

**City University of Hong Kong  
Course Syllabus**

**offered by Department of Social and Behavioural Sciences  
with effect from Semester B 2020/21**

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**Part I Course Overview**

<b>Course Title:</b>	<u>Biological Basis of Behavior</u>
<b>Course Code:</b>	<u>SS5756</u>
<b>Course Duration:</b>	<u>One semester</u>
<b>Credit Units:</b>	<u>3 credits</u>
<b>Level:</b>	<u>P5</u>
<b>Medium of Instruction:</b>	<u>English</u>
<b>Medium of Assessment:</b>	<u>English</u>
<b>Prerequisites:</b> <i>(Course Code and Title)</i>	<u>MSSPSY Students : NIL Non-MSSPSY Students : SS2023 Basic Psychology I or its equivalent</u>
<b>Precursors:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Equivalent Courses:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Exclusive Courses:</b> <i>(Course Code and Title)</i>	<u>Nil</u>

## Part II Course Details

### 1. 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.

### 2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	understand major structures of the brain from a neuroanatomical perspective;	20%	✓		
2.	understand research methods and techniques for studying the brain-behavior relationship;	20%	✓		
3.	analyze the biological mechanisms and evolutionary basis of different behaviors; and	30%	✓		
4.	critically evaluate research findings and generate testable hypotheses.	30%		✓	
		100%			

**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 self-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.*

### 3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.						Hours/week (if applicable)
		1	2	3	4			
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.							
Term Project Report	Students are required to formulate and test hypotheses relevant to a designated topic in small groups of 5. They will learn how to use a specific instrument to capture ECG (electrocardiogram) data. In particular, they are required to collect and analyze the data, and write up the findings in a report. Each group is required to collect data from 2 group members. The data from all groups will be aggregated and returned to each group for subsequent analysis and report writing. 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 psychophysiological data, and (4) evidence-based reasoning.		✓	✓	✓			

#### 4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.					Weighting	Remarks
	1	2	3	4			
Continuous Assessment: 100%							
Quizzes (2 hrs.) (60%)	✓	✓	✓			60%	
Group Presentation (10%)	✓	✓				10%	
Term Project Report (30%)		✓	✓	✓		30%	
Examination: 0% (duration: , if applicable)						100%	

## 5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Quizzes (2 hrs.) (60%)	Understanding of the subject matters	Demonstrate excellent understanding of the subject matters.	Demonstrate good understanding of the subject matters, though missing some of the points.	Demonstrate adequate understanding of the core of the subject matters.	Demonstrate limited understanding of the subject matter and can only recall limited content.	Unambiguous poor understanding of the subject matter.
2. Group Presentation (10%)	Understanding of the subject matter and teamwork	Demonstration of an excellent understanding of theories/concepts and methodologies; effective use of relevant information in presentation; excellent teamwork and highly organized	Demonstration of a good understanding of theories/concepts and methodologies; adequate use of relevant information in presentation; good teamwork and organized	Demonstration of a certain degree of understanding of theories/concepts and methodologies; minimal use of relevant information in presentation; adequate teamwork and organization	Demonstration of a limited understanding of theories/concepts and methodologies; very limited use of relevant information in presentation; teamwork and organization need improvement	Demonstration of a poor understanding of theories/concepts and methodologies; use of irrelevant information in presentation; poor teamwork and organization
3. Term project Report (30%)	Understanding and application of relevant principles and perspectives to formulate and test hypotheses using an experimental approach	Able to apply relevant principles and perspectives to analyse empirical evidence in behavioral neuroscience; demonstration of excellent understanding of relevant theories, principles and methods in behavioral	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	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	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.	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.

		neuroscience; able to integrate theories or evidence from different lines of research; analyze data and interpret major findings appropriately.	neuroscience; adequate data analysis with minimal interpretations of findings.	to carry out simple data analysis.		
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### Part III Other Information (more details can be provided separately in the teaching plan)

#### 1. Keyword Syllabus

(An indication of the key topics of the course.)

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.

#### 2. Reading List

##### 2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

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

(Additional references for students to learn to expand their knowledge about the subject.)

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