Current Methods in Brain and Behaviour

Module Information

2022.02, Approved

Summary Information

Module Code	7101BRAIN
Formal Module Title	Current Methods in Brain and Behaviour
Owning School	Psychology
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Psychology

Learning Methods

Learning Method Type	Hours
Lecture	10
Practical	24
Workshop	10

Module Offering(s)

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

Aims and Outcomes

Aims	This module aims to provide students with:1. Opportunities to explore several current methods in brain and behaviour used to investigate core areas of cognitive neuroscience2. Opportunities to develop a critical perspective on the complex ethical issues related to research in cognitive neuroscience3. Hands-on practice in using neuroimaging and neuro-stimulation technologies as well as the design and conduct of cognitive behavioural tasks4. An ability to design research with neuroimaging (fMRI/fNIRS) and neuro-stimulation techniques (TMS, tDCS);5. An ability to critically evaluate the data collected using such techniques 6. Conceptual knowledge about the maths that supports the analyses found within published papers in cognitive neuroscience 7. The opportunity and skills to work in a group towards a common research goal.8. The skills needed to prepare a research report in a concise manner in the style needed for publication.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Have an in-depth understanding of mammalian neuroanatomy and the laboratory techniques used to investigate the relationship between brain and behaviour.
MLO2	2	Critically assess the use of neuroimaging , neuro-stimulation and behavioural research techniques in laboratory research
MLO3	3	Interpret the output of specialist software tools used in neuroimaging, neuro-stimulation and behavioural research.
MLO4	4	Plan and conduct a research project and write up this work in the style of a short manuscript.

Module Content

Outline Syllabus	-Neuroanatomy -Methods of Cognitive Neuroscience (fMRI, fNIRS, TMS/tDCS, Cognitive Behavioural Tasks);-advantages and disadvantages in using cognitive neuroscience methods;-piloting and refining research; -preparation of research for publication.
Module Overview	This module provides a grounding in neuroanatomy and related research techniques used to study the relationship between brain and behaviour in humans in health and disease. During workshops, you will receive hands-on experience running brain imaging (fMRI/fNIRS) and neuro-stimulation (neuro-navigated TMS and tDCS) experiments. Later, in practical sessions you will design, programme and conduct your own behavioural study.
Additional Information	This first semester module will provide a grounding in neuroanatomy and related research techniques used to study the relationship between brain and behaviour in humans in health and disease.This module provides a grounding in knowledge and skills that will be built upon in semester 2 on the modules in applied neuroscience and cognitive neuroscience.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Report	60	0	MLO3, MLO1, MLO4, MLO2
Portfolio	Portfolio	40	0	MLO1, MLO2

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Valentina Cazzato	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings