ACADEMIC YEAR	Fall 2020-21		
Course Code & Title	FSHNF111 **Introduction to Food Science**		
Credit hours	3	**Level of study**	Bachelor of Science
College / Centre	College of Applied Science		
Co-requisites	NIL	**Pre-requisites**	CHEM 101, BIOL 101

1. COURSE OUTLINE

This course introduces students to important food science concepts and presents an introduction to the chemical, physical and microbiological nature of food and how these factors are manipulated to produce food that is safe and of high quality. This course begins with an overview of food science, describes the interdisciplinary nature of the field, and presents avenues of advanced study and career opportunities in the field. It then explores key food groups and composition and the functional properties of the major food components. It includes an overview of food law that provides historical perspectives as well as the latest information on food additives, nutrition, labeling, and food regulation. Through coverage of processing methods is included for all major food commodities as well as a background in microbiology and fermentation, food handling and safety, food contamination, HACCP principles, and toxicology []

2. AIMS

[This course aims to equip students with basic information necessary to understand technological aspects of industrial food manufacturing systems. It enables the student to apply biological, chemical and physical principles to the study of converting raw agricultural products into food products suitable for human consumption. A wide variety of topics ranging from physical and chemical properties of food components, food safety and quality, food processing, food engineering, etc., will be covered in order to equip students with all the required practical knowledge to understand food science as a scientific discipline. Students will be provided with case studies of recent food science problems including: visual aids; several summaries, study questions; references and other resources to learn more about the topic. Students will demonstrate their ability to understand various research methodologies used in food science; to understand basic concepts of food technology; to understand environmental issues related to food and to apply microbiological and chemical considerations to process controls.]

3. LEARNING OUTCOMES *(Definitive) and* TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes *(Definitive)* Upon successful completion of this course, students will be able to**:**	**Teaching and Learning methods *(Indicative)***	**Assessment *(Indicative)***
1. Understand food science as a discipline, recognize the role of food science in a changing world	Lectures and power point presentation/videos	Quizzes/Assignment/Exams
2. Become familiar with food	Lectures and power point presentation/videos	Quizzes/Assignment/Exams

ingredients and their functions, Identify major functional groups in food constituents and the properties the groups impart to food components		
3. Recognize some of the primary unit operations in food manufacturing systems, their principles of operation, and primary function	Lectures and power point presentation/videos	Quizzes/Assignment/Exams
4. Discuss the basic principles of food law and regulation and key aspects of food additives and nutritional labelling	Lectures and power point presentation/videos	Quizzes/Assignment/Exams
5 Become familiar with food safety issues, Define the broad scope of food engineering, Food product development	Lectures and power point presentation/videos	Quizzes/Assignment/Exams

4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Quiz1 and Quiz 2	20
Assignment	10
Online discussion & Participation	5
Mid Exam	25
Final Exam	40
TOTAL	**100%**

5. ACHIEVING A PASS

Students will achieve **03**credit hours for this course by passing **ALL** of the course assessments *]* and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)

	LECTURE TOPIC	TIME (HOURS)
1	Overview of Food Science	2

6. COURSE CONTENT (Indicative)		
	LECTURE TOPIC	**TIME (HOURS)**
2	Dimensions of Food science	3
3	Food processing industry	2
4	Food Chemistry -Carbohydrates	4
5	Food Chemistry- Fats, Proteins	5
6	Quality factors in foods	3
7	Human nutrition and food-	3
8	Understanding food processing	5
9	Understanding food preservation	4
10	Food additives	3
11	Food laws	3
12	Food microbiology	4
13	Food safety	3
14	Food Engineering	3
15	Food Product development	3
TOTAL HOURS		**45**
Plus **RECOMMENDED INDEPENDENT STUDY HOURS**		**15**

6. COURSE CONTENT (Indicative)

	LECTURE TOPIC	TIME (HOURS)
TOTAL COURSE HOURS		**60**

7. RECOMMENDED READING

Core text/s:

1. Understanding Food Science and Technology" by Murano, P.S., 2003, Thomson learning,

London, UK.

-"Introducing Food Science" by Robert L. Shewfelt, 2009, CRC Press: ISBN 9781587160288

-"Food Science" by Potter, Norman N. and Hotchkiss, Joseph H. 5th ed., 1999, 608 p. ISBN 978-

0-8342-1265-7

2.-Introduction to Food Science", I st Edition by Parker, R., 2003

Library + online resources:

OER link: https://openlibrary.org/

https://archive.org/