

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	海洋工程概论 Introduction to Ocean Engineering
2.	授课院系 Originating Department	海洋科学与工程系 Department of Ocean Science and Engineering
3.	课程编号 Course Code	OCE107
4.	课程学分 Credit Value	3
5.	课程类别 Course Type	专业基础课 Major Foundational Courses
6.	授课学期 Semester	春季 Spring
7.	授课语言 Teaching Language	中英双语 English & 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) Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	余锡平 海洋科学与工程系 工学院南楼 208, 0755-88010107 Prof. Xiping Yu, Department of Ocean Sciences and Engineering College of Engineering, South Tower 208, 0755-88010107
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	助教: 待定 TA:
10.	选课人数限额(可不填) Maximum Enrolment (Optional)	

11. 授课方式 Delivery Method	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
	44		4		48
学时数 Credit Hours					
12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	n/a				
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite					
14. 其它要求修读本课程的学系 Cross-listing Dept.					

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

通过本课程的教学，使学生对海洋工程学科有一个基本了解，并激发学生对海洋工程的兴趣和热情，为今后的专业乃至职业选择提供参考依据。

By taking this course, students will develop a basic understanding to ocean engineering. This course may also stimulate students' interest and enthusiasm in Ocean Engineering, encourage them to think about the possibilities and perspectives of professional work in relevant areas, help them to decide whether to pursue a postgraduate degree in Ocean Engineering and a future career in relevant areas.

16. 预达学习成果 Learning Outcomes

通过本课程的学习，学生将初步了解海洋工程的范畴，初步认识海洋动力环境，修得海洋工程结构、材料和基础的入门知识，了解海洋资源开采、海洋能开发、海洋空间利用等领域的主要问题。

By taking this course, students will gain a preliminary understanding of the scope of ocean engineering. They will understand the ocean dynamics and its impact on ocean engineering, acquire knowledge about ocean engineering structures, materials and foundations, and get a better understanding to the major developments in the fields of marine resource exploration, marine energy exploitation, and marine space utilization.

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.)

Section 1 绪论（2学时）

海洋工程发展史，我国海洋工程发展现状及展望

Introduction of the course (2 hours)

History of ocean engineering, the current status and perspectives of Ocean Engineering in China.

Section 2 海洋环境 I —— 海面环境 (8 学时)

水波的理论基础, 海洋波动, 潮汐和潮流, 近岸流

Ocean engineering environment - Ocean surface (8 hours)

Fundamentals of water waves, wind waves, tides and tidal currents, nearshore currents

Section 3 海洋环境 II —— 海床环境 (8 学时)

海底地貌, 近岸泥沙运动, 岸滩演变, 淤泥质海岸的动力响应

Ocean engineering environment - Seabed (8 hours)

Morphology of seabed, nearshore sediment movement, beach evolution, dynamic response of muddy coast

Section 4 海洋工程结构 (4 学时)

海洋工程结构的类型, 海洋工程结构的动力分析方法, 海洋工程结构的优化方法

Ocean engineering structures (4 hours)

Types of ocean engineering structures, dynamics of ocean engineering structures, optimized design

Section 5 海洋工程材料 (4 学时)

金属材料, 混凝土

Ocean engineering materials (4 hours)

Steel, concrete

Section 6 海洋工程基础 (4 学时)

海洋工程基础的类型, 海洋土的性质与承载力, 浅基础, 桩基, 基础处理

Ocean engineering foundations (4 hours)

Types of ocean engineering foundations, bearing capacity of seabed, shallow foundations, pile foundations, foundation treatment

Section 7 海洋资源开采工程 (4 学时)

海上石油开采, 海底矿产资源开采

Ocean resource exploitation (4 hours)

Offshore oil exploration, seabed mineral resources exploitation

Section 8 海洋能源利用工程 (4 学时)

海上风能, 波浪能, 潮汐能和潮流能

Marine energy utilization (4 hours)

Offshore wind energy, wave energy, tidal energy

Section 9 海洋空间利用工程 (4 学时)

人工岛, 大型浮体

Ocean space utilization project (4 hours)

Artificial islands, large floating structures

Section 10 海洋工程的环境影响评价 (2 学时)

海洋工程引发的环境问题, 解决问题的方法

Environmental impact of ocean engineering (2 hours)

Problems and solutions

认识实习 (4 学时)

海洋工程认识实习

Field trips to ocean engineering projects

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

教材:

Elements of Ocean Engineering

Author(s): Randall, Robert E.

Publisher: Society of Naval Architects and Marine Engineers

Year: 2010

ISBN: 978-1-61344-658-4, 978-0-939773-77-0 参考资料:

课堂上分发。

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		10		
课堂表现 Class Performance		10		

小测验 Quiz				
课程项目 Projects		20		
平时作业 Assignments				
期中考试 Mid-Term Test				
期末考试 Final Exam		60		
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)				

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

海洋科学与工程系本科教学委员会
 Department of Ocean Science and Engineering Undergraduate Committee