

课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	课程名称 Course Title	植物多样性实践 Plant Diversity Internship
2.	授课院系 Originating Department	生物系 Department of Biology
3.	课程编号 Course Code	BIO105
4.	课程学分 Credit Value	1
5.	课程类别 Course Type	通识通修选修课 General Education (GE) Elective Courses
6.	授课学期 Semester	暑期或秋季 Summer or Autumn Semester
7.	授课语言 Teaching Language	中文 Chinese
8.	授课教师、所属学系、联系方式 (For team teaching, please list all instructors)	<p>焦根林 副研究员 深圳市中国科学院仙湖植物园 jiaogenlin@szbg.ac.cn Jiao Genlin, associate professor, FairyLake Botanical Garden, Shenzhen & Chinese Academy of Sciences</p> <p>仙湖植物园其他指导老师：焦根林研究员根据植物园在园人员情况安排和指定 Other teachers will be assigned and arranged by professor Jiao Genlin according to the actual conditions in FairyLake Botanical Garden.</p> <p>马小英 工程师 生物系 maxy@sustech.edu.cn MA Xiaoying, Teaching Engineer, Department of Biology, Southern University of Science and Technology</p> <p>余春红 工程师 生物系 yuch@sustech.edu.cn YU Chunhong, Teaching Engineer, Department of Biology, Southern University of Science and Technology</p>
9.	实验员/助教、所属学系、联系方式	待公布 To be announced

Tutor/TA(s), Contact						
10. Maximum Enrolment (Optional)	选课人数限额(可不填)	30				
11. Delivery Method	授课方式	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total
Credit Hours	学时数	12		20		32
12. Pre-requisites or Other Academic Requirements	先修课程、其它学习要求	无 None				
13. Courses for which this course is a pre-requisite	后续课程、其它学习规划	无 None				
14. Cross-listing Dept.	其它要求修读本课程的学系	无 None				

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

通过植物多样性实践，学生将较为系统地学习关于植物系统进化、植物生态学、植物生物多样性等方面的知识。课程采取课堂讲授结合植物园现场教学的形式，将苔藓植物、蕨类植物、裸子植物、被子植物等方面的知识按植物进化的方向，系统地传授给学生。课程还将学习植物分类学基本知识、标本制作、生物多样性保护、生态修复、药用植物、花卉园艺等方面的知识。本实习实践教学旨在加深学生对生物多样性的认知，同时提升学生对生命科学相关领域的学习兴趣。

According to the studies of Plant Diversity Internship, students will learn systematically the knowledge about evolution, ecology and environment, plant diversity et al. The course will combine introduction in class and internship in botanical garden. The evolution direction of plant such as bryophyta, pteridophyte, gymnosperm, angiosperm will be studied step by step. Basic knowledge of plant taxonomy, preparation of specimen, biodiversity protection, ecological restoration, medicinal plant, ornamental plant will be studied. This course will try to enrich the knowledge on biodiversity. It will promote students' interesting in life science.

16. 预达学习成果 Learning Outcomes

通过植物多样性实践，学生将较为系统地学习关于植物系统进化、植物生态学、植物生物多样性等方面的知识。课程采取课堂讲授结合植物园现场教学的形式，将苔藓植物、蕨类植物、裸子植物、被子植物等方面的知识按植物进化的方向，系统地传授给学生。课程还将学习植物分类学基本知识、标本制作、生物多样性保护、生态修复、药用植物、花卉园艺等方面的知识。本实习实践教学旨在加深学生对生物多样性的认知，同时提升学生对生命科学相关领域的学习兴趣。

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17. 课程内容及教学日历（如授课语言以英文为主，则课程内容介绍可以用英文；如团队教学或模块教学，教学日历须注明主讲人）

Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

NO.1 课程介绍（1 学时）

NO.1 Course Introduction (1 class hour)

介绍实习实践的纪律要求、安全事项、实践安排、考核方式等，要求学生清楚本实习课程基本内容、安排和要求。

Introduction about safety and disciplines in this Internship. The major content, schedules ,evaluation will be introduced. Students will obtain the general information about this course.

