

课程大纲

COURSE SYLLABUS

1.	课程名称(中英文) Course Title(Chinese and English)	研究生入学综合科研培训 Orientation
2.	课程类别 Course Type	公共课(通识通修课) General Graduate Education
3.	授课院系 Originating Department	生物系 Biology
4.	可选课学生所属院系 Open to Which Majors	生物系 Biology
5.	课程学时 Credit Hours	32
6.	课程学分 Credit Value	2
7.	授课语言 Teaching Language	中文 Chinese
8.	授课教师 Instructor(s) (如果是一个课题组共同讲授的,请标明 MI 以及其他构成成员。)	姬生健(主持), 魏闻捷, 刘晓梅, 李周芳, 王莹, 卢希彬, 秦苏, 李赞, 王益林, 郭辉, 刘长高 JI Shengjian (MI), WEI Wenjie, LIU Xiaomei, LI Zhoufang, WANG Ying, LU Xibin, QIN Su, LI Zan, WANG Yilin, GUO Hui, LIU Changgao
9.	先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	无 No
10.	教学目标 Course Objectives	
	<p>通过本课程的学习, 研究生将可以系统性地学习学术道德、科研伦理、实验动物科学基本知识和实验动物的福利伦理、实验室安全、现代生命科学主要技术的原理等知识, 并了解生命科学中心和生物系等科研平台的主要仪器。所有这些将会有力地保证研究生学习和训练的完整性, 为研究生成为一个合格的科研工作者打下良好的基础。</p> <p>In this orientation course, the graduate students will systematically learn the knowledge of academic morality, research ethics, experimental animal basics, welfare and ethics, lab safety, and principles for main modern life science techniques. In addition, they will be introduced with the platform equipment of Life Science Center and Department of Biology. All these will enhance the integrity of graduate study and training processes, and prepare the graduate students for qualified scientific researchers of the future.</p>	
11.	教学方法及授课创新点 Teaching Methods and Innovations	
	<p>本课程开创性地将学术道德、科研伦理、实验动物科学基本知识和实验动物的福利伦理、实验室安全、现代生命科学主要技术的原理等知识有机地整合在一起, 为刚入学的研究生进行集中培训。避免了以前相关教学和培训内容分散、零碎的缺点。</p> <p>This course, in a pioneering way, integrates the knowledge of academic morality, research ethics, experimental animal basics, welfare and ethics, lab safety, and principles for main modern life science techniques, and acts as an academic</p>	

and scientific orientation for the new graduate students. All these give this course an advantage over the previously developed similar courses which were fragmented and disconnected.

12. 教学内容及学时分配 Course Contents and Course Schedule

授课教师	单元内容/题目	课时	考核方式
姬生健 JI Shengjian	学术道德和科研伦理 Academic morality and research ethics	2	评论论文 Commentary essay
刘长高 LIU Changgao	实验室安全 Lab Safety	2	考试 Test
魏闻捷 WEI Wenjie	科研数据可视化概览 Introduction to scientific data visualization	2	任选感兴趣的单元内容完成一篇综述论文 Write an review essay for either unit
魏闻捷 WEI Wenjie	激光共聚焦扫描显微镜原理与应用；平台主要相关仪器简介 Principles and applications of confocal laser scanning microscopy; introduction to the related platform equipment	2	
王益林 WANG Yilin	超高分辨率显微镜类型与应用；平台主要相关仪器简介 Ultra-high resolution microscopy: types and applications; introduction to the related platform equipment	2	
王益林 WANG Yilin	图像分析和处理 Image analysis and processing	2	
刘晓梅 LIU Xiaomei	实验动物科学基本知识；南方科技大学实验动物中心简介；实验动物使用申请、培训程序和注意事项；提供技术服务的原理及应用范围 Experimental animal basics; introduction to the SUSTech Experimental Animal Center; application and training procedures for experimental animal usage; principles and applications of experimental animal services	2	
刘晓梅 Liu Xiaomei	动物平台仪器原理及应用范围介绍；基因工程小鼠的繁育经验分享；实验动物基础技能操作理论介绍 Principles and applications of experimental animal platform equipment; genetically modified experimental animal breeding; introduction to the basic experimental animal operation	2	
郭辉 GUO Hui	实验动物的福利伦理；实验动物伦理申请指南 Experimental animal welfare and ethics; instructions for experimental animal ethics protocol application	2	
王莹 WANG Ying	钙离子成像、MicroCT 和膜片钳等技术原理；平台主要相关仪器简介、应用及实验设计 Principles for the calcium imaging, MicroCT and patch clamp method; introduction, applications and experimental designs for the related platform equipment	2	
秦苏 QIN Su	离心技术原理与应用；平台主要相关仪器简介 Principles and applications of centrifuge technologies; introduction to the related platform equipment	2	
秦苏 QIN Su	生物大分子相互作用分析技术；平台主要相关仪器简介 Principles and applications of the interaction analysis of biomacromolecules; introduction to the related platform equipment	2	
卢希彬 LU Xibin	流式细胞术原理与应用；平台主要相关仪器简介 Principles and applications of flow cytometry; introduction to the related platform equipment	2	
李赞 LI ZAN	冷冻电镜原理与应用；平台主要相关仪器简介 Principles and applications of cryo electron microscope; introduction to the related platform equipment	2	
李赞 LI Zan	电镜制样 Sample preparation for the cryo electron microscopy	2	
李周芳 LI Zhoufang	高通量测序原理及其应用；平台主要相关仪器简介 Principles and applications of high-throughput sequencing; introduction to the related platform equipment	2	

13. 课程考核 Course Assessment

由各单元任课老师为作业打分或者考试，最后由课程协调人根据各单元成绩，并结合出勤情况，给出最后成绩。实行十级制：

Teachers of each unit will score the essays or test. The MI will incorporate all these scores and attendance, giving the final score based on the ten-point system:

十级制分值	A+	A	A-	B+	B	B-	C+	C	C-	D
百分制分值	96~100	90~95	85~89	80~84	75~79	70~74	67~69	63~66	60~62	0~59

14. **教材及其它参考资料 Textbook and Supplementary Readings**

参考书：

北大高等教育文库•学术道德与学术规范系列读本•《给研究生的学术建议》，[英]戈登-鲁格，[英]玛丽安-彼得 著，北京大学出版社

References:

The Unwritten Rules of PhD Research. Gordon Rugg and Marian Petre. 2004.