

國立清華大學 109 學年第 1 學期課程大綱

科號	LS3152	組別	00	學分	3	人數限制	0
修課年級	<ul style="list-style-type: none"> ■ 大學部二年級以上 ■ 碩士班一年級以上(含博士班) ■ 碩士班二年級以上(含博士班) 						
上課時間	T7T8T9			教室	LS II 生二 109		
科目中文名稱	演化生物學						
科目英文名稱	Evolutionary Biology						
任課教師	黃貞祥、郭崇涵						
擋修科目	無			擋修分數	無		

※下列各欄由任課教師提供※

一、課程說明	<p>This course is designed for junior and senior students who have finished their introductory courses, such as Life Science I & II (LS1101, LS1102). The lectures can be divided into five parts: I. Introduction, II. Mechanisms of Evolutionary Changes, III. Adaptation, IV. The History of Life. The goals of this course are to cover general principles of evolutionary biology and to help students learn how to think like an evolutionary biologist. Passing of this course is required for taking advanced courses in evolution, such as <i>Molecular Evolution</i>, etc.</p> <p>Lecturer:</p> <p>Dr. Chen Siang Ng (http://gcsng15.wix.com/nglab)</p> <p>Dr. Tsung-Han Kuo (https://sites.google.com/site/behaviorlab/home)</p>
二、指定用書	<i>Evolutionary Analysis</i> , 5th Edition by Scott Freeman and Jon C. Herron (2014, Pearson)
三、參考書籍	-(擬定中)
四、教學方式	<ol style="list-style-type: none"> 1. 主要由任課老師講解學習內容 2. 各個教學單元結束前和學生進行問題討論

五、教學進度

Week	Date	Topic	Chapter	Instructor
1	9/15	Introduction: A brief History of Evolutionary Biology	0	Ng
2	9/22	The Evidence for Evolution & Darwinian Natural Selection	2 & 3	Ng
3	9/29	Reconstructing Evolutionary Trees	4	Ng
4	10/6	Mutation and Genetic Variation & Mendelian Genetics in Populations I	5, 6	Ng
5	10/13	Mendelian Genetics in Populations II	7	Ng
6	10/20	Evolution at Multiple Loci I	8	Ng
7	10/27	Evolution at Multiple Loci II	9	Ng
8	11/3	Studying Adaptation: Evolutionary Analysis of Form and Function	10	Kuo
9	11/10	Sexual Selection	11	Kuo
10	11/17	The Evolution of Social Behavior	12	Kuo
11	11/24	Aging and Other Life History Characters	13	Kuo
12	12/1	Mechanisms of Speciation	16	Kuo
13	12/8	Evolution and Human Health	1 & 14	Ng
14	12/15	Genome Evolution and the Molecular Basis of Adaptation & Development and Evolution	15 & 19	Ng
15	12/22	Development and Evolution & The Origins of Life and Precambrian Evolution	19 & 17	Ng
16	12/30	Evolution and Fossil Record	18	Ng

	17	1/5	Human Evolution	20	Ng
	18	1/12	Final Exam		
	Happy Winter Break				
六、成績考核	<p>One take-home midterm (30%) and a final examination (35%) will cover all our lectures during the semester. Students need to read a couple of research papers for both exams and are also required to write a mini-review (3~ 5 pages) on a topic in evolutionary biology (20%). You're required to ask a question after every class on iLMS (15%). The deadline of the review is January 8, 2021. Your final grade will be based on the exams, your review paper and your participation in the discussion section, and you will be told your approximate grade standing after the final exam, based on your running average scores.</p>				
七、講義位址 http://	iLMS				