NO.2 植物分类学基础知识与标本制作 (3 学时)

NO.2 Plant Taxonomy & Preparation of Specimen(3 class hour)

学习植物分类学基本知识，了解植物进化基本历程，了解植物标本在植物多样性学习中的重要作用，参观仙湖植物园植物标本馆，学习植物标本制作基本知识。

Study the basic knowledge on plant taxonomy, understand the basic evolution process of biology. The significance of specimen in biodiversity will be introduced. Visit the herbarium of FairyLake Botanical Garden and study how to prepare herbarium.

NO.3 苔藓植物专题学习（3 学时）

NO.3 Thematic Learning of Bryophyta (3 class hour)

系统学习苔藓植物的基本分类特征、特点、应用等方面的知识，通过仙湖植物园的专类园“孢子沟”进行苔藓植物现场教学和观察，了解苔藓植物生物多样性基本知识，识别较常见的苔藓植物，积累生物多样性中关于苔藓植物的基本知识。

Thematic learn the basic knowledge on bryophyta such as taxonomic character, feature, application and so on. According to the observation and learning on-the-spot of the specialized garden “Spore ditch” in FairyLake Botanical Garden, the biodiversity of bryophyta will be studied. Students will recognize common species of bryophyta and their biodiversity vision will be broaden.

NO.4 蕨类植物专题学习（3 学时）

NO.4 Thematic Learning of Pteridophyte (3 class hour)

系统学习蕨类植物的基本分类特征、特点、应用等方面的知识，通过仙湖植物园的专类园“蕨园”进行蕨类植物现场教学和观察，了解蕨类植物生物多样性基本知识，识别较常见的蕨类植物，积累生物多样性中关于蕨类植物的基本知识。

Thematic learn the basic knowledge on pteridophyte such as taxonomic character, feature, application and so on. According to the observation and learning on-the-spot of the specialized garden “pteridophyte garden”, the biodiversity of pteridophyte will be studied. Students will recognize common species of pteridophyte and their biodiversity vision will be broaden.

NO.5 裸子植物专题学习（3 学时）

NO.5 Thematic Learning of Gymnosperm (3 class hour)

系统学习裸子植物的基本分类特征、特点、应用等方面的知识。通过仙湖植物园裸子植物专类园“裸子植物区”、“苏铁园”进行植物现场教学和观察，了解裸子植物生物多样性基本知识，识别较常见的裸子植物，积累生物多样性中关于裸子

植物的基本知识。

Thematic learn the basic knowledge on gymnosperm such as taxonomic character, feature, application and so on. According to the observation and learning on-the-spot of the specialized garden "gymnosperm garden" and "cycas garden". The biodiversity of gymnosperm will be studied. Students will recognize common species of gymnosperm and their biodiversity vision will be broaden.

NO.6 被子植物专题学习 1-苦苣苔科 (3 学时)

NO.6 Thematic Learning of Angiosperm 1-Gesneriaceae (3 class hour)

被子植物种类繁多，本次课程通过仙湖植物园收集的专类被子植物-苦苣苔科植物为代表，给学生普及被子植物的基本分类及进化特征、特点、应用等方面的知识。通过仙湖植物园保种中心的现场教学和观察，了解被子植物生物多样性基本知识，识别较常见的被子植物，积累生物多样性中关于被子植物的基本知识。

The biodiversity of angiosperm is extremely rich. This class will study the basic knowledge on gymnosperm such as taxonomic character, feature,application according to the characteristic plant collections of gesneriaceae. The "conservation center" in FairyLake Botanical Garden will be used as on-the-spot observation and learning. The biodiversity of gymnosperm will be introduced. Students will recognize common species of gesneriaceae and their biodiversity vision will be broaden.

