School	
Major	Bachelor of Science in Food Science Technology

Major Requirements			
Code	**Title**	**Credits**	**Description**
FDSC475	Food Engineering	3	Basic concepts and principals of food engineering and their applications; focus in engineering design and analysis of unit operations common to food processing. Prerequisite: FDSC 300
FDSC460	Food Service Management	3	It discuses techniques of management of functional operation of food service: Purchasing, budgets, and control management. It will focus on the development of small and large scale cooking skills, menu planning and standard recipe manipulation in keeping with dietary modifications. It will also develop the necessary skills and knowledge base to assist in and manage the provision of meals via an institutional food service. Aspects of organizational design, leadership, motivation, negotiation, resource management, marketing, production, safety and sanitation issues are discussed. Prerequisites: Management of organizations (Principles of management, introduction to management), NUTR 250, BMGT200
FDSC455	Meat, Fish and Poultry Technology	3	The chemistry, technology, and processing of meats, poultry, milk and milk products. Pre-requisite(s): FDSC455
FDSC445	Food Quality management and HACCP	3	A study of HACCP principles, CCP verification, HACCP plan validation and HACCP regulatory requirements. Prerequisite(s): Advisor□s Approval
FDSC435	Food Toxicants and Additives	3	A study of natural & man-made toxicants and the hazards they cause to human health. A survey of additives that are used in food preparation with emphasis on their impact on human health and regulation policies on their use. Pre-requisite(s): FDSC 370
FDSC425L	Food Processing Lab	1	This course involves laboratory exercises in food preservation and processing. Field trips to food plants to see the different procedures will be organized.
FDSC420	Food Processing	3	Industrial methods to prepare and preserve food are studied. It provides the students with different methods for food preservation and technology to improve chemical and physical properties of raw food. The effect of food processing on nutritional value, microbiological safety, chemical and physical qualities of food is discussed. It includes traditional basic food technology (drying, fermentation and pickling), thermal treatments (pasteurization, sterilization, canning, cooling, freezing, and dehydration), irradiation, and microwave technology. Field trips to food plants to see the different procedures are recommended. Prerequisites: FDSC 300, FDSC370
FDSC415	Dairy Technology	3	Basic principal of food quality control, quality assurance, and quality management in food service establishments and food industries; emphasis on modern concepts such as HACCP, ISO 9000 and Good Manufacturing practices. Prerequisite: FDSC 300
FDSC300	Technology of Food Products	3	Introduction to the different technologies involved in food production from raw materials to the end product. Application of biotechnology to the production of raw materials, as well as to the production, processing, storage, packaging, preparation of food products is briefly discussed. Different chemical, microbiological, and physical changes that occur to food are introduced. Prerequisites: ENGL 150
FDSC360	Crop production attributes to quality	3	This course discusses the crop production system and practices, in agronomy and horticulture, and how this affects the quality attributes set by the food industry.
FDSC365	Animal production attributes to quality	3	This course discusses the different animal production systems and practices, in aquaculture, poultry, dairy and beef production, and how this affects the quality attributes set by the food industry.

FDSC498	Supervised Training in Food Industries	1	A supervised student training in one or more food establishments or industries covering the food production, safety, and quality aspects.

General Education Requirements			
Code	**Title**	**Credits**	**Description**
ENGL251	Communication Skills	3	The objectives of this course are to improve students writing skills for academic purposes by developing effective use of grammatical structures; analytical and critical reading skills; a sensitivity to rhetorical situation, style, and level of diction in academic reading and writing; and competence in using various methods of organization used in formal writing.
ENGL201	Composition and Research Skills	3	This course focuses on the development of writing skills appropriate to specific academic and professional purposes; the analysis and practice of various methods of organization and rhetorical patterns used in formal expository and persuasive writing; the refinement of critical reading strategies and library research techniques; and the completion of an academically acceptable library research paper. Prerequisites: ENGL150, ENGL151.
CULT200	Introduction to Arab - Islamic Civilization	3	The purpose of this course is to acquaint students with the history and achievements of the Islamic civilization. Themes will include patterns of the political and spiritual leadership; cultural, artistic, and intellectual accomplishments Prerequisites: ENGL051, ENGL101, ENGL151.
CSCI200	Introduction to Computers	3	The course aims at making students competent in computer-related skills. It is supposed to develop basic computer knowledge by providing an overview of the computer hardware and basic components as well as hands-on practice on common software applications such as Word, Excel, Power Point, Internet and Email. The student will learn how to use the new features of Microsoft Office 2010 mainly Word documents, Excel spreadsheets and PowerPoint presentations. On the surface, MS Office 2010 looks a lot different than previous versions (no more menus__toolbars!), but by learning to understand the dramatically changed, Ribbon-based interface, you'll quickly get back on the road to productivity.
ARAB200	Arabic Language and Literature	3	This course is a comprehensive review of Arabic Grammar, Syntax, major literature and poetry styles, formal and business letters.

