國立清華大學課程大綱

科號 Course Number		學分 Credit		人數限制 Class Size	
中文名稱 Course Title	生理心理學				
英文名稱 Course English Title	Physiological Psychology				
任課教師 Instructor	姚在府 (Zai-Fu Yao)				
上課時間 Time		上課教室 Room			

課程簡述(必填) (最多 500 個中文字) 本欄位資料會上傳教育部課程網
Brief Course Description (required) (50-200 words if possible, up to 1000 letters

本課程旨在簡明扼要地概述生理心理學的關鍵原理及生理與行為的機制，讓學生容易理解該領域的核心觀念。課程目標主要試圖了解神經系統如何與身體的其他部分相互作用。具體來說，本課程全面概述了心生理學的內容，並提供了有關各種身體系統的解剖學和生理學、記錄其生理活動的研究方法以及這些指標與人類行為之間的關聯。

This course aims to provide a succinct overview of the key topics in physiological psychology, providing easy access to the core information in the field. The primary objective attempts to understand how the nervous system interacts with the rest of the body. Specifically, this course presents a comprehensive overview of psychophysiology and provides information regarding the anatomy and physiology of various body systems, methods of recording their activity, and ways in which these measures relate to human behavior.

請輸入課程內容「中文暨英文關鍵字」至少 5 個, 每個關鍵字至多 20 個中文, 以半形逗點分隔 (必填)
Please fill in at least 5 course keywords (up to 40 letters for each keyword) and use commas to separate them.(required)

中文關鍵字: 解剖學，生理表徵，人類行為，生物心理學，中樞神經系統

Keywords: Anatomy, Physiological Response, Human Behavior, Biological Psychology, The Nervous System

課程大綱 Detailed Course Syllabus

Ethical Statement in NTHU course syllabi: As per the Guidelines for Collaboration, Co-learning, and Cultivation of Artificial Intelligence Competencies in University Education, this course adheres to a policy of conditional openness. In order to comply with this policy, students are required to provide a brief explanation in the footnotes of the title page or after the reference in their assignments or reports, detailing how generative AI (e.g. usage of ChatGPT) was utilized for topic ideation, sentence refinement, or structural reference.

- **課程說明(Course Description)**

生理心理學是心理學與生物學交叉形成的基礎理論學科，主要探討人類行為的生理基礎。主要內容是介紹心理活動的生理基礎和中樞神經系統的機制。它的研究包括腦與行為的演化；腦的解剖與發展及其和行為的關係。具體來說，本課程整合不同層次的行為基礎，從解剖學、生理學的研究發現大腦功能定位，到心理活動的腦物質變化的生化研究，探討人類各種感覺系統的機制、學習和記憶、動機和情緒等各種心理現象的神經機制、以及內分泌對行為的調節機制等。

Physiological psychology studies the physiological bases of behavior (also known as biological psychology). This course aims to understand how the brain functions to control our learned and unlearned behaviors, as well as our hopes, dreams, emotions, and cognitive processes. Covering all the major topics within biopsychology, and psychophysiology and evaluating the most up-to-date findings, particularly within neuroscience and neuroimaging research, this course is essential for first and second-level undergraduates taking courses in biological or physiological psychology as well as anyone studying courses in

neuropsychology or behavioral neuroscience.

● **指定用書(Text Books)**

1. [書名 Title: Physiology of Behavior, 13th edition; 作者 Author: Neil R. Carlson, Melissa A. Birkett; 出版社 Publisher: Pearson]

2. [書名 Title: Biological Psychology 13th edition; 作者 Author: James W. Kalat; 出版社 Publisher: Cengage Learning]

● **參考書籍(References)**

N/A

● **教學方式(Teaching Method)**

In this course, the student will study a scholarly paper every week on a designated topic with reading reflection or short answer questions to evaluate the understanding of content. Instructors would deliver knowledge to students through lectures and direct instruction and aim to measure the results through testing and assessment.

● **教學進度(Syllabus)**

週次 (Week)	課程大綱(Syllabus)	週次 (Week)	課程大綱(Syllabus)
1	神經細胞及脈衝 Nerve Cells and Nerve Impulses	9	動作控制 Motor Control and Movement
2	神經系統構造 Structure of the Nervous System	10	生物節律: 清醒與睡眠 Biological Rhythms: Wakefulness and Sleep

3	突觸 Synapses	11	生殖與教養行為 Reproductive and Parental Behaviors
4	精神藥理學及神經傳導物質 Psychopharmacology and Neurotransmitters	12	內在調節與攝食行為 Internal Regulation and Ingestive Behavior
5	解剖和研究方法 Anatomy and Research Methods	13	情緒 Emotion
6	基因、演化、發展及可塑性Genetics, Evolution, Development, and Plasticity	14	學習, 記憶, 與智力 Learning, Memory , and Intelligence
7	視覺 Vision	15	認知功能 Cognitive Functions
8	其他感官: 聽覺, 體感覺與化學受器 Other Sensory Systems: Audition, the Body Senses, and the Chemical Senses	16	中樞神經系統疾患 Disorders of the Developing Nervous System

● **成績考核(Evaluation)**

1.. 課堂表現(attendance and performance)32%: 學生課堂出席及互動、邏輯思辯能力。每周課堂進行指定閱讀反思作業(或簡答題)線上繳交。Interaction during class and constructive criticism in the way of logic. Reading reflections (short answer questions) are submitted online during each class and after completing a reading assignment.

2. 期中考試(Midterm Exam)23%: 評量學生對於課程內容重點及觀念的理解 To evaluate students' understanding of the course content and main ideas.

3. 期末評論報告(opinion essay)45%: 繳交一篇針對生理心理學領域的最新研究（一年內發表）進行評論。一篇評論觀點文章主要三個評分重點：對所評論的研究中所涉及的主題和問題的簡短概述; 對主要發現的描述; 並簡要解釋統計分析邏輯。報告簡潔扼要 1500 字以內。Submit an essay to provide a scholarly review of recent studies in the field of physiological psychology (broadly defined, publication within a year). An opinion essay should have three components: a short overview of the topic and questions addressed in the

reviewed paper; a description of the key findings; and a brief explanation of why the statistical analysis is adequate. I encourage critical reviews, but comments must be accurate, well-reasoned, and diplomatic. Moreover, the focus on what was learned, and what might have been done differently is also encouraged. Submissions must be concise and should be limited to 1,500 words.

● **可連結之網頁位址 相關網頁(Personal Website)**

N/A