

Biological Basis of Behaviour

Module title										
Biological Basis of Behaviour										
Module NFQ level (only if an NFQ level can be demonstrated)		Module number/reference		ECTS Value		Duration				
8				5		12 weeks				
Parent programme(s). Principal programme title, and embedded(s) if relevant				Stage of parent programme		Semester No.				
BA (Honours) in Psychology				2		1				
Teaching and Learning modes		Proportion (% of Total Directed Learning)								
Classroom / Face to Face		22.4%								
Workplace										
Online										
Other (Identify)		77.6% (directed and self-directed learning)								
Entry requirements (statement of knowledge, skill and competence)										
The entry requirements, as set out in Section 4, must be satisfied for entry onto the programme.										
Maximum number of learners per instance of the module				40						
Average (over the duration of the module) of the contact hours per week				2.3						
Pre-requisite module title(s) (if any)										
Co-requisite module title(s) (if any)										
Is this a capstone module? (Yes or No)				No						
Module-specific physical resources and support required per centre (or instance of the module)										
Lecture Hall, small group-work room; Library; IT Resources such as Moodle, Microsoft PowerPoint and Screens										
Specification of the qualifications (academic, pedagogical and professional/occupational) and experience required of staff working in this module.										
Role e.g. Tutor, Mentor etc.		Qualifications & experience required:				# of Staff with this profile (WTEs)				
Lecturer/Tutor		Minimum level 9 qualification in Psychology with teaching and/or research competence in the area				100%				
Analysis of required learning effort										
				Hours of Learner effort						
Classroom and demonstrations		Mentoring and small-group tutoring		Other (specify)		Directed e-learning	Independent learning	Other (specify)	Work-based learning	Total effort
Hours	Minimum ratio teacher/learner	Hours	Minimum ratio teacher/learner	Hours	Minimum ratio teacher/learner					
24	1:10	4	1:10				97			125

Allocation of Marks					
	Continuous Assessment	Supervised Project	Proctored Practical Exam.	Proctored Written Exam	Total
Percentage Contribution	30%			70%	100%

Rationale for Inclusion of the Module in the Programme and its Contribution to the Overall IPLOs	The rationale for this module is to introduce the learner to the basic concepts of the physiological and neurobiological mechanisms underlying the generation and control of behaviour. Topics covered include the structure and functions of brains, neuronal communication, how genes, hormones and neurotransmitters in various physiological processes affect behaviour, cognition, perception and development. Although largely focused on the human body and brain, the module also examines how research on different animal model systems, as diverse as squids, snails and rodents, has advanced the understanding of the mechanisms and functions of the human nervous system, cognition and behaviour. In this module, the learner will develop a detailed and critical understanding of these disciplines and explore ways in which, alongside psychological explanations, they help to increase our understanding of the biological basis of behaviour.
Module Aims and Objectives	The primary aims of this core module are to introduce the learner to the fundamental biological mechanisms underlying human behaviour with a focus on neurophysiology, functional anatomy of the human brain, sensation, attention, perception, communication, development and evolution of nervous systems. The objectives are to develop a firm foundation of knowledge in physiology and biology of human behaviour that links to the psychological advancements in cognitive and neuropsychology.
Minimum Intended Module Learning Outcomes	On successful completion of this module, learners should be able to: <ol style="list-style-type: none"> 1. Examine the biological correlates of behaviour at different levels. (MIPLO 1, 4) 2. Identify key structures within the brain and central nervous system and relate their function to psychological processes such as consciousness, learning and memory, perception, language and sleep. (MIPLO 1, 4, 5) 3. Illustrate the key questions and challenges faced by brain-based explanations of the mind, and have a good grasp of specific techniques in the field such as neurophysiology, neuropsychology and psychopharmacology, as well as evaluate publications in the field. (MIPLO 2, 4, 5) 4. Evaluate the strengths and limitations of using biological systems to explain human behaviour. (MIPLO 1, 4, 7)
Information Provided to Learners about the Module	College Prospectus specifies module name, stage and ECTS.

	<p>College website and programme handbook to contain (in addition to above) short description of module content, module learning outcomes, prerequisite modules, and assessment mechanisms.</p> <p>Module Moodle page to contain (in addition to above) schedule of classes and topics, detailed assessment information with titles and submission dates, full bibliography and list of learning resources.</p>
<p>Module Content, Organisation and Structure</p>	<p>Over the course of 12 weeks, the learner will cover topics such as:</p> <p>Introduction and Overview</p> <ul style="list-style-type: none"> • The Relationship Between the Mind and Brain • The Influences of Genetics and the Environment • How the Brain is studied for Psychology. <p>The Structure of the Brain and Nervous System</p> <ul style="list-style-type: none"> • The Structure of the brain and nervous system: Anatomy of the brain • Brain Development and Brain Plasticity • Brain Damage and Recovery • Anatomy of the Nervous System, Nerves and Nerve Impulses <p>Sensation and Attention</p> <ul style="list-style-type: none"> • Development of Vision and Audition, • Movement-Control and Link to the Brain • Somatosensation and Multisensory Integration • Psychological Theories of Attention <p>Perception</p> <ul style="list-style-type: none"> • Visual and Auditory Perception, • Perceptual debates in Psychology-Top down vs. Bottom Up Processing • Object Recognition • Visual Agnosia <p>Learning and Memory</p> <ul style="list-style-type: none"> • Biological basis for memory, • Short Term and Long Term Memory Systems • Memory localisation, • Disorders of Memory <p>Language and Lateralisation</p> <ul style="list-style-type: none"> • The Right and Left Hemispheres, • The Role of the Corpus Callosum, • Lateralisation and Handedness, • The Evolution of Language, • Brain Damage and Language (Aphasias) <p>Sleep</p> <ul style="list-style-type: none"> • The Mechanisms of the Biological Clock, • The Sleep-Wake Cycle, • Stages of Sleep, • Sleep Disorders

Module Teaching and Learning (including formative assessment) Strategy	<p>This module will be delivered in a two-hour lecture format across twelve weeks and four one-hour tutorials delivered across eight weeks. The rationale for this teaching mode rests in the amount of information to be covered in this timeframe. Contact hours will consist of lectures with opportunities for small group discussions and Q&A in lectures and tutorials. It is envisaged that online learning activities and resources will be provided to support face to face contact time. Moodle will be used each week to upload relevant articles, required reading and in some instances, links to essential viewing.</p>
Work-Based Learning and Practice-Placement	<p>N/A</p>
E-Learning	<p>N/A</p>
Specifications for Module Staffing Requirements	<p>Staff: Learner ratio is typical of the overall programme approach with a maximum of 40 learners.</p> <p>The maximum tutor: learner ratio is 20</p> <p>Staffing requirements: 1 lecturer and 1 tutor with teaching and/or research competence in the relevant area.</p>
Module Summative Assessment Strategy	<p>This module will be assessed by (A) In-class multiple choice quiz (MCQ), worth 30% and (B) A two-hour proctored final examination worth 70%.</p>
Sample Assessment Materials	<p>(A) In-class multiple choice quiz</p> <p>This assessment addresses MIMLO 1-2.</p> <p>Sample MCQ Questions:</p> <p>Which of the following is the cerebellum responsible for?</p> <p>A. Emotion B. Learning C. Coordination D. Memory</p> <p>Who was the earliest brain and behaviour case study?</p> <p>A. Mark Smith B. Phineas Gage C. Philip May D. Sigmund Freud</p> <p>If only one monozygotic twin is diagnosed with a disorder, this is called</p> <p>A. Concordant B. Cordant C. Discordant D. Disconcordant</p> <p>(B) End of Semester Exam</p> <p>This assessment addresses MIMLOS 1-4.</p> <p>Learners must answer two out of four exams questions, within a two-hour period.</p>

	<p>Sample End of Semester Exam Question: Critically discuss Chomsky’s Theory of Language Acquisition. Include a comparison of the <u>two</u> aphasias that you have studied in relation to language production. Refer to psychological studies in your answer.</p>
<p>Reading Lists and Other Information Resources</p>	<p>Core Readings: Carlson, N. (2018). <i>Foundations of Behavioral Neuroscience</i> (9th ed.). New York: Pearson</p> <p>Kalat, J.W. (2019). <i>Biological Psychology</i> (13th ed.). California: Wadsworth</p> <p>Kolb, B., Whishaw, I. Q., and Campbell Teskey, G. (2019). <i>An Introduction to Brain and Behaviour</i> (6th ed.). New York: Worth</p> <p>Online/Digital Resources: Google Scholar EBSCO Digital Journal Resource Educational Ted Talks/YouTube Videos</p> <p>Other Reading: Articles and studies uploaded to Moodle by the module Lecturer. These include articles from journals such as:</p> <p><i>Behavioral and Brain Sciences</i> <i>Neuroscience and Biobehavioural Reviews</i> <i>Brain Behavior and Immunity</i> <i>Brain Imaging and Behavior</i> <i>Genes Brain and Behavior</i> <i>Hormones and Behavior</i> <i>Behavioural Brain Research.</i></p>
<p>Module Physical Resource Requirements</p>	<p>Lecture Hall and tutorial room with PowerPoint, DVD and internet access.</p>