國立清華大學_110_學年第_2_學期新開課程課程大綱

科號	11120LSBS544200	組別		學分	2	人數限制	須與老師討論後加簽選課
修課年級							
上課時間	F5F6			教室	生科二 446		
科目中文名稱	植物分子生物技術特論						
科目英文名稱	Special Topics on Plant Molecular Biotechnology						
任課教師	劉姿吟						
擋修科目				擋修分數			

一、課程說明	To help students understand what plant molecular biotechnology is all about and obtain the basic and updated knowledge of the technology behind plant genetic manipulation as well as the application of the technology to the growth and cultivation of plants.
二、指定用書	Adrian Slater, Nigel W. Scott, Mark R. Fowler. (2008) Plant Biotechnology: The Genetic Manipulation of Plants. 2nd edition. Oxford University Press.
三、參考書籍	Ara Kirakosyan, Peter B. Kaufman. (2009) Recent Advances in Plant Biotechnology. Springer.
四、教學方式	**採互動式教學:學生需要課前預習以及課堂上參與討論**
五、教學進度	1. Plant Genomes: The Organization and Expression of Plant Genes 2. Plant Tissue Culture 3. Techniques for Plant Transformation 4. Vectors for Plant Transformation (I) 5. Vectors for Plant Transformation (II) 6. Protein expression using the plant system (I) 7. Protein expression using the plant system (II)
	8.The Genetic Manipulation of Herbicide tolerance 9. The Genetic Manipulation of Pest Resistance 10. Strategies for engineering stress tolerance (I) 11. Strategies for engineering stress tolerance (II) 12. Improvement of crop yield and quality 13. Molecular farming

	14. Advances in Plant Biotechnology
	Final Exam
六、成績考核	In-class discussion: 25% Report: 25% Final exam: 50%
七、講義位址 http://	