

The Big History of Our Planet:
A Scientific Journey Over 14 Billion Years of Evolution (3 Credits)

地球大历史：穿梭一百四十亿年的科学之旅

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Synopsis	History should not be confined to describe human activities only. To understand the origin of many of the features around us, it is actually necessary for us to trace all the way back to the beginning of our universe so as to find a more satisfying answer. In this course we will survey the "Big History" and go through the milestones of the past of our world: the beginning of our universe, the formation of our Earth, the evolution of humans, the development into modern society via practicing agriculture and industrialization, etc. This course will naturally touch upon different academic disciplines, and investigate what are the favorite conditions that urged our world to keep on increasing its complexity. In the end this allows us to reflect upon how humans fit in our world. This course is equivalent to SCNC1113 offered at the University of Hong Kong.		
Offering	2018 July Semester (Julmester)		
Audience	Undergraduate and Graduate Students (all majors and all levels) with no prerequisites		
Classroom	Room TBA, Teaching Bldg. No. TBA, Peking University		
Schedule	Class: 1-4 PM, M-F, July 2–20, 2018 Except: 1-5 PM on July xx, 2018		
	Fieldtrip (optional): July xx or xx, 2018	Final Exam: 1-3 PM, July 21, 2018	Total Contact Hours: 45
Objective	By exploring the Big History of our planet: from the Big Bang of the Universe, the synthesis of different chemical substances, through the evolution of various species on Earth, to the establishment of modern human society, the course aims to: (1) discuss the process of scientific discovery, and how our current body of knowledge about Nature was established; (2) develop students' understanding of the multi-disciplinary nature of science; (3) develop students' understanding of the importance of science and technology to our society, in formulating policies in the society, and solving the future problems of our planet; (4) increase scientific literacy.		
Topics	<u>Part I: From the Cosmos to the Atom</u> 1. What is Big History? 2. Big Bang & the Evolution of Early Universe 3. Nucleosynthesis & the Formation of Elements 4. The Origin of Solar System & the Formation of the Earth <u>Part II: From the Atom to Life</u> 5. The Origin of Life on Earth 6. The Evolution of Life on Earth	<u>Part III: From Life to Mind to Society</u> 7. The Start of Agriculture 8. The Early Agrarian Society & Civilization 9. The Modern & Industrial Revolutions <u>Part IV: Looking into the Future</u> 10. The Anthropocene 11. The History of our Future	
Field Trip	Visit Zhoukoudian (周口店) to view the <i>Peking Man</i> (<i>Homo erectus pekinensis</i>). For further details check out https://en.wikipedia.org/wiki/Peking_Man . Trip is optional and those electing to go will have to pay a charge.		
References	1. David Christian, Cynthia Brown and Craig Benjamin, <i>Big History: Between Nothing and Everything</i> ; McGraw-Hill Education (2013). 2. Fred Spier, <i>Big history and the future of humanity</i> ; 2 nd Edition; Wiley-Blackwell (2015). 3. Charles Darwin, <i>The Origin of Species</i> , 1 st Edition. 4. The Big History Project website: https://www.bighistoryproject.com/		
Grading	Individual Assignments	40%	
	Group Project & Presentation	30%	
	Final Exam	20%	
	Participation	10%	
		Total	100%