课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	**课程名称 Course Title**	生物心理学(Biological psychology)
2.	**授课院系 Originating Department**	生物系 Department of Biology
3.	**课程编号 Course Code**	BIO217
4.	**课程学分 Credit Value**	48
5.	**课程类别 Course Type**	专业选修课 Major Elective Courses
6.	**授课学期 Semester**	秋季 Fall
7.	**授课语言 Teaching Language**	中英双语 English & Chinese
8.	**授课教师、所属学系、联系方式（如属团队授课，请列明其他授课教师） Instructor(s), Affiliation& Contact （For team teaching, please list all instructors）**	陈小菁 南方科技大学/生命与健康学院/生物系 广东省深圳市南山区学苑大道 1088 号 chenxj@susteChapteredu.cn Xiaojing Chen Department of Biology No.1088 Xueyuan Avenue, Shenzhen 518055, China
9.	**实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact**	待公布 To be announced
10.	**选课人数限额(可不填) Maximum Enrolment （Optional）**	

11. 授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other（Please specify）	总学时 Total

学时数 **Credit Hours**	44			4（期中考试、复习答疑） (Midterm exam, review and Q&A)	48

12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	生物学原理 Principles of Biology
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite	无 None
14. 其它要求修读本课程的学系 Cross-listing Dept.	无 None

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

本课程是一门为中低年纪本科生开设的交叉学科性质的课程，本课程的总体目标是帮助学生从生物学的视角了解各种心理显现和行为背后的生理机制。

Biological Psychology is an interdisciplinary course designed for freshman/sophomore undergraduate students. The overall goal of this course is to help students to understand how the brain, neurotransmitters, and other aspects of our biology influence our behaviors, thoughts, and feelings.

16. 预达学习成果 Learning Outcomes

1．启发学生认真思考各种心理现象和行为模式后的生物学机制。

2，使学生了解人类是如何思考和行为，以及更好的应对心理困惑。

3．激发学生对生命科学的兴趣。

1. Inspire students to think deeply about the biological mechanisms of psychological phenomena and behavioural patterns.

2. Provide students with knowledge about human's internal mental processes and help them to deal with psychological difficulties by themselves

3. To inspire students to further study biology.

17. 课程内容及教学日历 （如授课语言以英文为主，则课程内容介绍可以用英文；如团队教学或模块教学，教学日历须注明主讲人）
Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

Course Contents:

Chapter 1 Origins of Behavioral Neuroscience **2 hrs**
Understanding Human Consciousness: A Physiological Approach
The Nature of Behavioral Neuroscience
Natural Selection and Evolution
Ethical Issues in Research with Animals
Careers in Neuroscience
Strategies for Learning

Chapter 2 How the Brain Controls Thoughts, Feelings, and Behavior **4 hrs**
The Old Brain: Wired for Survival
The Cerebral Cortex Creates Consciousness and Thinking
Left Brain and Right Brain
Psychology in Everyday Life: Why Are Some People Left-Handed?
Chemical Control of the Brain and Behavior

Chapter 3 Methods and Strategies of Research **4 hrs**

Experimental Ablation and Brain Damage
Measuring and Manipulating Brain Activity
Neurochemical Methods
Genetic Methods
Brain Imaging Techniques

Chapter 4 Psychology of Vision **4 hrs**
Seeing is Believing
The Perception of Objects, Color, and Movement
Visual Illusions - What Are You Actually Seeing
Disorders of Visual Perception

Chapter 5 Hearing and Language **4 hrs**
From listening to hearing
Auditory illusions: How your ears let themselves be fooled
Language, Reading, Writing, and Their Impairment
The Link Between Human Language and Birdsong

Chapter 6 Sleep and Consciousness **4 hrs**
Sleep and Dreaming
Sleep and Memory
Sleep Disorders
The Neural Bases of Consciousness
Awareness, Attention and The Sense of Self

Mid-term exam **2 hrs**

Chapter 7 Sexual and Reproductive Behavior **2 hrs**
Sex as a Form of Motivation
Odors, Pheromones, and Sexual Attraction
Neural Control of Sexual Behavior
Parental Behavior
Sexual Orientation

Chapter 8 Emotional Brain **4 hrs**
Emotions as Response Patterns
Fear and Aggression
Affection and Aversion
Communication of Emotions
Feelings of Emotions

