

港口、海岸及近海工程(081505)

学科门类：工学（08） 一级学科：水利工程（0815）

一、专业描述

港口、海岸及近海工程学科始建于 1952 年，1981 年海岸工程专业成为全国首批博士学位授权点，1988 年近海工程专业成为硕士学位授权点，1990 年港口航道工程专业成为全国首个博士学位授权点，2007 年港口、海岸及近海工程学科被评为国家重点学科，是国家“211 工程”、“全球水循环与国家水安全”985 优势学科创新平台重点建设学科。所在的一级学科水利工程在 2009 年和 2012 年全国学科评比中获得第一名。

本学科目前拥有水文水资源与水利工程科学国家重点实验室和水资源高效利用与工程安全国家工程研究中心。现有“青年千人”、双聘院士、“教育部新世纪优秀人才”、“江苏省 333 高层次人才”等十余名领军人才。围绕“港航特色，国际一流”建设目标，“十一五”以来，本学科主持与承担了 624 项科研项目，经费总额 2.39 亿元，发表论文 800 余篇，出版著作和教材 30 余部，获部省级以上科技奖 56 项，其中国家科技奖 1 项。研究生就业单位主要有设计院、行业管理部门、科研院所、高等学校等。

二、培养目标

具有实事求是的科学态度和端正严谨的诚信学风，理论联系实际，善于钻研与创新，具有良好的团队合作精神；在港口、海岸及近海工程学科上掌握坚实的基础理论和系统的专门知识；具有从事科学研究工作或独立担负专门技术工作的能力。

三、研究方向

1. 河口海岸及近海工程水动力环境
2. 海岸风暴灾害与防灾减灾
3. 港口航道工程泥沙与疏浚
4. 工程结构物及其与周围介质的相互作用
5. 水运工程经济、规划与管理

四、申请条件

港口、海岸及近海工程全英文专业硕士生申请人需要满足以下条件：

- 1、已在我国认可的海内外高校或学术机构获得本科学位者。
- 2、能够用英语进行课程学习、阅读文献和进行学术写作，能够用英语进行日常交流。

五、培养年限

学术型硕士学制为 3 年，实行弹性学制，学习年限最短不低于 2 年，最长不超过 5 年。

六、学分要求和课程设置

本专业硕士留学研究生课程总学分为 28 学分，其中学位课程为 18 学分，非学位课程为 10 学分。另设教学环节。硕士生还必须结合研究课题完成一篇硕士论文，并通过答辩。港口、海岸及近海工程专业硕士课程设置如下表。

Harbor, Coastal and Offshore Engineering (081505)

Discipline: Engineering (08)

First-Class Discipline: Water Engineering (0815)

1. Discipline Description

The Harbor, Coastal and Offshore Engineering discipline was founded in 1952 by Yan Kai who was academician of both Chinese Academy of Sciences and Chinese Academy of Engineering. In 1981, Coastal Engineering was granted as one of the first specialties leading to Doctor and Master degrees, and Offshore Engineering was approved as one of the first specialties leading to Master degree. In 1990, Harbor and Waterway Engineering became the very first Doctoral program among the homogeneous subjects in China. In 2007, the discipline was chosen as a national key discipline and one of the key construction disciplines by the 985 Innovative Platforms for Key Disciplines Project.

Based on the State Key Laboratory of Hydrology-Water Resources and Hydraulic Engineering and National Engineering Research Center of Water Resources Efficient Utilization and Engineering Safety, the Harbor, Coastal and Offshore Engineering discipline has more than ten leading talents, including distinguished professors of Recruitment Program of Global Young Experts, joint-appointed academicians, winners of New Century Excellent Talents Supporting Plan of Ministry of Education and awardees of Jiangsu Province 333 High-level Personnel Training Project. Aiming at “harbor and waterway characteristics, international first-level”, the discipline hosted 624 scientific projects of 239 million total funding, published more than 800 academic papers, more than 30 works and teaching materials, won 55 provincial or ministerial Science and Technology Prizes, and 1 National Science and Technology Prize during the 11th Five-Year Plan. The main employers of graduate students are design institutions, management agencies, research institutions and universities.