Core Requirements			
Code	**Title**	**Credits**	**Description**
NUTR250	Basic Nutrition	3	"Introduction to the science of nutrition. Study of the principles of nutrition and their application within the concepts of wellness, fitness and health, personal food choices, food groups and guides, choice of nutritionally balanced diets and diet planning, basic information about nutrients and energy and their sources, identifying truths and untruths among advertised claims of food products, in addition to the current controversial issues about supplementation and popular diets are discussed."
MATH245	Statistics for Health Sciences	3	General introduction to statistical methods used in the health, biological, biomedical sciences, pharmacy and medical sciences. Topics include research methods and design, descriptive statistics, performance characteristics of diagnostic tests, graphical methods, probability, estimation, hypothesis testing, p-values, regression and correlation, and clinical trials. Prerequisite: ENGL 150
FDSC300L	Technology of Food Products Lab	1	Application of laboratory methods to the chemical, physical, instrumental, and sensory analytical techniques in the analysis of nutrients and chemicals in Foods. The course covers the use of spectrophotometry, visible UV, IR, Chromatography (HPLC, GLC), and mechanical texture analysis.

FDSC370	Food Chemistry	3	Chemical composition of food. Structure and physical properties of food component, including water, carbohydrates, protein, lipids other nutrients, and food additives. Chemistry of changes occurring during processing, storage, and utilization. Prerequisites: BIOC 300
FDSC355	Food Microbiology II	3	Microbiological aspect of food preservation; beneficial utilization of microorganism in food applications; detection of microbial contamination and hazards of important public health. Prerequisite: FDSC 345
CHEM255L	Basic Organic Chemistry Lab	1	The laboratory work involves hands-on-experience in organic chemistry. Experiments include basic organic synthesis, alcohol dehydration, hydrocarbon crystallization and purification as well as characterization of organic functional groups.
CHEM255	Basic Organic Chemistry	3	This course is designed for non-majors. It provide an introduction to the structure, isomerism and chemistry of alkanes, alkenes and some representative functional groups such as alcohols, ethers, aldehydes, ketones, carboxylic acids, amines and amides. Prerequisite: CHEM 200.
CHEM200L	General Chemistry Lab	1	The laboratory work involves hands-on experience with chemical systems. Experiments include basic calorimetry, a limited qualitative and quantitative analysis scheme, properties of gases, acid-base and redox titrations. Co-requisites: CHEM 200
CHEM200	General Chemistry	3	Basic principles of chemistry, electronic structure of the atom, chemical periodicity, molecular structure and bonding, acids and bases and the states of matter, rates of chemical reactions, and chemical equilibrium are covered in this course. Prerequisites: ENGL 150; CHEM, or S grade on the Chemistry Placement Test Prerequisites: CHEM160, ENGL101. Co-requisites: CHEM200L.
BMGT200	Introduction to Business Management	3	The course focuses on how organizations operate in an era of rapid change, and the factors which determine how managers can operate effectively. Topics include the management function; the genesis of modern management; the development of management theory; the context in which managers operate; and managing organizations. The course integrates classical and modern concepts with a rich collection of contemporary real-world examples and cases. The course covers six major themes that guide the progress through the fascinating world of management, namely: Change, Skill development, Global economy, the Internet revolution, Diversity, and Ethics.
BIOL200L	General Biology I Lab	1	This lab course introduces principles of microscopy with emphasis on viewing different animal tissues and cells. A detailed study of the animal kingdom including evolution, classification, and anatomical morphology. Co-requisites: BIOL 200
BIOL200	General Biology I	3	An introductory level course to energy transfer through living organisms, cell biology, membrane transportations, genetics, human physiology, evolution, and morphology and physiology of organ systems, understanding diversity with emphasis on the animal kingdom and evolution. Protozoans are also studied. Prerequisites: ENGL 150; BIOL 150, or S grade on the Biology Placement Test
BIOC300	Biochemistry I (General)	4	An introduction to the chemistry of biologically important amino acids, proteins, carbohydrates, lipids, vitamins and hormones. Enzyme kinetics and catalysis, protein structure and function, and introduction to intermediary metabolism are also included. Prerequisite: BIOL & CHEM 250 or CHEM 255
FDSC355L	Food Microbiology II Lab	1	In this course the students learn how to conduct experiments to determine the Decimal reduction time and Z-value which are essential to calculate the total death time and thus affecting the total production time. Furthermore, they would learn how to test the local food products for microbiological hazards.
BIOL385	Microbiology	3	Characteristics of microorganisms and parasites - emphasizing mechanisms by which they cause disease in humans. Prerequisites: BIOL 200

BIOL385L	Microbiology Lab	1	Sterile techniques, media preparation, streaking, identification, isolation and purification of different bacterial strains are performed. Co-requisites: BIOL 385