

# 地质资源与地质工程(0818)

学科门类：工学(08) 一级学科：地质资源与地质工程

## 一、专业描述

我校地质资源与地质工程一级学科含地质工程、地球探测与信息技术、地下水科学与工程、地学信息工程四个二级学科，地质工程学科 1986 年获硕士学位授权点，2003 年获博士学位授权点，2006 年成为江苏省重点学科；2005 年地质资源与地质工程获一级学科硕士学位授权点，2011 年获一级学科博士学位授权点，2014 年获批一级学科博士后流动站，是国内培养地质资源与地质工程高级人才的重要基地，全国综合排名处于前列。

本学科现有教师 37 人，其中教授 15 名（其中博导 13 名），副教授 16 名，具有博士学位教师 31 名。学科拥有地质工程安全监测系统、地质参数快速测试系统等先进设备。毕业研究生主要从事水利水电、土木、交通、国土资源等领域的科学研究与管理工作。

## 二、培养目标

培养德智体全面发展的地质资源与地质工程学科的高级科学技术专门人才，应掌握坚实的理论基础和系统的专业知识，熟悉地质工程领域内常用的测试分析技术方法。能够在地质工程项目的设计勘察、工艺优化、施工项目管理与决策等方面解决一定的工程实际问题，能独立组织地质工程项目的施工或工程评价。毕业后能够在地质、矿产、能源、水利、水电、交通、土木、海洋地质和地理信息等领域，从事科研、教学、生产技术、管理和咨询等工作。

### 三、研究方向

1. 地质工程 (Geological Engineering)
2. 地下水科学与工程 (Grounderwater Science and Engineering)
3. 地球探测与信息技术 (Geological Prospecting and Information Technology)

### 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 18 学分，非学位课程为 10 学分。另设教学环节。具体开设课程见附表。

# **Geological Resource and Geological Engineering (0818)**

Discipline: Engineering (08)

First-Class Discipline: Geological Resource and Geological Engineering (0818)

## **1. Discipline Description**

The sub-discipline of Geological Resource and Engineering (GRE) in Hohai University includes five directions, Geological Engineering (GE), Geophysical Prospecting (GP), Information Technology (IT), Groundwater Science and Engineering (GSE), and Geological Information Engineering (GIE). Under regulations of the Ministry of Education, P.R. China, The GE direction can award Master's and Doctor's degrees since 1986 and 2003 respectively. This direction has been designated as key discipline in Jiangsu Province since 2006. The entire sub-discipline of GRE can award Master's and Doctor's degrees since 2005 and 2011 respectively. From 2014, GRE can accept Post Doctor Fellows (PDF) to conduct research. The engineering discipline in Hohai University has top rankings in China and it has graduated many first-class talents.

The GRE has 37 teachers, including 15 professors, 12 associate professors and 27 teachers with doctorates. The GRE is facilitated with safety monitoring systems, geologic and geophysical equipment and other state of the art amenities. The GRE graduates mainly engage in scientific research and management work in the fields of water conservancy, hydropower, civil engineering, transportation, and resources exploration, etc.

## **2. Program Description**

The purpose of the school is to cultivate well-rounded top science and technology talents in the field of GRE. The students are required to master basic theories and systematic knowledge, and be familiar with the testing analysis commonly used in the field of GRE. The students shall be able to solve practical engineering problems with a certain degree of difficulty, such as design of an exploration program, process optimization, and construction project management. The graduates will be able to independently organize a geological engineering or exploration projects and evaluate the project potential. After graduation, the students can be engaged in scientific research, teaching, R&D in industry, management and consulting work in the field of geology, mineral exploration, energy exploration, water conservancy and hydroelectric power generation, transportation, civil engineering and marine geological, geographic information, etc.

## **3. Research Directions**

- Geological Engineering
- Groundwater Science and Engineering
- Geophysical Prospecting and Information Technology

#### **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 18 credits of required course of the degree and 10 credits of Non-required course of the degree.

## 地质资源与地质工程全英文留学硕士研究生课程设置

### Courses for Master Students of Geological Resource and Geological Engineering

课程类别 Categories	课程编号 Course No.	课程名称 Course Name	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 18Credits	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	32	2	春 spring	
		2015LXS03	*中国概况 Introduction to China	32	2	秋 fall	
	专业基 础课程 Major Basic Courses	2015JC03	数值分析 Numerical Analysis	48	3	秋 fall	必修 Required Course
		2015JC04	最优化方法 Optimization Methods	48	3	秋 fall	
		2015JC01	数学物理方程 Partial Differential Equations	32	2	春 spring	
		2015JC08	矩阵论 Matrix Theory	32	2	秋 fall	
	专业课程 Major Courses	2015DX12	岩石高边坡工程地质分析理论与方法 Engineering Geological Theory and Research Methods on High Rock Slope Engineering	32	2	春 spring	选修 6 学分 6 Credits at least
		2015DX13	勘探地球物理 Exploration Geophysics	32	2	春 spring	
		2015DX14	环境地球化学 Environmental Geochemistry	32	2	秋 fall	
		2015DX15	地质体加固技术 Reinforcement Methods for Geological Body	32	2	春 spring	
		2015DX16	污染水文地质学 Contaminant Hydrogeology	32	2	秋 fall	
	非学位课程 10 学分 Non-degree courses of the degree courses 10 Credits	2015LXS05	*跨学科选修 A course in other discipline	32	2		必修课 Required Course
		2015LXS06	*综合素质课 Comprehensive Quality	16	1		
		2015DX17	水文地质数值计算 Numerical Calculation of Hydrogeology	32	2	春 spring	选修 7 学分 7 Credits at least
		2015DX18	裂隙岩体水动力学 Dynamics of Fluids in Fractured Rocks	32	2	春 spring	
2017DX11		水井的设计与应用 Well Design and Application	48	3	秋 fall		
2015SW02		高等地下水动力学 Higher Groundwater Dynamics	32	2	春 spring		
2015TM02		高等岩土力学 Advanced Computational Mechanics	64	4	春 spring		
2015TM06		基础工程分析 Foundation Analysis	32	2	春 spring		
教学环节 Academic Activities	*学术活动 Seminar and Conferences					必修 Required Course	
	*实践活动 Scientific Research						
	*文献阅读与综述 Literature Reading and Reviewing						