2. Program Description

The program in Harbor, Coastal and Offshore Engineering aims at cultivating high-level individuals with solid fundamental knowledge in the theory of harbor, coastal and offshore engineering, who are capable of handling complex technical problems in harbor, coastal and offshore engineering projects, can undertake research and development project in large engineering companies or teaching and research work in academic institutions.

3. Research Directions

The Master program in Harbor, Coastal and Offshore Engineering is mainly oriented (but not limited)

to the following research areas:

- Hydrodynamics of estuarine, coastal and off-shore engineering
- Coastal storm disaster and its mitigation
- Sedimentation and dredging in harbor and navigation engineering
- Engineering structure and its inter-action with surrounding medium
- Economy, planning and management of waterway transportation engineering

4. Application Requirements

(1) You have received the bachelor degree from the domestic and overseas universities or academic institutions accredited by the Ministry of Education.

(2) You have the ability to read and write academic papers and communicate in English.

5. Education System and Duration

The master program is 3 years; the duration is minimum 2 years and no more than 5 years.

6. Credits and Courses

A master student must take at least 28 credits of courses, including 18 credits of required course of the degree and 10 credits of Non-required course of the degree. A thesis of the research subject and an oral defense are also required. Module structure of the master program of Harbor, Coastal and Offshore Engineering is listed below.

港口、海岸及近海工程全英文留学硕士研究生课程设置

Courses for Master Students of Harbor, Coastal and Offshore Engineering

课程类别 Categories	课程编号 No	课程名称 Course	学时 Hours	学分 Credit	开课学期 Term	备注 Note	
学位课程 18 学分 Required course of the degree 18 Credits	公共课程 General Courses	2015LXS01	*汉语 I Chinese Language I	32	2	秋 fall	必修 Required Course
		2015LXS02	汉语 II Chinese Language II	32	2	春 spring	
		2015LXS03	*中国概况 Introduction to China	32	2	秋 fall	
	学科基础课程 Discipline Basic Courses	2015JC08	矩阵论 Matrix Theory	32	2	秋 fall	
		2015JC03	数值分析 Numerical Analysis	48	3	秋 fall	
		2015JC01	数学物理方程 Partial Differential Equations in Mathematics and Physics	32	2	秋 fall	
	专业基础课程 Major Basic Courses	2015GH05	河口海岸动力学 Estuarine and Coastal Dynamics	48	3	春 spring	选修 2 学分 2 Credits at least
		2015GH06	泥沙运动力学 Sediment Processes	32	2	春 spring	
		2015JC09	弹性力学 Elastic Mechanics	48	3	秋 fall	
	专业课程 Major Courses	2015GH07	港口工程 Port Engineering	32	2	春 spring	选修 2 学分 2 Credits at least
		2015GH08	航道工程 Waterway Engineering	32	2	春 spring	
		2015GH09	海岸工程 Coastal Engineering	32	2	春 spring	
非学位课程 10 学分 Non-required course of the degree 10 Credits	2015LXS05	*跨学科选修 Interdisciplinary Elective	32	2		必修 Required Course	
	2015LXS06	*综合素质课 Comprehensive Quality	18	1			
	2015GH10	河口海岸水动力泥沙软件应用 Software Application of Estuarine, Coastal Hydrodynamic and Sediment	32	2	春 spring	选修 7 学分 7 Credits at least	
	2015GH11	港航工程结构数值分析 Numerical Analysis of Port and Waterway Engineering Structures	32	2	春 spring		
	2015JC10	结构动力学 Structural Dynamics	32	2	春 spring		
	2015JC11	最优化方法 Method of Optimization	48	3	春 spring		
教学环节 Academic Activities	学术活动 Seminar and Conferences					必修 Required Course	
	科学研究 Scientific Research						
	文献阅读与综述 Literature Reading and Reviewing						