

课程大纲 COURSE SYLLABUS

1.	课程代码/名称 Course Code/Title	高级植物生物学前沿与交叉 Advanced Interdisciplinary Studies in Plant Biology
2.	课程性质 Compulsory/Elective	选修课 Elective
3.	课程学分/学时 Course Credit/Hours	2 学分 2 points/32 hours
4.	授课语言 Teaching Language	中英文 Chinese and English
5.	授课教师 Instructor(s)	郭红卫 Hongwei Guo
6.	先修要求 Pre-requisites	《普通生物学》《分子生物学》 <i>General Biology, Molecular Biology</i>
7.	教学目标 Course Objectives	
	<p>面向多学科博士研究生，邀请来自多个领域的国内外知名教授介绍当今植物生物学热点研究方向和最新前沿，重点结合国际上以及南科大植物学方向重大突破和先进技术，激发学生对于植物学研究的兴趣，促进南科大植物学以及跨学科研究的蓬勃发展。</p> <p>Professors from home and broad will be invited to introduce the latest trends as well as the latest laboratory research progresses and pioneer technologies in plant biology of the Department of Biology to graduate students. This aims to inspire students to study plant biology, promotes interdisciplinary studies between plant biology and other areas in SUSTech.</p>	
8.	教学方法 Teaching Methods	
	<p>1.教授讲课 邀请来自多个领域的国内外知名教授讲解所在领域的最新研究进展。</p> <p>1. Lectures by Professors Invite famous professors of many fields to have lectures about the recent development of research in their field.</p> <p>2.小组讨论 教师指导学生以小组形式，围绕某一中心议题发表自己的看法，相互交流、相互学习。通过讨论可以使学生们集思广义，取长补短，加深对所学知识的理解和增长新知识，发挥学生的主动性，合作解决问题。</p> <p>2. Group Discussion The teacher instructs students to give their own opinions about the issue, and make them to communicate and learn. Through discussion, students will help each other and learn from each other, deepen their knowledge, understanding and gain more new knowledge. Besides, their autonomy will also be encouraged in order to solve problems together.</p>	
9.	教学内容 Course Contents	
	Section 1	植物发育生物学研究，包括光形态建成、植物株型建成机制和激素调控机制。 Frontiers in plant development biology, including photo-morphogenesis, plant architecture establishment and hormone regulation mechanisms.
	Section 2	植物细胞生物学研究，包括囊泡运输、细胞骨架和细胞极性建立研究。 Frontiers in plant cell biology, including endomembrane trafficking, cytoskeleton dynamics and cell polarity mechanisms.
	Section 3	植物抗逆生理学研究，包括 ABA、JA 信号调控网络研究。

	Frontiers in plant stress biology, including ABA and JA signalling network.
Section 4	植物表观遗传学前沿，包括甲基化、乙酰化调控、转录后调控和染色体高级结构调控机制。 Frontiers in plant epigenetics studies, including DNA methylation, acetylation, post-transcriptional regulation and chromosome remodelling mechanisms.
Section 5	植物生殖生物学前沿，包括雌雄配子体发育和胚胎发育机制研究。 Frontiers in plant reproductive biology, including male and female gametophyte development as well as embryogenesis mechanisms.
10.	课程考核 Course Assessment
	讲座考勤（20）、选择感兴趣的主题完成课程报告（50）、小组合作讨论完成期末报告（30）三方面内容 Attendance (20 points), Reports for section of interest (50 points), Group Report (30 points),
11.	教材及其它参考资料 Textbook and Supplementary Readings
	网上在线教材《Arabidopsis book》，可免费下载 Online text book – Arabidopsis Book, free download.