

Education Plan for Doctor in Civil Engineering

(Discipline Code:0814,Award Doctor Degree of Engineering)

I Objectives

① Grasp the theories of Marxism and establish a scientific world outlook, adhere to the basic lines of the Party, love the motherland, 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, master a foreign language ,be qualified in higher levels of teaching, researching, and can make innovative achievements in the specific technology.

③Master two foreign languages, can skillfully read professional foreign language materials, use a foreign language to write papers and have good English listening and speaking ability and international academic exchange ability

④Maintain a good physical and mental health quality.

II Disciplinary Research Areas

①Geotechnical Engineering

②Structural Engineering

③Disaster Prevention and Reduction Engineering and Protective Engineering

④Bridge and Tunnel Engineering

⑤Municipal Engineering

⑥Heating, Gas Supply, Ventilating and Air Conditioning Engineering

⑦Construction and Management of Civil Engineering

⑧Restoration Work of Historical Cities and Buildings

III Educational System and Years of Study

The educational system for a Ph.D.. candidate with a master's degree is three years and the study period lasts generally three to four years, no more than six years.Credits for Ph.D.. candidate with a master's degree should be no less than 16, among those credits 12 are from course credits. As well as, degree course credits should be no less than 10, and compulsory course credits should be no less than 4.Ph.D.. candidate who have not completed the second foreign language must take a second foreign language in Dr Phase.

IV Curriculum System and Credit Requirements

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
Publicdegree course	003281001	First Foreign Language(Chinese)	108		6	12	School of Internation Education	Compulsory
	003281002	Introduction to China	54		3	1	School of Internation Education	
Profess	00611018	Advanced Geotechnical Mechanics(B)	36		2	1	School of Civil	Select any

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	00611019	Higher Soil Mechanics (B)	36		2	1	Engineering	courses which are not less than 4 credits
	00611002	Numerical Analysis Method And The Software For Geotechnical Engineering	36		2	1		
	00611003	Advance Structural Dynamics	36		2	1		
	00611004	Mathematical Methods In Structural Engineering	36		2	1		
	00611009	Earthquake Engineering	36		2	1		
	00611010	Structural Wind Engineering	36		2	1		
	00611011	Advanced Structural Theory Of Bridge	36		2	1		
	00611012	Nonlinear Analysis Of Bridge Structure	36		2	1		
	00611005	The Principle Of Controlling Water Pollution	36		2	1		
	00611006	Theory and Technology Of Environmental Microbiology	36		2	1		
	00611007	Advanced Heat Transfer	36		2	1		
	00611008	Theory And Practice Of Low Energy Consumption Buildings	36		2	1		
	00611013	Theory And Method Of Modern Engineering Economics	54		3	1		
	00611014	Modern Risk Management Theory For Project	54		3	2		
	00611015	Theory And Practice Of History Structural Restoration	36		2	1		
	00611016	Theory And Practice For Protection And Using Of City Of Cultural Heritage	54		3	1		
	00611017	History And Theory Of Urban Planning	36		2	1		
	00211007	Nonlinear Analysis Of Mechanics	36		2	2	School of	4 Select any

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	00211008	Higher Elastic Plastic Mechanics	36		2	1	Transportation	courses which are not less than 4 credits
	00211009	Higher Structural Dynamics (Mechanics, Structure)	36		2	1		
	00211004	Advanced Analysis For Bridge Structure	36		2	1		
	00211005	Finite Deformation Theory	36		2	1		
	00211025	Theory Of Tunnel Structure	36		2	2		
Elective course	01813001-004	Second Foreign Language (Japanese, French, German, Russian)	72		4	2	School of Foreign Languages	Saidelect any courses which are not less than 2 credits
	02112101	An Anthology Of Marxist Classics	18		1	2	School of Marxism	
	00612002	Rock And Soil Reinforcement Technology And Its Optimization Design Theory	36		2	2		
	00612003	The Constitutive Relations Of Fractured Rock Mass	36		2	2		
	00612004	Experimentation For Civil Engineering(B)	6	30	2	2		
	00612005	Theory And Application Of High Performance Concrete Structures	36		2	2		
	00612006	Mechanical Behavior Of Concrete	36		2	2		
	00612007	-Theory For Steel And Concrete Composite Structure	36		2	2		
	00612008	Higher Structural Theory Of Steel	36		2	2		
	00612016	The Nonlinear Theory Of Structures	36		2	2		

