

Liverpool John Moores University

Title: NUTRITIONAL BIOCHEMISTRY AND PHYSIOLOGY
Status: Definitive
Code: **5031SPONUT** (120678)
Version Start Date: 01-08-2016

Owning School/Faculty: Sports Studies, Leisure and Nutrition
Teaching School/Faculty: Sports Studies, Leisure and Nutrition

Team	Leader
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Academic Level: FHEQ5 **Credit Value:** 24 **Total Delivered Hours:** 63
Total Learning Hours: 240 **Private Study:** 177

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	21
Practical	24
Workshop	15

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Practical Write Ups 1,500 words equivalent	40	
Exam	AS2	Exam	60	3

Aims

To extend student knowledge of biochemistry and physiology in the field of nutrition.

Learning Outcomes

After completing the module the student should be able to:

- 1 Use formulae and equations as appropriate to explain the biochemistry, physiology and metabolism of biological and nutritional compounds.
- 2 Interpret the application of biochemistry and physiology to nutritional status, introducing an understanding of nutrigenetics, nutrigenomics, and systems biology.
- 3 Employ practical techniques for the measurement of nutritional and disease states.
- 4 Gain an understanding of nutrigenetics and nutrigenomics, with an awareness of systems biology.

Learning Outcomes of Assessments

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

Practical Reports	1	3
Exam	2	4

Outline Syllabus

Protein structure, DNA, RNA the genetic code. Metabolic pathways including protein synthesis, Beta-oxidation, glycolysis, gluconeogenesis, lipids and lipoproteins, catabolism. Integration and regulation of metabolism. An awareness of nutrigenetics, nutrigenomics and systems biology. Indirect calorimetry, control of food intake, nutritional physiology, heat of combustion, measurement of energy expenditure. The fate of nutrients - energy stores.

Learning Activities

Lectures, workshops and laboratory practical sessions will be the main form of student learning activities. Students will be required to carry out a series of practicals designed to investigate techniques used in the measurement of biochemical parameters associated with human nutritional disorders

Notes

This module examines specific topics in physiology and biochemistry necessary to the study of nutrition. It relies heavily on basic knowledge and skills in chemistry and human biology. It serves as a grounding to energy regulation, digestion and absorption, metabolism and calorimetry (direct and indirect). Evidence from this module may contribute to WoW certification.