

Liverpool John Moores University

Title: Food Biotechnology
Status: Definitive
Code: **5501YAUNUT** (127928)
Version Start Date: 01-08-2021

Owning School/Faculty: Sport and Exercise Sciences
Teaching School/Faculty: Sport and Exercise Sciences

Team	Leader
Abdulmannan Fadel	Y

Academic Level: FHEQ5
Credit Value: 20
Total Delivered Hours: 97
Total Learning Hours: 200
Private Study: 103

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	72
Practical	24

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Practice	Practical	Practical Exam in Historical Biotechnology	33	1
Exam	Exam	Practical Exam in Current Biotechnology	33	1
Test	Test	Practical Exam in Future Biotechnology	34	1

Aims

The aim of this module is for individuals to develop an understanding of the biotechnology developments, principles and application in food science. Individuals are required to understand principals in genetic engineering, cell engineering, enzyme engineering, protein engineering, fermentation engineering, downstream

processing of bioengineering, and safety of genetic modified foods. Individuals will broaden their knowledge in life science. An understanding of theoretical knowledge and application will support the ability of individuals to devise and deliver appropriate practical sessions, and to apply this technology to scientific research.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate knowledge of historical, current and future food biotechnology principles.
- 2 Demonstrate the application of historical, current and future biotechnology into research and development of food science.
- 3 Acquire basic practical skills in historical, current and future food biotechnology

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Practical Exam	1	2	3
Prcatical Exam	1	2	3
Practical Exam	1	2	3

Outline Syllabus

An understanding of food biotechnology including genetic engineering, cell engineering, enzyme engineering, protein engineering, fermentation engineering, downstream processing of bioengineering, and their applications in food science. An understanding of safety of genetic modified foods, multi-omics and bioinformatics technology.
To develop and deliver appropriate practical sessions relevant to food biotechnology, e.g. agarose electrophoresis, membrane purification of black tea infusion, enzymatic purification of juice.

Learning Activities

The module content will be delivered through lectures and practical activities. Theoretical lectures will provide appropriate subject knowledge to support practical application.

Notes

This module is for individuals to develop an understanding of historical, current and future biotechnology developments, principles and application in food science. Individuals will also develop basic practical skills in historical, current and future food

biotechnology.