

## 國立清華大學 105 學年第 1 學期新開課程課程大綱

科號	10510LSBS54 5100	組別		學分	2	人數限制	須與老師討論 後加簽選課
修課年級	大二以上						
上課時間	F5F6	教室	生一 323A				
科目中文名稱	阿拉伯芥模式生物研究特論						
科目英文名稱	Special Topics on Arabidopsis Research						
任課教師	劉姿吟						
擋修科目				擋修分數			

一、課程說明	<p>1. To help students to understand anatomical structures, cellular activities, and life processes of Arabidopsis based on their complete life cycle from germination to senescence.</p> <p>2. To provide students a framework of molecular plant life to pursue advanced study in Arabidopsis physiology.</p>
二、指定用書	The Arabidopsis Book (2002). e-ISSN: 1543-8120 <a href="http://www.bioone.org/loi/arbo.j">http://www.bioone.org/loi/arbo.j</a>
三、參考書籍	Russell Jones, Helen Ougham, Howard Thomas and Susan Waaland (2012) The Molecular Life of Plants. American Society of Plant Biologists & Wiley-Blackwell
四、教學方式	<p>1.採互動式教學:學生需要課前預習以及在課堂上參與討論</p> <p>2.選出特定主題中最新的研究文獻,分別在期中和期末進行口頭報告</p>
五、教學進度	<ol style="list-style-type: none"> <li>1. Taxonomy and Phylogeny of Arabidopsis (Brassicaceae)</li> <li>2. The Arabidopsis Cell Division Cycle</li> <li>3. A Molecular Portrait of Arabidopsis Meiosis</li> <li>4. Chloroplast Biogenesis: Control of Plastid Development, Protein Import, Division and Inheritance</li> <li>5. Leaf Development</li> <li>6. Root Development</li> <li>7. Flower Development</li> <li>8. Fruit Development in Arabidopsis</li> <li>9. Seed Dormancy and Germination</li> </ol>
	Mid-term oral presentation

	10. Apoplastic Diffusion Barriers in Arabidopsis 11. Phosphate Transport and Homeostasis in Arabidopsis 12. Photoperiodic Regulation of Florigen Function 13. Genetic and Epigenetic Mechanisms Underlying Vernalization 14. Cellulose Synthesis and Its Regulation 15. Sugar Sensing and Signaling 16. Repair of Damaged Bases
	Final oral presentation
六、成績考核	In-class discussion: 30% Mid-term oral presentation: 35% Final oral presentation: 35%
七、講義位址 http://	