

# 环境科学与工程（0830）

学科门类：工学（08）一级学科：环境科学与工程（0830）

## 一、专业描述

我校环境科学与工程学科为国家重点（培育）学科和江苏省重点学科，以水环境保护与水资源可持续利用为研究特色。近五年来获国家及部省级科技进步奖 20 余项，出版专著及教材 20 余部，获国家专利 80 项，发表三大检索论文 300 余篇。

## 二、培养目标

本学科旨在培养扎实的基础理论和系统的专门知识，了解本学科前沿和发展趋势，具有严谨求实、勇于探索的科学态度和作风，能够进行理论研究与应用技术开发，并具有一定创新能力的高级专门人才

## 三、研究方向

- 1、水资源保护与生态修复(Water Resource Protection and Bioremediation)
- 2、环境与生态水力学 (Environmental Water Conservancy and Ecological Hydraulics)
- 3、环境系统规划与综合评价(Environmental System Planning and Complex Assessment)
- 4、水污染控制与水处理工程(Water Pollution Control and Water Treatment Engineering)
- 5、固体废弃物处置与资源化利用(Solid Waste Disposal and Resourced

Utilization)

#### 四、申请条件

环境科学与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19学分,非学位课程为9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。环境科学与工程专业硕士课程设置如下表。

## **Environmental Science and Engineering (0830)**

Discipline: Engineering (08)

First-Class Discipline: Environmental Science and Engineering (0830)

### **1. Discipline Description**

Environmental Science and Engineering at Hohai University is the national key subject. The education and research here are mostly about the treatment of water and wastewater, the protection of water resources and water environment restoration. The scholarship troop consists of a member of Chinese Academy of Engineering, one special engaged professor of "Yangtze River Scholar", one person of the "National Outstanding Youth Fund", 11 doctoral supervisors, 53 Master supervisors, 15 professors and 17 associate professors (associate research fellow).

Over the past five years, this discipline of Environmental Science and Engineering has obtained more than 20 National and Provincial Science and Technology Progress Awards, published more than 20 monographs and teaching materials, acquired 80 national patents and published over 300 academic papers. The Environmental Science and Engineering at Hohai University has obtained a large number of achievements and made significant social and environmental contributions in the field of water resource protection and water environment remediation.

### **2. Program Description**

The program in the Environmental Science and Engineering aims at cultivating high-level individuals with solid fundamental knowledge in the theory of mathematics, chemistry, biology, mechanics and computer application. After graduation, the students are capable of handling complex technical problems in environmental protection, undertaking research and development project in engineering companies or teaching and research work in academic institutions.

The program is designed to provide students with an intellectual environment to explore the knowledge and principles in Environmental Science and Engineering through research project under guidance of an established professor (PhD supervisor). Through the program, students have opportunities to develop their problem-solving ability with new knowledge and skills, and to make their own contributions to their research field.

### **3. Research Directions**

- Water Resource Protection and Bioremediation

- Environmental Water Conservancy and Ecological Hydraulics
- Environmental System Planning and Complex Assessment
- Water Pollution Control and Water Treatment Engineering
- Solid Waste Disposal and Resourced Utilization

#### **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. Educational 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 19 credits of required course of the degree and 9 credits of Non-required course of the degree.

A dissertation of the research subject and an oral defense are also required. Module structure of the doctorate program of Environmental Science and Engineering is listed below.

## 环境科学与工程全英文留学硕士研究生课程设置

### Courses for Master Students of Environmental Science and 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 19 学分 Required course of the degree 19Credits	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	2015JC04	最优化方法 Optimization Method	32	2	秋 fall	选修 5 学分 5Credits at least
		2015JC03	数值分析 Numerical Analysis	48	3	秋 fall	
		2015JC08	矩阵论 Matrix Theory	32	2	秋 fall	
	专业基础 课程 Major Basic Courses	2015HJ01	环境规划 Environmental Planning	32	2	秋 fall	选修 4 学分 4 Credits at least
		2015HJ02	环境水力学 Environmental Hydraulics	32	2	春 spring	
		2015HJ03	环境化学 Environmental Chemistry	32	2	秋 fall	
	专业课程 Major Courses	2015HJ04	水污染控制工程 Water Pollution Control Engineering	32	2	秋 fall	必修 Required Course
2015HJ05		环境评价与预测 Environmental Assessment and Prediction	32	2	秋 fall		
非学位课程 9 学分 Non-required course of the degree 9Credits	2015LXS05	*跨学科选修 Interdisciplinary elective	32	2		必修 Required Course	
	2015LXS06	*综合素质课 Comprehensive Quality	18	1			
	2015HJ06	生态修复理论与技术 Bioremediation Theory and Technology	32	2	春 spring	选修 6 学分 6Credits at least	
	2015HJ07	环境科学与工程前沿 Special Topic onEnvironmental Science and Engineering	32	2	春 spring		
	2015HJ08	水生生物学 Water Biology Theory	32	2	春 spring		
	2015HJ09	地下水污染与防治 Groundwater Pollution and Control	32	2	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						