

农业工程（0828）

学科门类：工学（08）一级学科：农业工程（0828）

一、专业描述

河海大学农业工程学科始于 1952 年成立的水利与土壤改良专业，是建国后国内最早设立的培养农业工程专门人才的学科之一。1958 年更名为农田水利工程专业，1985 年获硕士学位授予权。2000 年、2003 年先后获得农业水土工程硕士、博士学位授予权，2003 年、2010 年获农业工程一级学科硕士、博士学位授予权。我校水文水资源与水利工程科学国家重点实验室、南方地区高效灌排与农业水土环境教育部重点实验室为本学科发展提供了良好的硬件条件。近五年来，先后承担国家自然科学基金、国家重点研发项目等国家、省部级重大重点科技项目及生产科研项目等 200 余项，研究生就业单位有科研院所、高等学校、政府机关、水利、农业、国土等部门管理机构、勘测设计部门等。本学科主要研究农业水土资源的合理开发、高效利用与保护，整体研究水平居国内一流水平，部分领域处于领先水平。

二、培养目标

本学科旨在培养具有创新思维和科学精神，掌握农业工程学科领域内基础理论、专门知识和技能方法，对全球农业工程科学的现状和发展趋势有较为全面的了解，具有独立从事本学科科学研究和有效解决所在国实际问题能力的高层次学术型人才。

三、研究方向

- 1、灌溉排水理论与技术 (Irrigation and Drainage Engineering)
- 2、农业水土环境与保护 (Protection of Agricultural Soil and Water Environment)
- 3、水土保持工程 (Soil and Water Conservation)
- 4、生物环境工程 (Bio-environmental engineering)
- 5、水土资源规划与管理 (Planning and Utilization of Agricultural Soil and Water)

四、申请条件

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。具体开设课程见附表。

Agricultural Engineering (0828)

Discipline: Engineering (08)

First-Class Discipline: Agricultural Engineering (0828)

1. Discipline Description

The discipline of Agricultural Engineering of Hohai University was founded in 1952 and originated from the department of Water Conservancy and Soil Improvement, which was one of earliest institutes for Agricultural Engineering Education in China after the founding of the People's Republic of China in 1949. The department of Water Conservancy and Soil Improvement was renamed as the Department of Irrigation and Drainage Engineering in 1958 and started the Master degree education in 1985. The discipline started the master education and the Ph.D. education for Agricultural Engineering in 2000 and 2003, respectively. The discipline could run the master's program and Ph.D. program in Level I discipline of Agricultural Engineering in 2003 and 2010, respectively. The State Key Laboratory of Hydrology-Water Resources and Hydraulic Engineering and the Key Laboratory of China South Region Efficient Irrigation & Drainage, Agricultural Soil & Water Environment, Ministry of Education play important roles in serving for the creative research program in the discipline. In the past five years, the discipline has undertaken research programs at national, international cooperation, provincial, and ministerial level more than 200 items and covering research funding, in which 2 programs received the prize of National Sci-tech Improvement and more than 10 programs received the prize of provincial or ministerial sci-tech improvement. Until now, more than one Hundred papers from the discipline have been published in top journals and embodied by SCI and EI and 25 inventions supported by the discipline have got the national invention patents. The Masters have the ability to work in governments, research institutes, universities, and agricultural water and land management agencies and other related departments. The research areas of this discipline include rational utilizing water and soil resources, high-efficient usage and protection of agricultural water and soil resources, etc. The overall study level of this filed were among the first-class in domestic and some areas are in the leading position.

2. Program Description

The Master students should have cooperative spirits in the team work and have the innovative spirit in researches. In addition to master the basic theory of agricultural engineering disciplines, the Master after graduation should also have the ability to solve scientific problems

and have comprehensive understanding of the discipline, as well as having the ability to do the scientific research independently and solve the practical problems efficiently. Overall, the aim of this discipline is to cultivating academic talents for the rational utilization of agricultural water and soil resources all over the world.

3. Research Directions

- Irrigation and Drainage Engineering
- Protection of Agricultural Soil and Water Environment
- Soil and Water Conservation
- Bio-environmental engineering
- Planning and Utilization of Agricultural Soil and Water

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.

农业工程全英文留学硕士研究生课程设置

Courses for Master Students of Agricultural 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 Courses 19 Credits	公共 课程 General Courses	2015LXS01	*汉语 I Chinese Language I	32	2	秋 fall	必修 RequiredCo urse
		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	2015JC03	数值分析 Numerical Analysis	48	3	秋 fall	必修 RequiredCo urse
		2015JC04	最优化方法 Optimization Methods	32	2	秋 fall	
	专业基础 课程 Major BasicCourse s	2015SD01	灌排工程系统分析 System Analysis of Irrigation and Drainage Engineering	32	2	春 Spring	必修 RequiredCo urse
		2015SD04	农业水土环境 Agricultural Soil and Water Environment	32	2	春 Spring	
	专业课程 Major Courses	2015SD03	试验设计及统计 Design and Statistics of Experiment	32	2	春 Spring	选修 4 学分 4 Credits at leas
		2015SD02	环境生物技术 Environmental biotechnology	32	2	春 Spring	
		2015SD05	节水灌溉理论 Theory on Water-Saving Irrigation	32	2	秋 fall	
		2015SD06	设施农业工程 Installed Agricultural Engineering	32	2	秋 fall	
	非学位课程 9 学分 Non-required course of the degree 9 Credits	2015LXS05	*跨学科选修 Interdisciplinary Elective	32	2		必修 RequiredCo urse
2015LXS06		*综合素质课 Comprehensive Quality	16	1			
2015JC22		高级管理学 Advanced Management	32	2	秋 fall		
2015JC25		程序设计方法 Methods of Programming	32	2	秋 fall		
2015LXS07		英文科技写作 The Art of Scientific Presentation and Writing in English	32	2	秋、春 fall or spring		
教学环节 Academic Activities	学术活动 Seminar and Conferences					必修 RequiredCo urse	
	科学研究 Scientific Research						
	文献阅读与综述 Literature Reading and Reviewing						