

PS111-24 Brain & Behaviour

22/23

Department

Psychology

Level

Undergraduate Level 1

Module leader

Friederike Schlaghecken

Credit value

24

Module duration

24 weeks

Assessment

32% coursework, 68% exam

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This module will introduce the biological and methodological basis of current approaches to sensing, responding, and learning.

[Module web page](#)

Module aims

Taken together, PS111 (Brain and Behaviour), and PS112 (Psychology in Context) will provide a general introduction to Psychology designed to support work in the second and third years of the Psychology Honours Degree. The module has two sections. The first section presents a basic introduction to the structure and function of the nervous system. The second section presents an understanding of how organisms detect and respond to stimulation and how learning and goal-directed action are rooted in the brain.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Section 1: Biological basis of behaviour

1. Why psychobiology? / Nervous System I: Overall Structure
2. Nervous System II: The Forebrain / Neuron: Structure & Intracellular Signal Transmission
3. Chemical Synapse: Signal Transmission Between Neurons / Neurotransmitter Pathways and Neuro-Plasticity
4. Brain Development / Learning & Memory
5. Injury & Rehabilitation / Feedback & outlook

Section 2. Perception, action & learning

1. Sensing and Responding 1: Stimulus-elicited behaviour
2. Sensing and Responding 2: Complexity of reflex action
3. Behaviour change & learning 1: Habituation and sensitization
4. Behaviour change & learning 2: Pavlovian learning and conditioning
5. Behaviour change & learning 3: Process and mechanism in Pavlovian learning

Section 3 will focus on the neuropsychology of learning, memory, language and emotion. Topics will include, for example, memory, memory loss and unlearning; learning from consequences and acquiring skills; the frontal lobes (voluntary behaviour and emotion); fear, emotion and the brain, and hemispheric specialisation & language.

Section 4 will focus on Psychopathology. Topics will include, for example, a historical overview and theoretical perspectives on psychological dysfunction, mood disorders, anxiety disorders, schizophrenia, and borderline & antisocial personality disorder.

Revision

1. Revision Section 1
2. Revision Section 2
3. Revision Section 3
4. Revision Section 4

Learning outcomes

By the end of the module, students should be able to:

- Describe in general terms the anatomical and functional organisation of the nervous system.
- Describe in general terms how neurochemical processes provide the basis of nervous system function.
- Understand in general terms the brain as a continually adapting system at the macro- (developmental) and the micro-level (learning, memory, rehabilitation).
- Understand in general terms how learning, memory, language, emotion, and goal-directed action are rooted in the structure and function of the brain.
- Understand how memory can be lost and learning can be undone.
- Understand how organisms detect and respond to stimulation, how their responses are changed by experience, and the neural processes and circuits that underly these capacities.
- Understand in general terms the links between reflexiv, conditioned, habitual, and voluntary (goal-directed) behaviour.

- Describe the classical theories of emotion and of the emotional brain.
- Understand Pavlovian threat conditioning and what it tells us about the neural basis of emotion.
- Describe the cortical areas associated with language and how these relate to language disorders such as aphasia.
- Understand contemporary psychological and biological approaches to mental illness and place these in a historical context.
- Understand the types of symptoms seen in anxiety, depressive and psychotic conditions, the biological dysfunction underlying these conditions, and the main treatment approaches.

Indicative reading list

Bear, M. F., Connors, B. W., and Paradiso, M. A. (2016). Neuroscience: Exploring the Brain. Lippincott Williams and Wilkins

Tresilian, J. (2012). Sensorimotor control and learning: an introduction to the behavioral neuroscience of action. Palgrave Macmillan

Kring, A. M., Johnson, S. L., Davison, J. C., & Neale, J. M. (2017). Abnormal psychology: the science and treatment of psychological disorders. John Wiley

[View reading list on Talis Aspire](#)

Subject specific skills

Describe in general terms the anatomical and functional organisation of the nervous system.

Describe in general terms how neurochemical processes provide the basis of nervous system function.

Understand in general terms the brain as a continually adapting system at the macro- (developmental) and the micro-level (learning, memory, rehabilitation).

Understand in general terms how learning, memory, language, emotion, and goal-directed action are rooted in the structure and function of the brain.

Understand how memory can be lost and learning can be undone.

Understand how organisms detect and respond to stimulation, how their responses are changed by experience, and the neural processes and circuits that underly these capacities.

Understand in general terms the links between reflexiv, conditioned, habitual, and voluntary (goal-directed) behaviour.

Describe the classical theories of emotion and of the emotional brain.

Understand Pavlovian threat conditioning and what it tells us about the neural basis of emotion.

Describe the cortical areas associated with language and how these relate to language disorders such as aphasia.

Understand contemporary psychological and biological approaches to mental illness and place these in a historical context.

Understand the types of symptoms seen in anxiety, depressive and psychotic conditions, the biological dysfunction underlying these conditions, and the main treatment approaches.

Transferable skills

Apply a biologically informed perspective to theory and research in psychology.
Apply a biologically informed perspective to study skills.

Study

Study time

Type	Required
Lectures	68 sessions of 1 hour (28%)
Private study	172 hours (72%)
Total	240 hours

Private study description

172 hours guided private study and preparation for assessment

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Students can register for this module without taking any assessment.

Assessment group D4

	Weighting	Study time	Eligible for self-certification
Assessment component			
Online Test 1	8%		No
Open for 48 hours			
Reassessment component is the same			
Assessment component			
Online Test 2	8%		No

	Weighting	Study time	Eligible for self-certification
Open for 48 hours			
Reassessment component is the same			
Assessment component			
Online Test 3	8%		No
Open for 48 hours			
Reassessment component is the same			
Assessment component			
Online Test 4	8%		No
Open for 48 hours			
Reassessment component is the same			
Assessment component			
Online Examination	68%		No
Multiple choice exam			
~Platforms - AEP			

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- Online examination: No Answerbook required

Reassessment component is the same

Feedback on assessment

Formative : Academic guidance form for assessed work; Feedback & Revision lectures
 Summative: Moodle / Quizbuilder (for online tests), Tabula

[Past exam papers for PS111](#)

Availability

Post-requisite modules

If you pass this module, you can take:

- PS120-15 Neuropsychology & Psychopathology
- PS346-15 Perspectives in Clinical and Counselling Psychology

Courses

This module is Core for:

- Year 1 of UPSA-C800 Undergraduate Psychology
- Year 1 of UPSA-C804 Undergraduate Psychology with Education Studies
- Year 1 of UPSA-C802 Undergraduate Psychology with Linguistics