Education Plan for Academic Graduate in Civil Engineering

Discipline Code:0814,Award Master Degree of Engineering

1. Objectives

1. Abide the law, form a good character, behave honestly and trustworthy, strictly and cooperatively, and maintain good research ethics and professionalism.

2. Master broad and solid basic theories and systematically in-depth specialized knowledge of the discipline, be qualified in higher levels of teaching, researching, engineering technology and technological management

3. Master a foreign language, can skillfully read and write papers.

4. Maintain a good physical and mental health quality.

II Disciplinary Research Areas

1. Geotechnical engineering
2. Structural engineering
3. Disaster prevention and reduction engineering and protective engineering
4. Bridge and tunnel engineering
5. Municipal engineering
6. Heating, Gas Supply, Ventilating and Air Conditioning Engineering
7. Construction and management of civil engineering

III Educational System and Years of Study

The educational system for a full-time academic graduate is three years and the study period lasts no more than five years. Total credits for academic master candidate should be no less than 27. The degree course credits for academic master candidate should be no less than 17, among those credits 6 are from professional degree courses, which could be gotten in the range of the Level 1 discipline. As well as, elective course credits should be no less than 5, and specialized English is the compulsory course. Academic master candidate has to take at least one experimental or research-based course as an elective course, and also has to take one interdisciplinary elective course. As well as 1 to 2 professional elective course credits could be gotten in the range of the university.

IV Curriculum System and Credit Requirements

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
Public degree course	003281001	First Foreign Language(Chinese)	108		6	1、2	School of Internation Education	Compuls-ory
	003281002	Introduction to China	54		3	1	School of Internation Education	

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	01421061	Equations Of Mathematical Physics	36		2	1	School of Science	Select any two courses
	01421062	Matrix Theory	36		2	1		
	01421063	Applied Mathematical Statistics	36		2	1		
	01421064	Stochastic Process	36		2	2		
	01421065	Numeral Calculations	36		2	2		
	01421066	Mathematical Model	36		2	2		
Professional elective course	00621021	Higher Rock Mechanics (A)	36		2	2	School of Civil Engineering	
	00621022	Higher Soil Mechanics (A)	36		2	2		
	00621003	Numerical Method In Geotechnical Engineering	36		2	2		
	00661002	Theory Of Elastic-Plastic	36		2	1		
	00661003	Structural Dynamics	36		2	1		
	00661004	The Higher Structure Of Concrete	36		2	1		
	00621004	Finite Element And Program Design	36		2	1		
	00621012	Overview Of Earthquake Engineering	36		2	1		
	00621013	Introduction To Wind Engineering	36		2	1		
	00621014	Structural Analysis Of Bridge	36		2	1		
	00661016	Finite Element And Program Design For Bridge Structure	36		2	1		
	00621007	Principles Of Sewage Treatment	36		2	1		
	00621005	Fluid Mechanics	36		2	1		
	00621006	The Biochemistry	36		2	2		
	00621008	Principle Of Treatment For Feed Water	36		2	2		
	00621009	Higher Heat Transfer	36		2	1		
	00621010	Higher Fluid Mechanics	36		2	1		

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	00621011	Simulative Theory And Method For Environment Of Building	36		2	1		
	00661005	Technology Of Low Energy Consumption For Building	36		2	2		
	00661006	Senior Management	36		2	1		
	00661007	Theory And Method Of Systems Engineering	36		2	2		
	00661008	Management Of Modern Project	36		2	1		
	00661001	Theory And Practice Of Investment Decision-Making For Construction Project	36		2	1		
	00661017	Experimental Technique For The Analysis Of Water Quality	12	24	2	2		
	00221001	Elastic-Plastic Mechanics (Mechanics, Structure)	54		3	1	School Of Transportati-on	The credit of course selected is not less than 6 credits (compulso-ry course)
	00221002	Higher Structural Dynamics (Mechanics, Structure)	54		3	1		
	00221003	Theory Of Thin Shells	36		2	1		
	00221017	Advanced Finite Element	54		3	1		
	00221067	Advanced Theory Of Bridge Structure	54		3	1		
	00221068	Elastic-Plastic Mechanics (Roads, Bridges)	54		3	1		
	00221069	The Finite Element Method And Program Design	54		3	1		
	00221070	Advanced Geotechnical Mechanics	36		2	1		
Elective	00662032	Professional English	18		1	1		Compulsory
	00622009	(Experiment Of Civil Engineering	6	30	2	2		not or research methods classes Choose one
	00662011	Structural Dynamic Test	36		2	2		
	00622035	Technology Of Testing For Bridge And Tunnel Engineering	36		2	1		
	00622030	Calculation Of Heat Transfer (Research Methods)	18		1	2		

