

**The Hong Kong University of Science and Technology**  
**Division of Social Science**  
**Spring Semester 2024**

Course Title: Biological Psychology

Course Code: SOSC 2240

No. of Credits: 3

Pre-/co-requisites: SOSC 1960/1969/1980

Lecture Time: Wed & Fri 4:30-5:50pm (HKT)

Venue: Rm 5583, Lift 29-30

	<b>Lecturer</b>	<b>Teaching Assistant</b>
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<b>Consultation</b>	By appointment	By appointment

\*\*The format of the course will follow University guidelines. Consistent with the other SOSC Psychology courses offered, this course will **NOT** be recorded.

**Course Description**

This course introduces the biological approach to psychology. Comparative studies on non-human animals and the issue of genetic inheritance of behavior will be discussed. Emphasis will be placed on key principles of human nervous system function and how they are reflected in human thought and behavior. Key topics covered include the organization of the brain, the visual system, how learning and memory occur in the brain, and the cognitive and behavioral consequences of brain injury and disease.

**Intended Learning Outcomes (ILOs)**

Upon completion of this course, you should be able to:

1. Describe major signaling mechanisms, structures, and pathways of the human nervous system from functional perspectives.
2. Analyze the relationship between different functional systems of the human brain and mind and behavior.
3. Analyze the implications of brain damages on cognitive and behavioral output.
4. Describe methods used in brain research and analyze their advantages and limitations.
5. Identify the limitations of the biological approach to psychology and the limitations of current knowledge about the relationship between brain activity and mental function.

## Assessment Scheme

Detailed rubrics for each assignment are provided below, outlining the criteria used for evaluation.

<b>Assessment Tasks</b>	<b>Alignment of ILOs</b>	<b>Weighting</b>
1. Tutorial Assignments	1,2,3	30%
2. Group Project Presentation	2,3,4,5	25%
3. Clipping Insights Essay	2,3,4,5	15%
4. Quizzes	1,2,3,4,5	30%

### **1. Tutorial Assignment (15%\*2)**

You will have to complete **TWO** tutorial assignments. Guidelines of the assignments will be distributed on Canvas in due course.

<b>Grades</b>	<b>Short Description</b>	<b>Elaboration on subject grading description</b>
A	Excellent Performance	<ul style="list-style-type: none"><li>• The assignment demonstrates a comprehensive understanding of the relevant biological psychology concepts, theories, and research methods.</li><li>• The assignment is exceptionally well-organized, with a clear and logical flow of information, and excellent use of headings, subheadings, and formatting to enhance readability.</li></ul>
B	Good Performance	<ul style="list-style-type: none"><li>• The assignment demonstrates a solid understanding of the relevant biological psychology concepts, theories, and research methods.</li><li>• The assignment is exceptionally well-organized, with a clear and logical flow of information, and excellent use of headings, subheadings, and formatting to enhance readability.</li></ul>
C	Satisfactory Performance	<ul style="list-style-type: none"><li>• The assignment demonstrates a basic understanding of the relevant biological psychology concepts, theories, and research methods.</li><li>• The assignment is somewhat organized, with a reasonably clear flow of information, but the use of headings and subheadings could be improved.</li></ul>

D	Marginal Pass	<ul style="list-style-type: none"> <li>• The assignment demonstrates a limited understanding of the relevant biological psychology concepts, theories, and research methods.</li> <li>• The assignment is poorly organized, with a lack of clear structure and ineffective use of headings and subheadings.</li> </ul>
F	Fail	<ul style="list-style-type: none"> <li>• The assignment demonstrates a significant lack of understanding of the relevant biological psychology concepts, theories, and research methods.</li> <li>• The assignment is poorly organized, with no clear structure or effective use of headings and subheadings.</li> </ul>

## **2. Group Project Presentation (25%)**

You will be randomly assigned in a team of 4-5 people to prepare a 20-minute presentation on a topic related to biological psychology. Further details and guidelines will be provided in due course. You will evaluate the contributions of fellow members towards the completion of the project using Group Member Evaluation (GME). Each person's individual grade will be adjusted based on the peer evaluation.

