Module code	Module name	Complementary Studies
BST1112	Information Technology I	ENG1110: English I
BST1122	Basic Mathematics	
BST1132	General Biology	
BST1142	Plant Physiology	
BST1152	Animal Physiology	
BST1162	Introduction to Environmental Science	
BST1171	Analytical Chemistry	
BST1181	Thermodynamics	

Level I Semester II

Module code	Module name	Complementary Studies
BST1212	Information Technology II	ENG1210: English II (teaching 2-hours per week)
BST1222	Electronics for Biosystems Technology	
BST1232	Basic Organic Chemistry	
BST1242	Basic Biochemistry	
BST1251	Introduction to Genetics	
BST1262	Basic Microbiology	
BST1272	Fundamentals of Fisheries Biology	
BST1282	Fundamentals in Agriculture	

Level II Semester I

Module code	Module name	Complementary Studies
BST2112	Application of Biosystems Technology	TCS2112: Business Economics
BST2123	Engineering Properties of Biomaterials	TCS2122: Soft Skills
BST2132	Bioprocessing Technology	ENG2110: English III
BST2142	Bioenergy Systems	
BST2152	Bio-separation Processes	
BST2162	Biomechanics	

Level II Semester II

Module code	Description	Complementary Studies
BST2213	Technological Perspectives in Conservation of Biosystems and Biodiversity	TCS2212: Fundamentals of Management
BST2222	Geoinformatics and Biosystems	TCS2221: Ethics for Technologists
BST2232	Indigenous Knowledge in Biosystems Management	ENG2210: English IV
BST2242	Nano-technology	
BST2253	Genetic Engineering	
BST2262	Statistical Applications in Biosystems Technology	

Level III Semester I

Module code	Description	Complementary Studies
BST3113	Environmental Monitoring and Waste Management	TCS3111: Safety and Risk Management
BST3123	Tissue Culture Technology	TCS3122: Accounting for Technologists
BST3133	Industrial Microbiology	TCS3131: Art and Tradition
BST3142	Laboratory Design and Equipment	TCS3142: Active Citizenship
		ENG3110: English V

Level III Semester II

Module code	Description	Complementary Studies
BST3216	Industrial Training	-

Food, Fisheries and Agriculture Technology

Level IV Semester I

Module code	Description	Complementary Studies
BSTF4113	Technological Perspectives of Food Processing and Packaging	TCS4111: Communication for Technologists
BSTF4122	Food Analyses and Quality Assurance	TCS4122: Creativity, Innovation & Entrepreneurship
BSTF4133	Fish Production Systems	TCS4131: Industrial Sociology
BSTF4143	Fisheries Technology	
BSTF4152	Horticulture Technology	

Level IV Semester II

Module code	Description	Complementary Studies
BSTF4212	Nursery Management Technology	TCS4211: Human Resources Management
BSTF4224	Crop and Livestock Systems	TCS4222: Operations Management for Technologist
BSTF4232	Postharvest Technology	TCS4234: Active Citizenship Community Group Project
BSTF4243	Farm Power and Machinery	

Natural Resources and Environmental Technology

Level IV Semester I

Module code	Description	Complementary Studies
BSTE4112	Soil Conservation and Land Management	TCS4111: Communication for Technologists
BSTE4122	Soil water and Drainage Management Technology	TCS4122: Creativity, Innovation & Entrepreneurship
BSTE4133	Landscape Design and Construction	TCS4131: Industrial Sociology
BSTE4142	Built Environments	
BSTE4152	Field Methods in Hydrology	
BSTE4162	Environmental Economics	

Level IV Semester II

Module code	Description	Complementary Studies
BSTE4213	Renewable Energy systems	TCS4211: Human Resources Management
BSTE4223	Forest Resources and Wood Science	TCS4222: Operations Management for Technologist
BSTE4233	Natural Products Development	TCS 4234: Active Citizenship Community Group Project
BSTE4242	Weather Models &Technology	