

國立台灣大學開授課程大綱

*課程大綱包括:修課條件、課程目的、課程內容、上課方式、成績評量、參考書目...等

課程名稱:生理心理學(中文課程大綱):

目的:研究行為與心智運作的神經生物機制,探討心靈活動與肉體結構間相互作用及依存的關係。

教本:[Biological Psychology] (4th edition, 2005, by Rosenzweig, Breedlove, Watson)

內容:

1. 生理心理學簡介—身心問題與行為發展及演化
2. 神經細胞之構造及功能—神經電位的產生與傳遞
3. 神經系統結構—脊髓與腦的細部構造
4. 神經系統運作—神經訊息之產生、整合與傳遞
5. 研究行為神經基礎的策略與方法
6. 感覺與知覺的神經基礎—觸、聽、味、嗅的神經機制
7. 運動神經基礎—反射與自主性運動
8. 生物週期與睡眠之神經基礎
9. 動機—性行為、飲食、與維持身體內在平衡的神經機制
10. 情緒—焦慮、恐懼與快感的神經機制
11. 學習與記憶的神經機制
12. 語言、思考與認知的神經基礎
13. 生理心理學的應用—病態行為與藥物濫用的神經基礎

課程要求:

1. 每週演講三小時,另外需選擇不同的時間參加一小時的討論課
2. 期中考一次與期末考一次

課程名稱:生理心理學(英文課程大綱):

Objective: The objective of this course is to teach students to understand the neural basis of behavior and mind.

Course description: This course is an introduction to the field of neuroscience and behavioral neurobiology from a biological perspective, including both evolutionary and physiological approaches to behavior. Topics include the structure and function of

the nervous system, genetic and biochemical models of behavior, hormones and behavior, biological bases of learning, cognition, communication, and language, and the evolution of social organization.

Textbook: Biological Psychology (4th edition, 2005, by Rosenzweig, Breedlove, Watson)

Contents:

1. What is biological psychology? Mind and body, behavioral development and evolution
2. The nervous system and functional neuroanatomy: Electrical signals of the nervous system
3. The structures of nervous system: Brain and spinal cord
4. The mechanism of nervous system: conduction, transmission, and the integration of neural signals
5. The methodology and strategy of studying behavioral neuroscience
6. The neural bases of sensory and perception: the neural mechanism of touch, hearing , vestibular perception, taste, and smell
7. The neural bases of movements: Reflex and movement
8. Biological rhythms and sleep
9. Motivation: sex, eating and homeostasis
10. Emotion: anxiety, fear and stress
11. Learning and memory: Neural mechanisms
12. Language and cognition
13. Psychopathology: Biological basis of behavioral disorders

Course requirements:

1. 3-hour lecture per week + one hour discussion section
2. One mid-term exam and one final exam