

國立清華大學 112 學年第 2 學期新開課程課程大綱

科號		組別		學分	3	人數限制	無
修課年級	<input checked="" type="checkbox"/> 大學部 3 年級以上 <input checked="" type="checkbox"/> 碩士班一年級以上(含博士班) <input type="checkbox"/> 碩士班二年級以上(含博士班)						
上課時間	M5W3W4			教室	217		
科目中文名稱	高等神經生物學						
科目英文名稱	Advanced Neurobiology						
任課教師	彭筱明、郭崇涵、林郁婷						
擋修科目	建議先修習醫科系 Neurobiology			擋修分數			

※下列各欄由任課教師提供※

一、課程說明	The course is designed to systematically go over all fields in neuroscience, from cellular and molecular levels, sensory and motor systems to higher brain functions. In addition to the knowledge transfer, we would also like to focus on the practice in logical thinking and reasoning for neuroscience research. Therefore, as an advanced course, students are encouraged to take Neurobiology or have basic knowledge in neuroscience before taking this course.
二、指定用書	
三、參考書籍	Neuroscience Exploring the Brain - Bear, Mark F.
四、教學方式	While the course content is based on the electronic textbook (neuroscience online), extra readings from papers or other resources will be added to update the latest discovery. Besides, 1/3 course will be taught under discussion format. The topics/questions for discussion will be given before each course, and students will need to preview the course online to find the answer before the discussion.
五、教學進度	
六、成績考核	Two midterm and one final. 33% for each.
七、AI 使用規則	Conditionally open; please specify how generative AI will be used in course output
八、講義位址 http://	eeclass

Week	Date	Topic	Lecturer
1	2/19 2/21	Chapter 2: Neurons and Glia (<i>online</i>)	Peng
2	2/26 2/28	Chapter 3: The Neuronal Membrane at Rest (<i>online</i>) 228 假日	Peng
3	3/4 3/6	Chapter 4: The Action Potential (<i>online</i>)	Peng
4	3/11 3/13	Chapter 5: Synaptic Transmission (<i>online</i>)	Peng
5	3/18 3/20	Chapter 6: Neurotransmitter Systems (<i>online</i>)	Peng
6	3/25 3/27	Chapter 7: The Structure of the Nervous System Midterm	Kuo Peng
7	4/1 4/3	Chapter 7: The Structure of the Nervous System 校際活動週	Kuo
8	4/8 4/10	Chapter 8: The Chemical Senses Chapter 9: The Eye	Kuo
9	4/15 4/17	Chapter 10: The Central Visual System Chapter 11: The Auditory and Vestibular Systems	Kuo
10	4/22 4/24	Chapter 12: The Somatic Sensory System Chapter 13: Control of Movement	Kuo
11	4/29 5/1	Presentations	Kuo
12	5/6 5/8	Chapter 19: Brain Rhythms and Sleep Midterm	Lin Kuo
13	5/13 5/15	Chapter 16: Motivation Chapter 17: Sex and Behavior Presentation 1	Lin
14	5/20 5/22	Chapter 18: Brain Mechanisms of Emotion Chapter 22: Mental Illness Presentation 2	Lin
15	5/27 5/29	Chapter 23: Wiring the Brain Chapter 24: Memory Systems Presentation 3	Lin
16	6/3 6/5	Chapter 25: Molecular Mechanisms of Memory Final	Lin