Neurobiology

Module Information

2022.02, Approved

Summary Information

Module Code	6211NATSCI
Formal Module Title	Neurobiology
Owning School	Biological and Environmental Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 6
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Biological and Environmental Sciences

Learning Methods

Learning Method Type	Hours
Lecture	26
Practical	12
Workshop	12

Module Offering(s)

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

Aims and Outcomes

Aims	This course aims to develop in-depth understanding of how the nervous system is organised and functions at the molecular, cellular and divisional level, and of the biophysical methods used to study these. The role of genetic factors and drugs, toxins or other pharmacological agents on producingdisease or modified neurobiological function will be explored. This course aims to enhance the student learning experience by discussing recent and relevant research undertaken by members of the teaching team.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Assess the functional and organisational interrelatedness of the nervous system at the molecular, cellular and divisional levels
MLO2	2	Appraise state-of-the-art experimental approaches and biophysical techniques used in the study of neurobiology
MLO3	3	Critically evaluate how the function of a nervous system can be modified pharmacologically

Module Content

Outline Syllabus	Electrical signalling in neurons. Role of neurotransmitters and neuromodulators.Structure and function of ion channels and ligand-gated receptors. The generationand propagation of nerve impulses by sensory receptors. Relationship betweennerves, the spinal cord and the brain. Neuroanatomy. Pharmacologymodulation of the nervous system. Neurological dysfunction and disease.
Module Overview	This module builds on neurobiology-related concepts taught during the level 5 Physiology of Life module. The module provides you with an insight into how molecular, cellular and organ components contribute to form the body's most complex system and how different factors can produce dysregulation of the nervous system.
Additional Information	The course will provide insight into how molecular, cellular and organ components contribute to form the body's most complex system and how different factors can produce dysregulation of the nervous system. Students undertaking this module will be required to know about action potentials, neurotransmission and basic brain anatomy. There will be a 2-hour workshop covering these topics in the first week of teaching so that students from the numerous programmes can 'get up to speed'. Students can also prepare by reading chapters 1-3 of the following book, which is available as an e-book or hardcopy from the LJMU library: Luo, L. (2015) Principles of Neurobiology. Garland Science, New York, NY.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Exam	50	2	MLO1, MLO3
Report	Practical report	50	0	MLO1, MLO2, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings

Andrias O'Reilly	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings