

石油工程专业（全英语）留学生本科培养方案-（秋季入学）

（专业代码：081502）

一、培养目标

1.本专业培养适应现代石油工业发展需要，获得石油工程师基本训练，毕业后能从事石油工程设计、运行施工、生产管理、科技开发和应用研究等方面工作的高层次人才。

2.熟悉中国历史、地理、社会、经济等中国国情和文化基本知识，理解中国社会主流价值观和公共道德观念。

3.毕业时中文能力应当达到《国际汉语能力标准》四级水平。

4.在本学科领域中具有一定的国际视野，能够在多个国家的实际环境中运用和发展本学科的知识、技能和方法，并具备参与国际交流与合作的初步能力。

二、业务要求

毕业生应获得以下几方面的知识和能力：

1.具有数学、物理、化学、力学和地质学的扎实基础，基本掌握汉语，能够较顺利阅读本专业的中文书刊、具有听、说、读、写、译的技能；

2.掌握本专业所必需的工程科学基础理论和专业知识，具有应用基础理论和基础知识进行油气井钻采工程设计和油气田开发方案设计的初步能力，具有分析和解决石油工程实际问题、进行技术改造、科技开发和应用研究的初步能力；

3.具有较强的实验测试、运算和表达能力，掌握文献检索和其它获取科技信息的方法；

4.具有较强的自学能力、工作适应能力、较熟练的计算机操作应用能力和创新意识；

5.具有应用系统工程思想和现代经营知识进行生产组织管理的意识。

三、毕业要求及学时、学分分配

分类		学分	学时	备注
必修	理论	153	2110	含上机学时 8
	实验	2.0	42	
	实践	25.0	25 周	
选修		15.0	240	

毕业要求	1、本专业学生需修满教学计划要求的 173 学分，且通过 HSK4 级，方可毕业。 2、符合条件，授予工学学士学位。 3、本专业学生可以使用英语撰写毕业论文，但须有汉语论文摘要。
------	---

四、课程设置、教学环节及进程

第一学年

第 1 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2091199	初级汉语口语(2-1)	4.0	64	64		
2092199	初级汉语精读(2-1)	4.0	64	64		
2092099	道德与法律	1.0	16	16		
0711299	程序设计	3.0	48	48		
0434199	工程制图	4.0	64	64		
0911199	高等数学(2-1)	6.0	96	96		
学期总计		22	352	352		

第 2 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2091299	初级汉语口语(2-2)	4.0	64	64		
2092299	初级汉语精读(2-2)	4.0	64	64		
0711399	大学计算机	1.0	24	24		
0911299	高等数学(2-2)	5.0	80	80		
0931199	大学物理(2-1)	4.0	64	64		
0941199	大学物理实验(2-1)	1.0	24		24	
0960199	大学化学	4.0	64	54	10	
学期总计		23	384	350	34	

第二学年

第 3 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2095199	中级汉语 (2-1)	4.0	64	64		
2094199	中国概况 (2-1)	3.0	48	48		
0931299	大学物理(2-2)	3.5	56	56		
0941299	大学物理实验(2-2)	1.0	24		24	
0910399	线性代数	3.0	48	48		
0231499	应用物理化学	3.0	48	40	8	
学期总计		17.5	288	256	32	

第 4 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2094299	中国概况 (2-2)	3.0	48	48		
2095299	中级汉语 (2-2)	4.0	64	64		
0110699	地质学基础	3.5	56	40	16	
0222099	流体力学	4.5	72	68	4	
0640199	工程力学	4.0	64	60	4	
0210999	油层物理	4.0	64	50	14	
学期总计		23	368	330	38	

夏季小学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
------	------	----	----	------	----	----

0191299	地质实习	2.0	2.0周			
学期总计		2.0				

第三学年

第5学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2096199	高级汉语(2-1)	4.0	64	64		
0111499	油田开发地质学	3.0	48	46	2	
0540299	电工电子学(一)	3.5	56	46	10	
0122999	测井方法及综合解释	3.0	48	48		
0210899	渗流力学	3.0	48	48		
0211299	岩石力学	2.5	40	40		
0230199	油田化学	3.5	56	40	16	
学期总计		22.5	360	332	28	

