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。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的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硕士学位者。

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

攻读博士学位的标准学制为 4 年，实行弹性学制，学习年限最短不低于 3 年，最长不超过 6 年。

六、学分要求和课程设置

本专业博士留学研究生课程总学分为 15 学分，其中学位课程为 11 学分，非学位课程为 4 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 and 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 postgraduates 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 is among the first-class in domestic and some areas are in the leading position.

2. Program Description

The postgraduate 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 postgraduate 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. All in all, 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 master 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 doctorate program is 4 years, the duration is minimum 3 years and no more than 6 years.

6. Credits and Courses

A doctoral student must take at least 15 credits of courses, including 11 credits of Required course of the degree and 4 credits of Non-required course of the degree.

农业工程全英文留学博士研究生课程设置

Courses for Doctoral 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 11 学分 Required course of the degree 11 Credits	公共课程 General Courses	2015LXS01	*汉语Ⅰ Chinese Language Ⅰ	32	2	秋 fall	必修 Required Course
		2015LXS03	中国概况 Introduction to China	32	2	秋 fall	
	基础课程 Basic Courses	2015JC02	应用数学 Applied Mathematics	64	4	秋 fall	选修 4 学分 4 Credit at least
		2015JC01	数学物理方程 Partial Differential Equations	32	2	春 Spring	
	专业课程 Major Courses	2015SD18	农业工程学科前沿专题 Special Topics on Agricultural engineering	16	1	春 Spring	必修 Required Course
		2015SD19	现代灌排理论 Modern Theory of Irrigation and Drainage	32	2	春 Spring	选修 2 学分 2Credits at least
		2015SD20	现代农业水土环境 Modern Agricultural Soil and Water Environment	32	2	春 Spring	
非学位课程 4 学分 Non-required course of the degree 4 Credits		2015LXS07	英文科技写作 The Art of Scientific Presentation and Writing in English	32	2	秋、春 Fall or Spring	必修 Required Course
		2015LXS05	跨一级学科选修博士课程 A course in other disciplines	32	2		
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					