Liverpool John Moores University

Title:	Food Biotechnology and Advanced Food Science
Status:	Definitive
Code:	**6104SSLN** (123115)
Version Start Date:	01-08-2020
Owning School/Faculty:	Sports Studies, Leisure and Nutrition
Teaching School/Faculty:	Sports Studies, Leisure and Nutrition

Team	Leader
Katie Lane	Y
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Academic Level:	FHEQ6	**Credit Value:**	20	**Total Delivered Hours:**	40
Total Learning Hours:	200	**Private Study:**	160		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	20
Practical	15
Seminar	5

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Practical Report (2,500 words)	60	
Presentation	AS2	Poster Presentation	40	

Aims

Students will evaluate biotechnical and advanced food science methods used to analyse food for technical and nutritional purposes. Students will investigate and analyse current issues surrounding food biotechnology and advanced food science including enzymes, microbiology, bio-fermentation and genetic engineering in food production.

Learning Outcomes

After completing the module the student should be able to:

1	Critically analyse the use of biotechnology and advanced food science and their application to the food industry
2	Evaluate and debate the contribution of biotechnology and advanced food science to food production and analysis methods
3	Organise, plan and perform a poster presentation of a given food biotechnology or advance food science topic

Learning Outcomes of Assessments

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

Report	1	2	3
Presentation	1	2	3

Outline Syllabus

Enzymes in the dairy industry; Enzymes and molecules in sugar syrups; Enzymic analysis of glucose and fructose; Biofermentation, Quorn mycoprotein; Genetic modification (GM) of foods; GM food case studies; Review of recent worldwide GM developments; GM food practical?; Biotechnology and food waste; Introduction to Advanced Food Science; Immunological methods of food analysis; Enzyme linked immunosorbent assay; Electrophoresis of protein and DNA; Electrophoresis of animal proteins; Food microbiology

Learning Activities

Lectures, practicals, and student-led seminars. Group-based practical work will allow students to work collectively to develop understanding of important food-related experimental methodologies, help develop analytical and critical thinking, and develop report writing skills. Student-led seminars will require students to apply their understanding of food processing operations to specific foods, critically evaluating the effects of such processing operations orally to small groups of fellow students.

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