第6学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2096299	高级汉语(2-2)	4.0	64	64		
0210299	钻井工程	4.5	72	66	6	
0210399	采油工程	4.5	72	66	6	
0210499	油藏工程	4.5	72	72		
0840199	管理概论	2.0	32	32		
0211399	水射流理论与应用	2.5	40	40		
学期总计		22	352	340	12	

夏季小学期

课程编码	课程名称	学分	学时	实验	上机
0299399	专业实习	5.0	5周		
学期总计		5.0			

第四学年

第7学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
0290299	石油工程综合设计	5.0	5周			
0230399	提高采收率原理	2.5	40	40		
0212199	油藏数值模拟基础	2.5	40	32		8
0212699	油水井增产增注技术	2.5	40	40		
0230499	油气层保护技术	2.5	40	40		
0212899	定向钻井理论与技术	2.5	40	40		
0210599	气藏工程	2.5	40	40		
0219099	人工举升技术	2.5	40	40		
学期总计		22.5	280	272		8

第8学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
0299999	毕业设计	13.0	13周			
0210699	天然气开采与安全	2.5	40	40		
0211699	钻井新技术	2.5	40	40		
0211599	现代试井解释原理	2.5	40	40		
学期总计		20.5	120	120		

Undergraduate Program of Petroleum Engineering (in English) – 2017 Version (Enrolled in Fall semester) (Specialty Code: 081502)

I. Educational Objectives

- 1.The educational aim of Petroleum Engineering specialty is to cultivate qualified personnel with advanced technology and engineering knowledge. To develop all-round morality, intellectuality and physical fitness, they can adapt to the needs of modern petroleum industrial development. They don't gain just the basic training on petroleum engineering, but also can be engaged in petroleum engineering design, operation and construction, production and management, scientific development and applied research etc. when they graduate from the university.
- 2.To be familiar with basic knowledge of Chinese national situation and culture,such as Chinese history, geography, society and economy, etc.. To understand the mainstream values and public morality of Chinese society.
- 3.Be able to use Chinese language to complete the course study and research tasks smoothly, and have the ability to use Chinese language to engage in work related to the major; Upon graduation, Chinese proficiency should reach HSK level 4.
- 4.To possess a certain international perspective in the field of this discipline, and be able to apply and develop the knowledge, skills and methods of this discipline in the actual environment of multiple countries, and have the initial ability to participate in international exchanges and cooperation.

II. Requirements

Graduates should acquire the following knowledge and capabilities.

1. Graduates will have solid foundation on math, physics, chemistry, mechanics and geology etc. They are able to use the basic Chinese to read Chinese books and magazines of their own specialty and have some skills such as listening, speaking, reading, writing and translation etc.
2. Graduates will grasp the basic theory and professional knowledge of engineering science required in their own specialty. They will possess preliminary capability to use basic applied theory and knowledge to go on oil and gas well drilling and recovering engineering design and oil and gas well development project design, to analyze and solve practical problems on petroleum engineering, and to make technological improvement, scientific development and applied research.
3. Graduates will have fairly strong experiment test, calculation and expression abilities and master document retrieval and other method to acquire scientific and technological information.
4. Graduates will have a better self-study and work adaptation capability, computer operation and application ability and innovative consciousness.

5. Graduates will have insight and ability to use systematic engineering ideas and modern operational knowledge to go on production and organizational management.

III. Graduate Requirements and Distribution of Course Credits and Credit Hours

Category		Course Credits	Credit Hours	Remarks
Compulsory modules	Theory studies	153	2110	Including 8 CHs of Computer lab
	Experiment	2.0	42	
	Practice	25.0	25 weeks	
Selective modules		15.0	15.0	240
Graduation requirements	<ol style="list-style-type: none"> 1. Students shall obtain the above required 173 credits ,and pass HSK-4 in order to graduate. 2. Those who meet the graduation requirements will be awarded a Bachelor of Engineering. 3. Thesis can be written in English while an abstract in Chinese is also required. 			

