

Liverpool John Moores University

Title: BLOOD, NERVES AND HORMONES
Status: Definitive
Code: **5012BMBMOL** (117001)
Version Start Date: 01-08-2015

Owning School/Faculty: Pharmacy & Biomolecular Sciences
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

Team	Leader
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Academic Level: FHEQ5 **Credit Value:** 24.00 **Total Delivered Hours:** 57.00
Total Learning Hours: 240 **Private Study:** 183

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	37.000
Off Site	2.000
Practical	7.000
Workshop	9.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS2	Report interpreting data and explaining it physiologically	30.0	
Exam	AS1	All questions in Section A must be answered in Section B one essay from 4	40.0	2.00
Report	AS3	Assignment linked to lectures/workshop and practical	30.0	

Aims

This course aims to: Inform students of basic physiological processes that are fundamental in a deeper understanding of disease states. The overview given at level 2 will be reinforced and built upon at level 3 through other core modules.

Learning Outcomes

After completing the module the student should be able to:

- BNH01 Present and interpret numerical data derived from clinical and experimental procedures
- BNH02 Describe the structure, function and integration of the endocrine and nervous systems in the body
- BNH03 Describe the physiology and biochemistry of human erythrocytes and platelets
- BNH04 Calculate and interpret haematological indices

Learning Outcomes of Assessments

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

Report 1	BNH0 1
EXAM	BNH0 BNH0 2 3
Report2	BNH0 4

Outline Syllabus

Nerves: Overview of structure and function. The ionic basis of neuronal activity e.g. action potentials, graded potentials, stimulus intensity and refractory periods.

Emphasis will also be made to synaptic transmission, looking at both electrical and chemical neurotransmitters

Blood: An overview to red cell morphology in health and disease will be given. Also an introduction to stem cells and the production of haematological cells in the bone marrow. The main emphasis will be placed on red cell physiology, biochemistry, Bohr effect and structure and function of haemoglobin. An introduction to haemostasis will address platelet structure and function, and also the activation and control of the coagulation pathway.

Endocrinology: Endocrine control of body functions. Hypothalamic releasing factors, anterior pituitary hormones. Regulation of the secretions of the hypothalamic, pituitary, adrenal, thyroid and gonadal axes. Regulation of growth. Control of blood glucose. Comparison of steroid and peptide hormone action. Neuroendocrine control mechanisms. Deficiency/excess diseases (as appropriate).

Learning Activities

Workshops: to develop the basic principles delivered in the lectures

Interactive exercises: either through case studies or problem focused sessions. The student will be required to apply the knowledge gained from the lectures to gain a deeper understanding of the subject.

MCQ question: On blackboard to help with revision and to help identify weaknesses in knowledge.

There is also the opportunity to improve graduate skills in handling spreadsheets and numerical data.

Notes

The module will be delivered through a series of lectures, workshops and interactive sessions. There will be two pieces of coursework: The first will relate to the stimulation of the nervous system, and the second will be related to dietary deficiencies and red blood cell formation. The final assessment will be a written examination, with the first part being a series of compulsory short answer questions, followed by 1 essay from a selection of 4 titles. The lectures will cover most of the learning outcome but students will be required to do some independent learning and reading around the topics.