LIVERPOOL JOHN MOORES UNIVERSITY

Food Analysis

Module Information

2022.01, Approved

Summary Information

Module Code	5502YAUNUT
Formal Module Title	Food Analysis
Owning School	Sport and Exercise Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Yunnan Agricultural University

Learning Methods

Learning Method Type	Hours
Lecture	96
Practical	24

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-PAR	PAR	September	12 Weeks

Aims and Outcomes

Aims	Through the study of this module students will learn about the principles of food chemistry and the scope of food analysis. Students will understand the structure and nature of the main ingredients in food materials, the interaction between food ingredients and the physical, chemical and biochemical changes of these ingredients in food processing and preservation. Students will also gain an understanding of the basic principles, methods and instruments of analysis used in this field. Students will discover and master the use of standard detection methods of general nutrition analysis, food additive analysis, and poisonous and harmful ingredients in food.This module provides a necessary foundation for students to further study the theory and technology of food processing and preservation, and also lays a broader theoretical foundation for students to engage in research and product development in food processing, preservation and related fields in the future.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Identify and compare the chemical composition and properties of food and their changing rules in the process of storage, transportation and processing.
MLO2	2	Explain the principles, composition, structure, technical indicators and application of various modern analytical instruments.
MLO3	3	Show scientific analysis of experimental results through rigorous experimental operation norms

Module Content

Outline Syllabus	Food chemistry: the chemical composition and properties of food and their changing rules in the process of storage, transportation and processing.Food analysis: students will study the selection and application of food (including raw materials) sample treatment and determination methods, mainly including the following four aspects: 1. Nutrition ingredient analysis. 2. Determination of contaminants. 3. Raw materials and additives. 4. Sensory test. Spectroscopic methodology. UV-vis spectrophotometry. Atomic absorption spectrophotometry. Atomic fluorescence spectrophotometry. Chromatographic basis. Liquid chromatography. Gas-chromatography. Mass spectrometry.
Module Overview	
Additional Information	This module is designed to extend the student's knowledge and understanding of the attributes of food chemistry and food analysis. Food analysis is a technical subject specialized in studying the detection methods and related theories of various food ingredients, and then evaluating food quality.This module contains a practical element, which teaches the working principles, instrument operation, and sample analysis methods and instrument analysis application of six general large modern analytical instruments.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Exam	Food Chemistry Exam & Tests	30	2	MLO1
Exam	Food Analysis Test	28	2	MLO1, MLO3
Portfolio	Food Analysis Portfolio	12	0	MLO1, MLO3
Practice	Instrument Analysis Practice	30	2	MLO2

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Elizabeth Mahon	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings