SS5756: BIOLOGICAL BASIS OF BEHAVIOR

Effective Term
Semester B 2024/25

Part I Course Overview

Course Title
Biological Basis of Behavior

Subject Code
SS - Social and Behavioural Sciences
Course Number
5756

Academic Unit
Social and Behavioural Sciences (SS)

College/School
College of Liberal Arts and Social Sciences (CH)

Course Duration
One Semester

Credit Units
3

Level
P5, P6 - Postgraduate Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
MSSPSY Students : Nil
Non-MSSPSY Students : SS1101 Basic Psychology I or its equivalent

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

This course aims to enable students to (1) understand research methods and findings of biological psychology, with an emphasis on the brain-behavior relationship, (2) apply research findings and theories to explain real life experiences, and (3) generate new ideas through critical evaluation of theories and research findings in biological psychology.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	understand major structures of the brain from a neuroanatomical perspective;	20	x		
2	understand research methods and techniques for studying the brain-behavior relationship;	20	x		
3	analyze the biological mechanisms and evolutionary basis of different behaviors; and	30	x		
4	critically evaluate research findings and generate testable hypotheses.	30		x	

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures	Major principles and research methods in biological psychology are described and explained, with an emphasis on (1) the relationship between brain structure and function, and (2) between physiology and behavior.	1, 2, 3	
2	In-class Learning Activities	Concepts and materials covered in lectures are made more readily comprehensible via the use of in-class learning activities.	1, 2	

3	Term Project	Students are required to formulate and test hypotheses relevant to a designated topic in small groups of 5 to 6. In particular, they are required to collect data or provided with a dataset, analyze the data, and write up the findings in a report. This assignment allows students to develop skills in (1) hypothesis formulation, (2) applying theories/concepts learned in class to write up a report, (3) collecting data, and (4) evidence-based reasoning.	2, 3, 4	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Quizzes (30% each)	1, 2, 3	60	
2	Presentation (10%)	1, 2	10	
3	Term Project Report (30%)	2, 3, 4	30	

Continuous Assessment (%)

100

Assessment Rubrics (AR)

Assessment Task

1. Quizzes (30% each) (60%) (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Understanding of the subject matters

Excellent

(A+, A, A-) Demonstrate excellent understanding of the subject matters.

Good

(B+, B, B-) Demonstrate good understanding of the subject matters, though missing some of the points.

Fair

(C+, C, C-) Demonstrate adequate understanding of the core of the subject matters.

Marginal

(D) Demonstrate limited understanding of the subject matter and can only recall limited content.

Failure

(F) Unambiguous poor understanding of the subject matter.

Assessment Task

2. Presentation of term project (10%) (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Understanding of the core knowledge; use of relevant information; team work; organization

Excellent

(A+, A, A-) Demonstrate excellent understanding of the subject matters.

Good

(B+, B, B-) Demonstrate good understanding of the subject matters, though missing some of the points.

Fair

(C+, C, C-) Demonstrate adequate understanding of the core of the subject matters.

Marginal

(D) Demonstrate limited understanding of the subject matter.

Failure

(F) Unambiguous poor understanding of the subject matter.

Assessment Task

3. Term project Report (30%) (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Understanding and application of relevant principles and perspectives to formulate and test hypotheses using appropriate methods

Excellent

(A+, A, A-) Able to apply relevant principles and perspectives to analyze empirical evidence in behavioral neuroscience; demonstration of excellent understanding of relevant theories, principles and methods in behavioral neuroscience; able to integrate theories or evidence from different lines of research; analyze data and interpret major findings appropriately.

Good

(B+, B, B-) Able to apply relevant principles and perspectives to analyse empirical evidence in behavioral neuroscience; demonstration of good understanding of relevant theories, principles and methods in behavioral neuroscience; adequate data analysis with minimal interpretations of findings.

Fair

(C+, C, C-) Able to apply some relevant principles and perspectives to analyse empirical evidence in behavioral neuroscience; demonstration of an adequate understanding of the principles of behavioral neuroscience; able to carry out simple data analysis.

Marginal

(D) Limited ability to apply relevant principles and perspectives to analyse empirical evidence in behavioral neuroscience; demonstration of limited understanding of the principles of behavioral neuroscience; minimal data analysis.

Failure

(F) Unable to apply any relevant principles and perspectives to analyse empirical evidence in behavioral neuroscience; demonstration of poor understanding of the principles of behavioral neuroscience; fail to analyze data using the appropriate methods.

Assessment Task

1. Quizzes (30% each) (60%) (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Understanding of the subject matters

Excellent

(A+, A, A-) Demonstrate excellent understanding of the subject matters.

Good

(B+, B) Demonstrate good understanding of the subject matters, though missing some of the points

Marginal

(B-, C+, C) Demonstrate limited understanding of the subject matter and can only recall limited content.

Failure

(F) Unambiguously poor understanding of the subject matter.

Assessment Task

2. Presentation of term project (10%) (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Understanding of the core knowledge; use of relevant information; team work; organization

Excellent

(A+, A, A-) Demonstration of an excellent understanding of theories/concepts and methodologies; effective use of relevant information in presentation; excellent teamwork and highly organized

Good

(B+, B) Demonstration of a good understanding of theories/concepts and methodologies; adequate use of relevant information in presentation; good teamwork and organized

Marginal

(B-, C+, C) Demonstration of a limited understanding of theories/concepts and methodologies; very limited use of relevant information in presentation; teamwork and organization need improvement

Failure

(F) Demonstration of a poor understanding of theories/concepts and methodologies; use of irrelevant information in presentation; poor teamwork and organization

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Assessment Task

3. Term project Report (30%) (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Understanding and application of relevant principles and perspectives to formulate and test hypotheses using appropriate methods

Excellent

(A+, A, A-) Able to apply relevant principles and perspectives to analyze empirical evidence in behavioral neuroscience; demonstration of excellent understanding of relevant theories, principles and methods in behavioral neuroscience; able to integrate theories or evidence from different lines of research; analyze data and interpret major findings appropriately.

Good

(B+, B) Able to apply relevant principles and perspectives to analyze empirical evidence in behavioral neuroscience; demonstration of good understanding of relevant theories, principles and methods in behavioral neuroscience; adequate data analysis with minimal interpretations of findings.

Marginal

(B-, C+, C) Limited ability to apply relevant principles and perspectives to analyze empirical evidence in behavioral neuroscience; demonstration of limited understanding of the principles of behavioral neuroscience; minimal data analysis.

Failure

(F) Unable to apply any relevant principles and perspectives to analyze empirical evidence in behavioral neuroscience; demonstration of poor understanding of the principles of behavioral neuroscience; fail to analyze data using the appropriate methods.

Part III Other Information

Keyword Syllabus

Brain structure, neuroanatomy, the nerve cell, methodologies, neural development, lateralization, brain damage, wakefulness and sleep, internal regulation, psychoneuroimmunology, stress responses, mental disorders, evolution and behaviour.

Reading List

Compulsory Readings

	Title
1	Carlson, N. R. (2021). Foundations of behavioral neuroscience (10th ed Global ed.). Boston: Pearson. [eBook]

Additional Readings

	Title
1	Kalat, J. W. (2016). Biological psychology (12th ed.). Singapore: Wadsowrth
2	Carlson, N. R. (2007). Physiology of behavior (9th ed.). Boston: Pearson
3	Zillmer, E. A., Spiers, M. V., & Culbertson, W. C. (2001). Principles of Neuropsychology. Belmont, CA; Thomson Learning
4	http://psychology.wadsworth.com/book/kalatbiopsych9e/
5	http://www.brainsource.com/neuropsy.htm