<b>Grades</b>	<b>Short Description</b>	<b>Elaboration on subject grading description</b>
A	Excellent Performance	<ul style="list-style-type: none"> <li>• The presentation is exceptionally well-organized, clear, and engaging, with effective use of visual aids and multimedia to support the content.</li> <li>• The group members work seamlessly together, exhibiting strong collaboration, communication, and problem-solving skills.</li> <li>• The analysis and insights provided go beyond the basic requirements, showcasing the group's critical thinking and ability to apply concepts to real-world scenarios.</li> <li>• The group responds to questions from the audience with confidence, depth, and a clear command of the subject matter.</li> </ul>
B	Good Performance	<ul style="list-style-type: none"> <li>• The presentation is well-organized, clear, and engaging, with appropriate use of visual aids and multimedia.</li> <li>• The group members work well together, displaying effective collaboration and communication skills.</li> </ul>

		<ul style="list-style-type: none"> <li>• The analysis and insights provided meet the project requirements, demonstrating a good grasp of the subject matter.</li> <li>• The group responds to questions from the audience with confidence and a good understanding of the material.</li> </ul>
C	Satisfactory Performance	<ul style="list-style-type: none"> <li>• The presentation is somewhat organized and clear, with some use of visual aids and multimedia.</li> <li>• The group members work together, but their collaboration and communication skills could be improved.</li> <li>• The analysis and insights provided meet the minimum project requirements, but lack depth and critical thinking.</li> <li>• The group responds to questions from the audience, but may have difficulty providing comprehensive or nuanced answers.</li> </ul>
D	Marginal Pass	<ul style="list-style-type: none"> <li>• The presentation lacks organization, clarity, and engaging elements, with minimal use of visual aids and multimedia.</li> <li>• The group members struggle to work together effectively, exhibiting poor collaboration and communication skills.</li> <li>• The analysis and insights provided are superficial and do not adequately address the project requirements.</li> <li>• The group has difficulty responding to questions from the audience, suggesting a poor grasp of the subject matter.</li> </ul>
F	Fail	<ul style="list-style-type: none"> <li>• The presentation is poorly organized, unclear, and lacks engaging elements, with no use of visual aids or multimedia.</li> <li>• The group members are unable to work together effectively, exhibiting a complete breakdown in collaboration and communication.</li> <li>• The analysis and insights provided are severely lacking or absent, failing to meet the project requirements.</li> <li>• The group is unable to respond to questions from the audience, indicating a complete deficiency in their knowledge and understanding of the subject matter.</li> </ul>

### 3. Clipping Insights Essay (15%)

The "Clipping Insights Essay" assignment requires you to explore a recent newspaper article related to biological psychology. You are required to find an article published within the last year, clip it, and analyze its content in 1,500 words. The analysis should include a summary of the article, an exploration of its relevance to biological psychology concepts, and a personal reflection on how the article informs or challenges the student's understanding of the subject. Proper APA citations are necessary for the article and any referenced materials. This assignment encourages critical thinking and connects theoretical knowledge to real-world applications in the field of psychology.

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	<ul style="list-style-type: none"><li>• The analysis is exceptionally well-organized, clear, and insightful, demonstrating a deep understanding of biological psychology concepts.</li><li>• The article is relevant and effectively integrated into the analysis, enhancing the discussion.</li><li>• Personal reflection shows critical thinking and a nuanced understanding of implications for research or practice.</li><li>• Citations are flawlessly formatted in APA style with no errors.</li></ul>
B	Good Performance	<ul style="list-style-type: none"><li>• The analysis is well-organized and clear, showing a good understanding of biological psychology concepts.</li><li>• The article is relevant and integrated into the analysis.</li><li>• Personal reflection demonstrates good insight and understanding of the subject.</li><li>• Citations are mostly correct in APA style, with minor errors.</li></ul>
C	Satisfactory Performance	<ul style="list-style-type: none"><li>• The analysis is somewhat organized but lacks clarity in places, showing a basic understanding of biological psychology concepts.</li><li>• The article is relevant but not fully integrated into the analysis.</li><li>• Personal reflection meets minimum requirements but lacks depth.</li><li>• Citations have several errors in APA style.</li></ul>