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark
	00612017	Theory Of Elastic Wave Motion And Its Application In Engineering	36		2	2		
	00612018	Controlling Of Structural Vibration	36		2	2		
	00612019	Flow - Solid Coupling Analysis	36		2	2		
	00612020	The New Technology And Material Of Bridge Reinforcement	36		2	2		
	00612021	Bridge Seismic	36		2	2		
	00612022	Theory And Practice Of Wind Resistance For Bridge	36		2	2		
	00612023	Bridge Foundation In Deep Water	36		2	2		
	00612009	Monographs For Water Treatment Medicament	36		2	2		
	00612010	Membrane Technologies	36		2	2		
	00612011	New Progress In Theory And Technology Of Wastewater Treatment	36		2	2		
	00612012	Simulation Technology Of Urban Water Engineering	36		2	2		
	00612013	Technology Of Controlling For Indoor Environment	36		2	2		
	00612014	Optimization And Control Of HVAC System	36		2	2		
	00612015	Theory And Techniques Of Thermal And Humid Environment	36		2	2		
	00612025	The Theory And Method Of Modern Management	36		2	2		

Course category	Course No.	Course name	Theory Hrs	experimental Hrs	Credit	Semester	School	Remark		
	00612026	Systems Engineering	36		2	2				
	00612027	The Forefront In Construction And Management Of Construction Project	36		2	2				
	00612024	Intelligent Management Of Construction	36		2	2				
	00612028	The Cases Of Restoration Work Of History City And Building	36		2	1				
	00612029	Special Study For The Technology Of Building Renewal	36		2	1				
	00212001	Method For Inverse Problem Of Engineering Mechanics	36		2	1	School of Transportation			
	00212002	Testing Technology Of Bridge	36		2	2				
	00212003	Numerical Method For Bridge Structure	36		2	1				
	00212005	Wind Resistance And Seismic Of Bridge	36		2	1				
	00212006	Steel Bridge And Composite Structures Bridge	36		2	2				
00212007	Constitutive Model Of Solid	36		2	2					
00212008	Damage Mechanics(Bridge And Tunnel)	36		2	2					
Compulsory Courses	00614001	Practice			2	3			School of Civil Engineering	
	00614002	Topic Selection Report			1	3				
	00614003	Academic Activities	10		1	3				

V Compulsory Courses

① Candidates are required to stimulate a provincial (city) level and a natural (social) science fund project application and 30 minutes' presentation. After inspected and reviewed by the supervisor (Group), those who passed will get two credits.

② One credit for academic activities. In order to encourage candidates to take concern and understand the state of art at home and abroad, broaden their horizons and inspire their creativity, each candidate should make public academic report at least five times, attend academic reports at least 10 times, and write 500 words or more each time after participating in academic activities. After examination by the supervisor (Group), those who complete it will get 1 credit of compulsory courses.

③ One credit for thesis proposal and interim assessment. Under the guidance of supervisors, candidates should pinpoint their research areas, look up relevant literature at home and abroad, conduct extensive investigations and make report on the selection of dissertation. After examination, the research topic will be definite. After passing thesis proposal defense, the candidate will get one credit.

④ Ph.D.. candidates must participate in the medium-term assessment. Specific requirements for the report on topics selection of the dissertation and interim assessment shall be carried out in accordance with the relevant provisions in graduate students' manual.

VI Scientific Research and Dissertation

① Candidates from every major must emphasize their scientific research ability throughout the course of the study, after selecting the topic, periodical summaries and stage work reports shall be written.

② Candidates applying for the degree must meet the relevant requirements of publication in the graduates' manual. Dissertation must pass the test by TMLC2 and reach the requirements of the Academic Degree Evaluation Committee for dissertation before the defense.

VII Cultivation Mode and Method

Tutor or tutor-based instruction group is the mode of cultivation, with flexible and diverse, heuristic, seminar-style teaching methods demonstrating the leading role of the supervisor.

VIII Others

1. To examine the effects of instruction, ensure the quality, the items listed in the program must have an assessment. Assessment methods and performance assessment methods need to be clearly stated in the course syllabus.

2. Ph.D.. candidates who were enrolled ahead of schedule shall be trained as students starting from graduates under the program.

3. Before thesis proposal, Ph.D.. candidates are required to pass all the degree courses and get the credits before thesis proposal. Students are allowed to take some of the other elective courses according to the dissertation after thesis proposal. All the courses shall be completed before the application of dissertation defense.

4. Each discipline shall make specific regulations and requirements in the amount of literature to be read for the students during the study period. Science and Engineering candidates should review more than 80 pieces of literature at home and abroad (100 for candidates of other disciplines), in which foreign literature shall be no less than one third.

5. Ph.D.. candidates shall report their own learning and research work to the supervisor at least once a month at the course learning stage, and at least twice a month during the paper sessions, which shall be institutionalized and clearly clarified in the programs.

6. This program will enact from 2016.