IV. Curriculum

The First Academic Year

1. Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
2091199	Primary Oral Chinese (2-1)	4.0	64	64		
2092199	Primary Chinese reading (2-1)	4.0	64	64		
2092099	Moral Education and Law	1.0	16	16		
0711299	Computer Program Design	3.0	48	48		
0434199	Engineering Drawing	4.0	64	64		
0911199	Advanced Math (2-1)	6.0	96	96		
Total		22	352	352		

2. Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
2091299	Primary Oral Chinese (2-2)	4.0	64	64		
2092299	Primary Chinese reading (2-2)	4.0	64	64		
0711399	Computer Technology	1.0	24	24		
0911299	Advanced Math (2-2)	5.0	80	80		
0931199	University Physics (2-1)	4.0	64	64		
0941199	Physics Experiments (2-1)	1.0	24		24	
0960199	General Chemistry	4.0	64	54	10	
Total		23	384	350	34	

The Second Academic Year

3. Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
2095199	Intermediate Chinese (2-1)	4.0	64	64		
2094199	Survey of China (2-1)	3.0	48	48		
0931299	University Physics (2-2)	3.5	56	56		
0941299	Physics Experiments (2-2)	1.0	24		24	
0910399	Linear Algebra	3.0	48	48		
0231499	Applied physical chemistry	3.0	48	40	8	
Total		17.5	288	256	32	

4. Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
2094299	Survey of China (2-2)	3.0	48	48		
2095299	Intermediate Chinese (2-2)	4.0	64	64		
0110699	Fundamentals of Geology	3.5	56	40	16	

0222099	Fluid Mechanics	4.5	72	68	4	
0640199	Engineering Mechanics	4.0	64	60	4	
0210999	Petrophysics	4.0	64	50	14	
Total		23	368	330	38	

Summer Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
0191299	Geology Practice	2.0	2weeks			
Total		2.0				

The Third Academic Year

5. Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
2096199	Advanced Chinese (2-1)	4.0	64	64		
0111499	Geology of Oilfield Exploitation	3.0	48	46	2	
0540299	Electric Electronics (1)	3.5	56	46	10	
0122999	Well Logging and Comprehensive Interpretation	3.0	48	48		
0210899	Fluid Flow in Porous Medium	3.0	48	48		
0211299	Rock Mechanics	2.5	40	40		
0230199	Oilfield Chemistry	3.5	56	40	16	
Total		22.5	360	332	28	

6. Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
2096299	Advanced Chinese (2-2)	4.0	64	64		
0210299	Drilling Engineering	4.5	72	66	6	
0210399	Production Engineering	4.5	72	66	6	
0210499	Reservoir Engineering	4.5	72	72		
0840199	Management Introduction	2.0	32	32		
0211399	Theory and Application of Water-jet flow	2.5	40	40		
Total		22	352	340	12	

Summer Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
0299399	Oilfield Practice	5.0	5weeks			
Total		5.0				

The Fourth Academic Year

7. Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
0290299	Petroleum Engineering Design	5.0	5 weeks			
0230399	Theory of Enhanced Recovery	2.5	40	40		
0212199	Numerical Reservoir Simulation	2.5	40	32		8
0212699	Well Stimulation	2.5	40	40		
0230499	Protection of Petroleum Formation	2.5	40	40		
0212899	Theory and Technology of Directional Drilling	2.5	40	40		
0210599	Gas Reservoir Engineering	2.5	40	40		
0219099	Artificial Lift Technology	2.5	40	40		
Total		22.5	280	272		8

8. Spring Semester

Code	Courses	Credits	Total Hours	Teaching Hours	Experiment Hours	Computer Hours
0299999	Thesis Work	13.0	13 weeks			
0210699	Gas Production Engineering	2.5	40	40		
0211699	New Drilling Technology	2.5	40	40		
0211599	Principles of Modern Well Test Interpretation	2.5	40	40		
Total		20.5	120	120		