NO.7 被子植物专题学习 2-兰科 (3 学时)

NO.7 Thematic Learning of angiosperm 2 (3 class hour)

被子植物种类繁多，中国兰科植物均属于濒危物种。本次课程通过仙湖植物园收集的专类被子植物-兰科植物为学习对象，继续学习被子植物的基本分类及进化特征、特点、应用等方面的知识。通过仙湖植物园专类园“蝶谷幽兰”进行现场教学和观察，丰富被子植物生物多样性基本知识，识别较常见的兰科植物，积累生物多样性中关于兰科植物的基本知识。

The biodiversity of angiosperm is extremely rich and the plant of Orchidaceae in china are endangered species. This class will study the basic knowledge on gymnosperm such as taxonomic character, feature,application according to the characteristic plant collections of Orchidaceae. The garden of "butterfly valley and orchid garden" in FairyLake Botanical Garden will be used as on-the-spot observation and learning. The biodiversity of Orchidaceae will be enriched. Students will recognize common species of Orchidaceae and their biodiversity vision will be broaden.

NO.8 生态修复专题学习 (6 学时)

NO.8 Ecological restoration (6 class hour)

通过生态修复专题学习，学生将对生物多样性信息学、物种分布生态学、濒危物种评价和保护、生物多样性应用、可持续发展、生态修复等生态学基本知识有一定的了解。现场教学通过调查毗邻仙湖植物园的梧桐山物种多样性，让学生对深圳地区的植物多样性有一定的认识，对生态修复有一定的了解。

According to this project of ecological restoration, students will learn some basic knowledge on biodiversity informatics, species distribution,endangered species evaluation and protection, application of biodiversity,sustainable development, et al. "Wutong garden" which neighbored FairyLake Botanical Garden will be used as on-the-spot observation and learning. Students will have a common construe on plant biodiversity in Shenzhen and have some understanding in ecological restoration.

NO.9 药用植物专题学习 (3 学时)

NO.9 Medicine plants (3 class hour)

通过药用植物专题学习和仙湖植物园内“药用植物专类园”的现场教学，学生将对植物在医药方面的应用有基本的了解，可以识别部分常用药用植物，本次课不仅可以丰富学生生物多样性方面的知识，也可拓展学生对植物应用研究方面的视

野。

According to this project of medicine plant, students will learn some basic knowledge on plant applications. "medicine plant garden" in FairyLake Botanical Garden will be used as on-the-spot observation and learning. Students will have a common sense on medicine plant and their plant application vision will be broaden.

NO.10 园艺植物专题学习 (3 学时)

NO.10 Ornamental plants (3 class hour)

通过学习观赏植物的育种、栽培和花园设计，了解植物与日常生活的关系。本次课将组织学生在植物园“天上人间”开展花卉栽培和花园营造实践活动，增强学生对植物的感性认识，激发学生对美的追求和认识，增强对生物学特别是植物学的学习兴趣。

According to the study of ornamental plants, students will learn some basic knowledge on plant breeding, cultivation and garden design. The relationship between plant and daily life will be understood better. Student will practise culture flower plant and design mini garden in "Heaven and real word" of FairyLake Botanical Garden. This course will enhance the perceptual knowledge on plant. It will promote aesthetics pursuing and enhance the study interesting in biology, especial in plant.

NO.11 课程回顾与讨论 (1 学时)

NO.11 Course review and discussion (1 class hour)

组织学生对本次实习进行学习总结和经验分享，并收集学生对实习实践活动的建议和意见。

Learning summary and experiences sharing will be organized among students and teachers. Suggestions and recommendations about this course will be collected.

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

无指定教材和参考书。

No specified textbook and references.

课程评估 ASSESSMENT

19. 评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance		30		
课堂表现 Class Performance		30		
小测验 Quiz				
课程项目 Projects				
平时作业 Assignments				
期中考试 Mid-Term Test				
期末考试 Final Exam				

期末报告 Final Presentation		40		
其它（可根据需要 改写以上评估方 式） Others (The above may be modified as necessary)				

20. 记分方式 **GRADING SYSTEM**

<input type="checkbox"/> A. 十三级等级制 Letter Grading <input checked="" type="checkbox"/> B. 二级记分制（通过/不通过） Pass/Fail Grading

课程审批 REVIEW AND APPROVAL

21. 本课程设置已经过以下责任人/委员会审议通过
This Course has been approved by the following person or committee of authority

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