朝陽科技大學 093學年度第1學期教學大綱
lifescience 生命科學概論

當期課號	0610	Course Number	0610
授課教師	陳靖棻	Instructor	CHEN,CHIN FUN
中文課名	生命科學概論	Course Name	lifescience
開課單位	自然與應用科技類(日)	Department	
修習別	選擇必修	Required/Elective	Topics in Natural and Applied Sciences
學分數	2	Credits	2
課程目標	由於對生命的日愈重視，因此生命科學的探討聚集了更多人的注意。本門課主要是經由生命起源及滅絕的過程來探討，進而了解生命的來源，尊重生命，並進一步了解目前國內對生物科技發展的情形和其在未來生活上的應用。	Objectives	In Life Science, students are introduced to the scientific study of living things. They should develop their understanding of the way a single species functions in its environment as well as how communities of species live in their environment and interact with one another. Students should be able to recognize genes, to understand biotechnology, to develop their conscience and to have respect to all things in the world.
教材	自編講義。主要參考書目如下： 1. Tobin, A. J. and Dusheck, J. (2001) Asking About Life. Harcourt College Publishers, second ed., USA 2. Glick, B. R. and Pasternak, J. J. (1999) Molecular Biotechnology: Principles and application of recombination DNA, American Society for Microbiology Press, USA 3. Alexander, G. M. (1983) Life Science. Scott Foresman and Company. Glenview, Illinois, USA 4. 麥爾，1999。看！這就是生物學。天下遠見出版社。 5. 最新中英文期刊（Science, Nature, Cell, …）與新聞報導	Teaching Materials	
成績評量方式	測驗（30%）、上台報告（30%）、平時成績（出席與討論）（40%）	Grading	Quiz (30%)、oral presentation (30%)、class performance (attendance and participation) (40%)
教師網頁	http://www.cyut.edu.tw/~argentina		
教學內容	[課程目標]生命無法一言以蔽之。本課程將以深入淺出之方式，介紹生命的意義與源起、生命的表現與演化、基因與生物科技以及其在農業上、醫學上以及生態環境上所造成的影響與衝擊，使同學能以全方位之觀點認識生命，進而瞭解生命並且尊重生命！ [教學內容] 1. 課程說明與課程簡介 2. 你從哪裡來？（生命的意義與源起/進化論） 3. 你是什麼作的？（生命的組成與架構） 4. 誰與你共舞？（微生物、植物、動物、病毒…） 5. 如何吃得健康？如何活的健康？（生命的交互作用） 6. 文明病 7. 生命的秘密--DNA與其表現（突變與老化） 8. 生命的延續--遺傳的歷史 9. 生物科技：DNA重組技術 10. 微生物、植物與生物科技 11. 海洋生物與生物科技	Syllabus	[Objectives]In Life Science, students are introduced to the scientific study of living things. They should develop their understanding of the way a single species functions in its environment as well as how communities of species live in their environment and interact with one another. Students should be able to recognize genes, to understand biotechnology, to develop their conscience and to have respect to all things in the world. [Syllabus] 1. Introduction 2. Exploring Life: the origin and definition of life 3. The structure of cells 4. Diversity of life: Microorganisms, plants, animals and viruses 5. Interaction of living things 6. Diseases 7. The secret of life 8. Heredity

	12. 動物與生物科技：基因轉殖植物與生命複製（純系複製技術） 13. 生物科技與醫藥：基因寶寶/肥胖基因 14. 生物科技與醫藥：生技製藥/基因治療 15. 生物科技與醫藥：幹細胞/組織工程（美容）/生物晶片與微陣列 16. DNA指紋：PCR技術、RFLP與親子鑑定 17. 生物科技的未來與展望/台灣生物科技：科技產業的明日之星生技投資與專利/生物科技終極關懷：商機？危機？ 18. 生命的未來--地球實驗室？		9. Biotechnology: gene and DNA recombination 10. Microorganisms, plants and biotechnology 11. Aquaculture and biotechnology 12. Animals and biotechnology: transgenic animals and clones 13. Clinical medicine and biotechnology: sterility and obese genes 14. Clinical medicine and biotechnology: pharmaceutical biotechnology and gene therapy 15. Clinical medicine and biotechnology: stem cell, tissues/organs regeneration and biochips 16. DNA fingerprinting 17. The future of biotechnology: crisis ? 18. Conclusion

尊重智慧財產權，請勿非法影印。