D	Marginal Pass	<ul style="list-style-type: none"> <li>• The analysis lacks organization and clarity, showing minimal understanding of biological psychology concepts.</li> <li>• The article is only vaguely relevant and poorly integrated.</li> <li>• Personal reflection is superficial and does not adequately engage with the subject.</li> <li>• Citations are poorly formatted or incomplete.</li> </ul>
F	Fail	<ul style="list-style-type: none"> <li>• The analysis is poorly organized, unclear, and lacks engagement with biological psychology concepts.</li> <li>• The article is irrelevant or missing.</li> <li>• Personal reflection is absent or severely lacking.</li> <li>• Citations are missing or completely incorrect.</li> </ul>

#### 4. Quizzes

There will be two quizzes in the form of multiple-choice questions. The duration is 1 hour. Materials discussed in the lectures and tutorials will be covered.

- Quiz 1 covers Week # 1-6
- Quiz 2 covers Week # 7-12

#### Remarks:

There will be **NO** make-up quizzes in this course. This means that if you miss a quiz, you will simply lose the number of points associated with it. Your grade will therefore be computed as if that entry was a zero. Make-up quiz will be granted only to absentees with medical condition, which is supported by a validated medical certificate and presented to our teaching team **within 24 hours**. Such notes must be in the form of a written note from your doctor, attesting to the fact that on the day of the test you were too ill to attend the quiz. All make-ups consist of long answers and an oral session.

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	<ul style="list-style-type: none"> <li>• Student demonstrates a thorough and comprehensive understanding of the course material covered in the quiz.</li> <li>• Student answers almost all multiple-choice questions correctly, showcasing their ability to apply concepts, analyze information, and make informed decisions.</li> </ul>

		<ul style="list-style-type: none"> <li>• Responses indicate the student has gone beyond the basic requirements and has a deep, nuanced grasp of the subject matter.</li> </ul>
B	Good Performance	<ul style="list-style-type: none"> <li>• Student displays a strong understanding of the course material covered in the quiz.</li> <li>• Student answers the majority of multiple-choice questions correctly, demonstrating a solid grasp of the key concepts and principles.</li> <li>• Responses indicate the student has a well-rounded comprehension of the subject matter, with only minor lapses or areas that could be improved.</li> </ul>
C	Satisfactory Performance	<ul style="list-style-type: none"> <li>• Student exhibits a satisfactory understanding of the course material covered in the quiz.</li> <li>• Student answers a portion of the multiple-choice questions correctly, demonstrating a basic familiarity with the subject matter.</li> <li>• Responses indicate the student has grasped the fundamental concepts, but may struggle with more complex or nuanced aspects of the material.</li> </ul>
D	Marginal Pass	<ul style="list-style-type: none"> <li>• Student shows a limited understanding of the course material covered in the quiz.</li> <li>• Student answers fewer than half of the multiple-choice questions correctly, indicating significant gaps in their knowledge and comprehension of the subject matter.</li> <li>• Responses suggest the student has difficulty applying concepts and may need additional support or intervention to improve their performance.</li> </ul>
F	Fail	<ul style="list-style-type: none"> <li>• Student demonstrates a lack of understanding of the course material covered in the quiz.</li> <li>• Student answers the majority of multiple-choice questions incorrectly, indicating a significant deficiency in their knowledge and comprehension of the subject matter.</li> <li>• Responses suggest the student has not engaged with the material or has fundamental misunderstandings that need to be addressed.</li> </ul>

### Course AI Policy

Students are allowed to use AI-powered tools and models for tasks such as research, brainstorming, and proofreading, provided that the final work submitted is their own. Students must disclose the use of any AI-powered tools or models in their work. This includes acknowledging the use of AI-powered assistants, such as chatbots, for research or ideation purposes.