Chapter 9 Ingestive Behavior **2 hrs**
Physiological Regulatory Mechanisms
Drinking
Eating: Some Facts About Metabolism
What Starts a Meal?
What Stops a Meal?
Brain Mechanisms
Obesity
Anorexia Nervosa/Bulimia Nervosa

Chapter 10 Learning and Memory **6 hrs**
The Nature of Learning
Synaptic Plasticity: Long-Term Potentiation and Long-Term Depression
Perceptual Learning
Classical Conditioning
Instrumental Conditioning
Relational Learning

Chapter 11 Psychological Disorders **4 hrs**
Schizophrenia
Bipolar Disorder
Major Depression Disorder

Anxiety Disorders

Chapter 12 Autism, Attention-Deficit, Stress, and Addictive Behavior 4 hrs
Autism
Attention-Deficit/Hyperactivity Disorder
Post-Traumatic Stress Disorder
Addition Behavior

Review and Q&A 2 hrs

第 1 章：行为神经科学的起源 2 小时
理解人类的意识：生理学途径
行为神经科学的本质
自然选择和演化
动物研究的伦理问题
神经科学事业
学习的策略

第 2 章：大脑如何控制思想、感受以及行为 4 小时
古老的大脑：为了生存而连接
大脑皮层创造了意识和思想
左半脑和右半脑
日常生活中的心理学：为什么有人惯用左手
大脑和行为的化学控制

第 3 章：生物心理学的研究方法与策略 4 小时
实验切除与大脑损伤
神经活动的测量和操控
神经化学方法
遗传学方法
脑成像技术

第 4 章：视觉的心理学 4 小时
眼见为实
物体、颜色和运动的感知
视觉幻觉：我们实际看到了什么
视觉感知的障碍

第 5 章：听觉和语言 4 小时
从听到听到
听觉幻觉：我们的耳朵是怎么欺骗我们的
语言，阅读，书写，及其损伤
人类语言和鸟儿歌唱的联系

第 6 章：睡眠和意识 4 小时
睡眠和梦
睡眠和记忆
睡眠障碍
意识的神经基础
认知、注意以及自我意识

期中考试 2 小时

第 7 章：交配和生殖行为 4 小时
性是一种具有动机性的本能行为
气味、信息素以及性吸引力
交配行为的神经控制
亲子行为

性取向

第 8 章：情绪大脑 **4 小时**
情绪作为反应模式
恐惧和攻击
喜爱和厌恶
情绪交流
情绪感受

第 9 章：摄食行为 **4 小时**
生理调剂机制
饮水
进食与新陈代谢
什么引发进食
什么终止进食
脑机制
肥胖
神经性厌食症和神经性贪食症

第 10 章：学习和记忆 **6 小时**
学习的性质
突触可塑性：长时程增强和长时程抑制
知觉学习
经典条件反射
工具性条件反射
关系性学习

第 11 章：心理疾病 **4 小时**
神经分裂
双相障碍
抑郁症
焦虑症

第 12 章：自闭、注意缺陷、应激、成瘾行为 **4 小时**
自闭症
注意缺陷/多动症
创伤应激综合症
成瘾行为

复习和答疑 **2 小时**

18. 教材及其它参考资料 Textbook and Supplementary Readings

Textbook: Foundations of Behavioral Neuroscience: International Edition (Neil R. Carlson, University of Massachusetts)

Supplementary Readings:

Brain & Behavior: An Introduction to Behavioral Neuroscience, 5th Ed. by Bob Garrett, Gerald Hough

课程评估 ASSESSMENT

19.

评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance		10		
课堂表现 Class				

Performance				
小测验 Quiz		10		
课程项目 Projects		20		
平时作业 Assignments				
期中考试 Mid-Term Test		20		
期末考试 Final Exam		30		
期末报告 Final Presentation		10		
其它（可根据需要改写以上评估方式） Others (The above may be modified as necessary)				

20. 记分方式 **GRADING SYSTEM**

☑ A. **十三级等级制 Letter Grading**
☐ B. **二级记分制（通过/不通过） Pass/Fail Grading**

课程审批 REVIEW AND APPROVAL

21. **本课程设置已经过以下责任人/委员会审议通过**
This Course has been approved by the following person or committee of authority

本课程经生物系本科教学指导委员会审议通过。
This Course has been approved by Undergraduate Teaching Steering Committee of Department of Biology.