

International Summer School 2026

An Introduction to Brain and Behaviour I (Block 1)

Module description

This psychology module is an introduction to the human brain, aiming to uncover how it is related to all aspects of your behaviour. In block 1 basic neuroanatomy and physiology will be covered as a starting point before exploring the nervous system in more detail, including how do our brains control our bodily movement? What happens when our brain is injured and how do we recover? We also investigate neurodegenerative diseases and their causes, and potential treatments. Lectures will be supported with practical laboratory sessions allowing you gain practical experience with state of the art equipment used to measure nervous system functioning.

Learning outcomes

By the end of this course, students will be able to:

- Demonstrate knowledge of the relationship between psychology and biology in normal and clinical states.
- Demonstrate the ability to search for and document evidence in an appropriate literary manner.
- Show evidence of critical evaluation in written work.
- Demonstrate an ability to produce a clear and coherent psychophysiology laboratory report.
- Demonstrate knowledge of the relevance of research and theory in the development of psychological disorders.
- Demonstrate engagement with contemporary psychology research practice through participation in research studies, or reflection on the methodological and ethical issues involved in conducting psychological research.

Teaching

Each week will incorporate a two 2 hour lectures classes per week.

Block 1, Week 1

- Lectures cover a history of neuroscience, nervous system anatomy, and different cell types of the brain (BD)

Block 1, Week 2

- Lecture on nerve conduction, including action potentials and neurotransmission (BD)
- Laboratory practical on the motor system, and measuring motor unit action using BioPac recording devices (BD)

Block 1, Week 3

- Lecture on the somatosensory system and pain perception (BD)
- Laboratory practical; an introduction to electroencephalography (EEG), part 1 (BD)

Block 1, Week 4

- Lecture on Neurodegenerative disorders (BD)
- Laboratory practical; an introduction to electroencephalography (EEG), part 2(BD)

Assessment

1,500 word lab report summarising the findings from the Electroencephalography Practical sessions: 100%

Key reading List

J.P.Pinel and Steven J Barnes (2022) Biopsychology (11th ed) Available at the Campus book store.

L.J. Burton (2010) An interactive approach to writing essays and research reports in Psychology. Wiley.
(Highly recommended text for lab report)

Alzheimer's disease reading:

National Institute of Aging (2011) Alzheimer's disease: unravelling the mystery. Part 2: What happens to the brain in AD; The hallmarks of AD; The changing brain in AD. Available here:
<http://www.nia.nih.gov/alzheimers/publication/part-2-what-happens-brain-ad/changing-brain-ad>

Parkinson's/Huntington's disease reading:

Fritsch T, et al. (2012) Parkinson Disease: Research Update and Clinical Management. *Southern Medical Journal*, 105(12): 650-656.

Autonomic Nervous System reading:

Chapters 7 & 8 from:

Cacioppo, J. T., Tassinary, L., & Berntson, G. (2007). Handbook of psychophysiology
doi:10.13140/2.1.2871.1369