

## 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 <b>Course Title</b>	创新设计课程（水资源） Innovative Design（Water Resources）
2.	授课院系 <b>Originating Department</b>	环境科学与工程学院 School of Environmental Science and Engineering
3.	课程编号 <b>Course Code</b>	ESE481
4.	课程学分 <b>Credit Value</b>	4
5.	课程类别 <b>Course Type</b>	专业核心课 Major Core Courses
6.	授课学期 <b>Semester</b>	秋季 Fall
7.	授课语言 <b>Teaching Language</b>	中文 Chinese
8.	授课教师、所属学系、联系方式 （如属团队授课，请列明其他授课教师） <b>Instructor(s), Affiliation &amp; Contact (For team teaching, please list all instructors)</b>	史江红, Jianghong Shi, <a href="mailto:shijh@sustech.edu.cn">shijh@sustech.edu.cn</a> 熊鹰, Ying Xiong, <a href="mailto:xiongy@sustech.edu.cn">xiongy@sustech.edu.cn</a>
9.	实验员/助教、所属学系、联系方式 <b>Tutor/TA(s), Contact</b>	待公布 To be announced
10.	选课人数限额(可不填) <b>Maximum Enrolment(Optional)</b>	

11. 授课方式 Delivery Method	讲授	习题/辅导/讨论	实验/实习	其它(请具体注明)	总学时
	Lectures	Tutorials	Lab/Practical	Other (Please specify)	Total
学时数 Credit Hours	4	16	108	0	128

12. 先修课程、其它学习要求 Pre-requisites or Academic Requirements	Other	先修课 Pre-requisites:水文学原理与应用 Hydrology: Principles and Applications, 地下水水文学/Groundwater Hydrology
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite		无 N/A
14. 其它要求修读本课程的学系 Cross-listing Dept.		无 N/A

### 教学大纲及教学日历 SYLLABUS

#### 15. 教学目标 Course Objectives

本课程主要目标是培养学生水文专业知识的实际应用能力。

This course is designed to cultivate students' professional knowledge and application ability.

#### 16. 预达学习成果 Learning Outcomes

学生经过课程学习能够创新水资源利用与水资源保护设计, 通过数学建模、现场调查、实验模拟装置设计与运行等方式, 开发适宜的模型和装置, 围绕现有问题形成解决方案和技术指导手册, 取得一定的实践成果。

In this course students can solve the water resources utilization and water resources environmental problems and innovate water resources use and the water resources protection design, through the mathematical modelling, On-site investigation, experimental simulation device design and operation. When finishing this course, students can form a solution and technical guidance manuals.

#### 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.)

时间 Week	教学内容 Content	学时 Class hours
第一周 Week One	初次会议, 组建团队, 计划周报进度。 Initial meeting, team formation, plan weekly progress.	4
第二周 Week Two	创新项目介绍与交流, 企业导师见面。 Introduction of innovative projects, and meeting with corporate mentors.	4
第三周 Week Three	企业考察、交流.. Inspecting enterprise and communicating with mentors.	4
第四周 Week Four	小组讨论, 初步创新设计方案确定。 Group discussion, preliminary innovative design scheme to determine.	10
第五周 Week Five	模型软件学习 Model software learning	10

第六周 Week Six	模型软件学习 Model software learning	10
第七周 Week Seven	模型构建 Model construction	10
第八周 Week Eight	模型构建 Model construction	10
第九周 Week Nine	项目现场踏勘, 取样 Project site survey, sampling	10
第十周 Week Ten	期中汇报, 讨论交流 Midterm report, discuss	10
第十一周 Week Eleven	样品测试 Sample test	10
第十二周 Week Twelve	模型参数验证和场景模拟 Model parameter validation and scene simulation	10
第十三周 Week Thirteen	模型参数调整 Model parameter adjust	10
第十四周 Week Fourteen	报告及 PPT 提交 Electronic reporting and PPT submission	8
第十五周 Week Fifteen	课堂演示及测试, 终期考核 Class demonstration and test, final examination	4
第十六周 Week Sixteen	课堂演示及测试, 终期考核 Class demonstration and test, final examination	4

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

无 N/A
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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				
课堂表现 Class Performance		10%		
小测验 Quiz				
课程项目 Projects				
平时作业 Assignments		30%		
期中考试 Mid-Term Test		20%		
期末考试 Final Exam		40%		
期末报告 Final Presentation				
其它 (可根据需要)				

改写以上评估方式)  
**Others (The above may be modified as necessary)**

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20. 记分方式 **GRADING SYSTEM**

- A. 十三级等级制 **Letter Grading**  
 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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