

道路桥梁与渡河工程专业辅修培养方案

Undergraduate Programme for minor of Road, Bridge and River-crossing Engineering

一、培养目标 Objectives

面向国家交通基础设施建设的需求，坚持学校“双严”传统，培养理论基础扎实、专业知识宽厚、具有创新能力和国际视野、能够引领道路与桥梁工程建设未来发展的创新型高级专门人才。毕业生应德、智、体、美、劳全面发展，具有深厚的历史底蕴和广阔的国际视野，较强的社会担当和健全的人格修养，积极的创新精神和严谨的批判思维，良好的人文情怀和扎实的科学素养、高尚的职业操守和优秀的专业才能。毕业生掌握交通基础设施建设的基本原理和专业知识，获得工程师的良好训练，具备较强的实践能力，能从事道路与桥梁工程的规划、勘测、设计、施工、维护和管理工作的。

To meet the major demands of the country transportation infrastructure construction, we carry on the tradition of rigorous scholarship and strict requirement to cultivate innovative senior professionals with solid theoretical foundation, broad professional knowledge, innovative ability and international vision, who can lead the future development of road and bridge engineering. Our graduates have a strong sense of social responsibility, good professional ethics, humanistic sentiments, scientific literacy, innovative spirit and critical thinking ability. With enhanced training and practice, they are well acquainted with the basic principles and professional knowledge in transportation infrastructure construction, and are able to engage in the planning, surveying, design, construction, maintenance, research and management of road and bridge engineering projects.

二、培养要求 Requirement

要求学生基本掌握道路桥梁与渡河工程专业基础知识，具备扎实的专业基础和道路桥梁与渡河工程勘测设计、施工、设施维护的基本技能与方法。培养学生成为具有扎实专业知识和高质量的工程技术、规划设计、建设管理、科学研究的复合型人才。

Students are required to master the basic knowledge of road, bridge and river-crossing engineering, have solid professional foundation and basic skills and methods of road, bridge

and river-crossing engineering survey and design, construction and facility maintenance. To train students to become compound talents with solid professional knowledge and high quality in engineering technology, planning and design, construction management and scientific research.

三、前置课程 Pre course

辅修道路桥梁与渡河工程专业的学生,应先完成以下课程学习:《高等数学 I》、《高等数学 II》、《线性代数 B》、《概率论与数理统计》、《理论力学 B》、《材料力学 AI》、《材料力学 BII》、《工程测量 I》、《工程测量 II》、《土木工程地质》、《土木工程制图与信息模型 I》、《土木工程制图与信息模型 II》。

Students majoring in civil engineering should first complete the following courses: Advanced Mathematics I, Advanced Mathematics II, Linear Algebra B, Probability Theory and Mathematical Statistics, Theoretical Mechanics B, Mechanics of Materials AI, Mechanics of Materials BII, Engineering Surveying I, Engineering Surveying II, Civil Engineering Drafting and Information Modeling I, Civil Engineering Drafting and Information Modeling II.

四、学分要求 Credits Requirements

修学本专业的必修课(见:课程设置,共计46学分),成绩合格,并符合《本科生辅修专业修读及辅修学位授予管理办法》规定者,可颁发本专业辅修证书。学制要求:学制不超过2年(从申请修读辅修专业起)。

A minor bachelor's certificate can be awarded to those who have completed the required courses (see: curriculum design, 46 credits in total) and have passed the examination, and meet the requirements of the administrative measures for the granting of minor majors and minor degrees for undergraduates. Length of schooling: no more than 2 years (from the application for minor major).

五、课程设置 Course Programs

课程类型 Course Type	课程名称 Course Name	课程性质 Category of Course	总学分 Credits	开课学期 Semester	开课学院 School	备注 Notes
专业基础课 Professional Foundational Courses	结构力学 AI Structural Mechanics AI	必修 Compulsory	4	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
	结构力学 AII-B Structural Mechanics AII-B	必修 Compulsory	2	秋季学期 Fall semester	土木工程学院 School of Civil Engineering	
	土力学及基础工程 A Soil Mechanics and Foundation Engineering A	必修 Compulsory	4	秋季学期 Fall semester	土木工程学院 School of Civil Engineering	
	道桥工程材料 Road and Bridge Engineering Materials	必修 Compulsory	3	秋季学期 Fall semester	土木工程学院 School of Civil Engineering	
	工程流体力学 C Engineering Fluid Mechanics C	必修 Compulsory	2	秋季学期 Fall semester	土木工程学院 School of Civil Engineering	
	混凝土结构设计原理 Design Principles of Concrete Structures	必修 Compulsory	4	秋季学期 Fall semester	土木工程学院 School of Civil Engineering	
	钢结构原理 Principles of Steel Structures	必修 Compulsory	3	秋季学期 Fall semester	土木工程学院 School of Civil Engineering	
	工程可靠度设计原理 Design Principle of Engineering Reliability	必修 Compulsory	1	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
	土木工程经济与项目管理 Economic and Project Management of Civil Engineering	必修 Compulsory	3	秋季学期 Fall semester	土木工程学院 School of Civil Engineering	
专业核心课程 Specialized Core Courses	道桥工程导论 Overview of Transportation Engineering	必修 Compulsory	2	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
	桥渡设计 Bridge Crossing Design	必修 Compulsory	2	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
	道路勘测设计 Road Survey and Design	必修 Compulsory	2	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
	路基路面工程 Sub-grade and Pavement Engineering	必修 Compulsory	3	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
	桥梁工程I Bridge Engineering I	必修 Compulsory	3	春季学期 Spring semester	土木工程学院 School of Civil Engineering	

	桥梁工程II Bridge Engineering II	必修 Compulsory	3	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
	道桥施工与运维 Road and Bridge Construction, Operation, and maintenance	必修 Compulsory	3	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
	城市道路与桥梁 Urban roads and bridges	必修 Compulsory	2	春季学期 Spring semester	土木工程学院 School of Civil Engineering	
总学分 Total Credits			46			