### Course Communication Platform

All lecture materials and announcements will be posted on CANVAS. Be sure to check CANVAS from time to time for any updated news.

### **Some Other Notes**

- **Interaction in class** – I believe interactions (both verbal and non-verbal) between the lecturer and the students (and among students) are one of the key ingredients to an optimal learning experience. Your active participation in class discussion or activities will not only enhance your learning, but also motivate the teaching team to do better! Stay behind the class and share with me your thoughts about the course contents.
- **Lecture slides** – Lecture slides will be posted to CANVAS before each class, but the contents will be a bit different from the displayed slides as I hope to encourage you to take your own notes. Note-taking facilitates your reflection and assimilation of the lecture contents.
- **Penalties** – Score deduction applies to any assignments over the word limit. Details can be found in the assignment guidelines.
- **Late submission** – Submissions received less than 5 hours after the deadline will not be penalized. No submissions will be accepted after 5pm HKT on the due date.
- **Communication** – Please expect that your emails will be responded to during weekdays 10am to 6pm HKT.
- **Your feedback** – Your opinions about the course are very valuable to help me improve the course. Feel free to drop by to talk to me. A course evaluation will also be held at the end of the course.



### **Required Texts and Materials**

Kalat, J. W. (2023). Biological psychology (14<sup>th</sup> ed.). Boston, MA, USA: Cengage.

### **Academic Integrity**

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to [Academic Integrity | HKUST – Academic Registry](#) for the University's definition of plagiarism and ways to avoid cheating and plagiarism. We will investigate every suspected case of plagiarism and report the confirmed case to the Division of Social Science for further review or action. Make sure you understand academic dishonesty would result in a reduction of scores or even a failing grade in the course.

## Teaching Schedule

Week	Date	Topic	Submission Deadline
1.	5 Feb	Introduction	
	7 Feb	<b>Tutorial 1: Project Briefing</b>	
2.	12 Feb	Nerve Cells	
	14 Feb	Nerve Impulses	
3.	19 Feb	Synapse	<b>Finalized Group List</b>
	21 Feb	Neuroanatomy & Neurodevelopment	
4.	26 Feb	Research Methods	
	28 Feb	<b>Tutorial 2: EEG</b>	
5.	5 Mar	Vision I	
	7 Mar	Vision II	
6.	12 Mar	Other Sensory Systems	<b>Tutorial 2 Assignment</b>
	14 Mar	<b>QUIZ 1 (Coverage: Week 1 – Week 6)</b>	
7.	19 Mar	Sleep and Biological Rhythms	
	21 Mar		
8.	26 Mar	Learning and Memory	
	28 Mar		
9.	2 Apr	<b>Mid-Term Break</b>	
	4 Apr	<b>Ching Ming Festival (No Class)</b>	
	9 Apr	<b>Project Consultation</b>	
	11 Apr	<b>Tutorial 3: Memory</b>	
10.	16 Apr	Emotion	
	18 Apr	<b>Good Friday (No Class)</b>	
11.	23 Apr	<b>Tutorial 4: Neuroplasticity</b>	<b>Tutorial 3 Assignment</b>
	25 Apr	Neurodevelopmental Disorders	<b>Power-point Submission</b>
12.	30 Apr	<b>Group Project Consultation</b>	
	2 May	<b>Group Project Presentation</b>	
13.	7 Apr	<b>Group Project Presentation</b>	
	9 May	<b>QUIZ 2 (Coverage: Week 7-12)</b>	<b>Peer Evaluation</b>
	12 May	-	<b>Clipping Insights Essay</b>