

Resource Exploration Technology and Engineering

(Program Code: 081402)

1. Program Objectives

Graduates of this major should be equipped with solid mathematics foundation, necessary expertise and strong engineering consciousness. Students are expected to master the principal theory and skills in the field of applied geophysics after graduation, and basic training as applied Geophysicists are also included in our course. The ultimate goal of our program is to cultivate highly qualified specialists who could engage in fundamental research, engineering project design, and development of new technology in the field of oil & gas exploitation, as well as engineering geophysics.

2. Program Requirements

Graduates should obtain knowledge and ability in the following aspects:

- Establish solid mathematics foundation. Master Chinese good enough to read Chinese books and journals of own field. Get the ability to listening, speaking, reading and writing in Chinese.
- Master the essential characteristics and distribution rule of geophysical field in earth medium systematically. Grasp the basic principle and methods utilized in oil & gas exploration and development. Get hold of methods and techniques used in geophysical data acquisition, processing and interpretation.
- Get enough computer programming ability. Know the current development trend in own field. Get the skills to perform fundamental research and development of new technology in geophysics.
- Have strong self-study ability, job accommodation ability and innovation consciousness. Gain the initial ability to capture, process, analyze related information and solve practical engineering problem by using learned knowledge.
- Have international perspective, open mind and information exchange ability. Meet the need to trace and obtain the latest development trend in Geophysics.

3. Graduation Requirements and Program Credits

Category		Credits	Hours	Notes
Compulsory	Theories	108	1816	Including 76 hours of experiments and 32 hours of computer practice
	Experiments	2	48	
	Practice	23	23weeks	
Graduation Requirements	1. Students shall obtain the above required 133 credits together with 10 credits required in the Supplementary Program Scheme, and pass HSK-3 in order to graduate. 2. Those who meet the graduation requirements will be awarded a Bachelor of Engineering. 3. Thesis shall be written in English while an abstract in Chinese is also required.			

IV. Curriculum

Course Code	Course Name	Credits	Credit Hours	Allocation of credit hours				Semesters/Credits											
				Lecture	Experiment	Computer lab	Practice	1 st year			2 nd year			3 rd year			4 th year		
								1	2	S1	3	4	S2	5	6	S3	7	8	
20901	Primary Oral Chinese (2-1)	4.0	64	64				4.0											
20902	Primary Chinese reading (2-1)	4.0	64	64				4.0											
209020	Moral Education and Law	1.0	16	16				1.0											
02102	Program Language (C)	3.0	80	48		(32)		3.0											
20901	Primary Oral Chinese (2-2)	4.0	64	64					4.0										
20902	Primary Chinese reading (2-2)	4.0	64	64					4.0										
20903	Intermediate Chinese (2-1)	4.0	64	64							4.0								
20904	Survey of China (2-1)	3.0	48	48							3.0								
20904	Survey of China (2-2)	3.0	48	48								3.0							
20903	Intermediate Chinese (2-2)	4.0	64	64								4.0							
20905	Advanced Chinese (2-1)	4.0	64	64									4.0						
20905	Advanced Chinese (2-2)	4.0	64	64										4.0					
01106	Foundation of Geology	4.0	64	52	12				4.0										
09101	Advanced Math (2-1)	6.0	90	90				6.0											
09101	Advanced Math (2-2)	5.0	86	86					5.0										
09301	University Physics (2-1)	4.0	64	64							4.0								
09401	Physics Experiments (2-1)	1.0	24		24						1.0								

Course Code	Course Name	Credits	Credit Hours	Allocation of credit hours				Semesters/Credits										
				Lecture	Experiment	Computer lab	Practice	1 st year			2 nd year			3 rd year			4 th year	
								1	2	S1	3	4	S2	5	6	S3	7	8
09301	University Physics (2-2)	3.5	56	56									3.5					
09401	Physics Experiments (2-2)	1.0	24		24								1.0					
09235	Linear Algebra and Computational Method	3.0	48	48					3.0									
09234	Method of Mathematical Physics	3.5	56	56								3.5						
01105	Sedimentary Petrology	3.0	48									3.0						
02118	General Introduction of Petroleum Engineering	2.0	32									3.0						
01912	Geology Practice	2.0	2weeks				2weeks			2.0								
01202	Signal Analysis and Processing	3.0	48	48										3.0				
01216	Elastic Wave Dynamics	2.5	40	40										2.5				
01111	Petroleum Geology	4.0	64	56	8									4.0				
01203	Electromagnetic Field Theory	2.5	48	48										2.5				
01246	Methods and Principles of Well Logging	4.0	64	64											4.0			
01201	Gravity, Magnetic and Electrical Prospecting of Petroleum	3.0	48	48											3.0			
01213	Principles of Seismic Exploration	4.0	64	64	4										4.0			
01907	Training of Seismic Data Interpretation	2.0	2weeks				2weeks									2.0		
01906	Practical Training of Program Design	1.0	1week				1week					1.0						
01231	Well Logging Data Processing and Interpretation	4.0	64	56	8												4.0	
01231	Curriculum Design of Well Logging Data Processing and Interpretation	1.0	1 week				1 week										1.0	
01206	Seismic Data Processing	3.0	48	48													3.0	
01221	Seismic Data Interpretation	2.0	32	32													2.0	
01955	Curriculum Design of Seismic Data Processing	1.0	1 week				1 week										1.0	
01238	New Technique and Methods in Geophysics	2.0	32	32													2.0	
06999	Graduation Thesis	16.0	16 weeks				16 weeks											16.0