



HIGHER EDUCATION DIPLOMA IN FOOD TECHNOLOGY

PROGRAMME SUMMARY

SCHOOL OF APPLIED SCIENCES

COLLEGE OF ENGINEERING, SCIENCE AND TECHNOLOGY

2011

The Higher Education Diploma in Food Technology is a 2-year programme with additional 6 months of industrial attachment. The programme will equip students with the food processing and analysis skills and techniques needed to apply their knowledge effectively in a food industry.

Aims and Objectives

Aims

The Higher Education Diploma in Food Technology Programme aims to develop student's theoretical and practical knowledge and skills in food technology for application in broad range of food industries.

Objectives

Upon the completion of Higher Education Diploma in Food Technology Programme, students should be able to:

- 1) Assess the nutritional, quality and safety aspects of various raw and processed foods including meat, seafood, dairy, sugars and confections, fats and oils and carbohydrate foods
- 2) Apply the principles of ambient, heat and cold processing methods, their effects on food along with post processing operations for the processing and preservation of specific categories of foods and beverages.
- 3) Carry out analysis of various foods and beverages using proper experimental procedures.
- 4) Relate to local standards such as the Food Safety Act, Hazard Analysis and Critical Control Point, Codex Alimentarius, Good Manufacturing Practice.
- 5) Assess food products based on the microbial safety level and apply relevant control procedure to control its growth.
- 6) Design and Implement a workable HACCP plan.
- 7) Carry out research and develop new and innovative food products.

Order of Delivery

YEAR ONE

TRIMESTER ONE		TRIMESTER TWO		TRIMESTER THREE	
Unit Code	Unit Title	Unit Code	Unit Title	Unit Code	Unit Title
MTH 510	Elementary Algebra and Statistics	FDT 502	Nutrient Studies	EVG 501	Ethics Values and Governance 3
CHM 503	General Chemistry	LNG 501	English for Academic Studies	FDT 504	Food Biotechnology
BIO 508	Cell Biology	FDT 503	Food Microbiology		
CIN 506	Computer Principles	PHY 506	Introductory Physics		

YEAR TWO

TRIMESTER ONE		TRIMESTER TWO		TRIMESTER THREE	
Unit Code	Unit Title	Unit Code	Unit Title	Unit Code	Unit Title
FDT 605	Food Processing Technology I	FDT 606	Food Processing Technology II	FDT 602	Hazard Analysis Critical Control Point
FDT 603	Practical Food Microbiology	FDT 607	Food Engineering	FDT 604	Food Security
CHM606	Food Chemistry	ELECTIVE ONE			

ELECTIVE ONE: Choose either one of the level 6 units

Unit Code	Unit Title
CHM 601	Instrumental Chemistry
MTH 602	Statistical Mathematics

Students are required to undertake an industrial attachment in any food industry for a period of 6 months for successful completion of the programme.

FOOD TECHNOLOGY UNIT DETAILS

FDT502 Nutrient Studies

This course will provide students with an understanding of nutrient chemistry and functional properties in foods. It will also introduce students to the current nutritional problems and the role of the food manufacturers in combating this issue

FDT 503 Food Microbiology

This course will provide students provide students with a perspective of microbes as agents of food spoilage and illness. It also introduces methods of microbial control, laboratory techniques of microbial examination and food safety procedures.

FDT 504 Food Biotechnology

This unit introduces students to the recombinant DNA techniques used in molecular biology research to increase production, provide alternative food products and used as a diagnostic tool. The course also discusses the applications of this technology in the food industry, such as the application of enzymes in the brewing, meat, dairy and other industries. Probiotics and genetically modified foods together with ethical and environmental concerns of biotechnology are discussed.

FDT 602 Hazard Analysis Critical Control Point

This unit aims to equip students with the knowledge of developing and implementing a workable HACCP Plan.

FDT603 Practical Food Microbiology

This unit will equip students with the knowledge and skills to effectively and efficiently carry out microbial analysis of various foods through accurate selection of enumeration techniques, proper sampling, precise microbial analysis, result interpretation and presentation in conjunction with the required Food Standards and Legislations.

FDT 604 Food Security

The course provides a definition of food security and its relationship to the concepts of vulnerability, hunger, malnutrition and poverty. It also provides guidelines on how to interpret and use conceptual frameworks for food security analysis and illustrates how food prices relate to, and affect, food security and vulnerable households.

FDT 605 Food Processing Technologies I

This unit introduces students to technological methods used to process food and elucidate the related principles. It is also to explain ambient, heat and cold processing methods, equipments and effect on foods along with post processing operations.

FDT 606 Food Processing Technologies II

This unit aims to further the knowledge of students on the applications of food processing technologies for the processing and preservation of specific categories of foods and beverage. Also to teach students the stages and operations for manufacturing different categories of basic food products.

FDT 607 Food Engineering

The purpose of this unit is to provide students with a detailed study of numerous unit operations and a fundamental understanding of momentum heat and mass transfer relevant to food processing.