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	00622041	Computer Integrated System Of Building	12	24	2	2	School Of Civil Engineering	compulsoryly
	00622001	Technology Of Testing For Modern Geotechnical Engineering	36		2	2		
	00622002	Deep Foundation Pit Engineering	36		2	2		
	00622003	Technology Of Reinforcement For Modern Rock And Soil	36		2	2		
	00622004	The Advances In Geotechnical Engineering	36		2	2		
	00622005	Blasting Dynamics	36		2	2		
	00622006	Technology Of Treatment For Foundation	36		2	2		
	00622007	Pile Foundation Engineering	36		2	2		
	00622008	Principle And Method Of Design For The Underground Engineering	36		2	2		
	00622010	Steel Structure Of High-Rise Buildings	36		2	2		
	00622011	Structure Of High Performance Concrete	36		2	2		
	00622012	Analysis And Recognition Of Vibration Signal	36		2	2		
	00622013	Identification And Reinforcement Of Architectural Structure	36		2	2		
	00622014	Structural Seismic And Wind Resistance	36		2	2		
	00622015	Random Vibration Of Engineering Structure	36		2	2		
	00622016	The Theory Of Elastic Wave	36		2	2		
	00622017	Theory And Application Of Composite Structure	36		2	2		
	00622018	Theory Of Structural Stability	36		2	2		
	00662001	Theory Of Structural Vibration Controlling	36		2	2		

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	00662002	Monitoring For Structural Health	36		2	2		
	00662003	Applications And Practice Of Structural Analysis Software For Civil Engineering	36		2	2		
	00662004	Modal Analysis Of Structural Vibration	36		2	2		
	00662005	The Principle And Application Of Computational Wind Engineering	36		2	2		
	00662006	A Method Of Design For Dynamic Foundation	36		2	2		
	00662007	Tall And Towering Structural System	36		2	2		
	00662008	Monitoring And Testing Of Engineering Structure	36		2	2		
	00662009	Theory Of Evaluation For Disaster Of Engineering Structure	36		2	2		
	00662010	The Theory And Method Of Wind Resistance Experiment For Structure	36		2	2		
	00622054	Theory Of Structural Reliability	18		1	2		
	00622031	Modern Steel Bridge	36		2	2		
	00622032	The Control Theory Of Long-Span Bridge Construction	36		2	2		
	00622034	Design For Substructure Of Bridge	36		2	2		
	00622036	Precision Positioning Of Bridge And Tunnel Engineering	36		2	2		
	00622037	Concrete Bridge Material And Structural Performance	36		2	1		
	00622038	The Concept Design Of Bridge	36		2	2		
	00622039	Seismic And Wind Resistance Design Of Bridge	36		2	2		
	00622040	Damage Diagnosis And Health Monitoring Of Bridge Structure	36		2	2		
	00662033	Technology Of Reinforcement For Bridge Structure	36		2	1		

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	00662034	Sustainably Constructive Theory And Its Application For Engineering	18		1	1		
	00622020	Theory And Application Of New Materials In Water Treatment	36		2	2		
	00622021	Activated Sludge Kinetic Model Theory	18		1	2		
	00622022	Special Technology For Industrial Wastewater Treatment	18		1	2		
	00622023	New Progress In Municipal Engineering	36		2	2		
	00622024	Theory And Technology Of New Biological Nitrogen Removal	36		2	2		
	00622026	Technology Of Constructed Wetland	36		2	2		
	00622027	Research Methods And Application Of Environmental Microbiology	36		2	2		
	00622055	Experimental Technique Of Wastewater Treatment	36		2	2		
	00622028	Hot And Cold Source Technology And The Optimization Method	36		2	2		
	00622029	Controlling Technology Of Indoor Environment	36		2	2		
	00662012	Technology And Theory For Building Ventilation	36		2	2		
	00622042	Intelligent Technology And Building Construction	36		2	2		
	00622043	The Risk Management For Construction Project	36		2	2		
	00622045	Frontiers Of Engineering Management	36		2	2		
	00662014	Consulting Theory And Practice For Construction Engineering	36		2	2		
	00662015	Planning Of Real Estate Project	36		2	2		
	00662030	Urban Economics	36		2	2		
	00622044	The International Project Contract And Contract	36		2	2		

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
		Management						
	00222002	Professional English	18		1	1	School Of Transportati-on	compulsory
	00222014	Test For Detective Technology Of Structure	18		1	2		compulsory
	00222001	Inverse Problem Of Engineering Mechanics	36		2	1		
	00222003	Technology Of Testing And Inspection For Geotechnical Engineering	36		2	2		
	00222004	The Neural Network	36		2	1		
	00222053	The Limit Analysis Of Structure	36		2	2		
	00222051	Structural Optimization Design.	36		2	1		
	00222050	Theory For Structural Stability	36		2	2		
	00222052	The Fracture And Damage Mechanics	36		2	2		
	00222012	Rheology Of Engineering	36		2	2		
	00241032	The Concept Design Of Bridge	36		2	1		
	00222016	Structural Dynamics Of Bridge	54		3	1		
	00222017	Concrete Bridge	36		2	2		

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	00222018	Steel Bridge	36		2	2		
	00222025	Tunnel Mechanics And Numerical Methods	36		2	2		
Interdisciplinary elective course	02223001	Taijiquan and its	18		1	1	Department of Physical Education	
Compulsory		Practice			3	1-3	Relative School	
		Report On Topics Selection Of Thesis And Interim Assessment			1	3		
		Academic Activities	5		1	1-3		