廣東工業大學

Guangdong University of Technology

建筑与城市规划学院

城乡规划专业
人才培养方案

自 2022 级开始执行

建筑与城市规划学院
School of Architecture and Urban Planning
城乡规划本科专业人才培养方案
Undergraduates Culitivation Scheme for
Urban and Rural Planning
前言（修订说明）

为构建具有我校特色的本科人才培养体系，培养具有高度社会责任感、适应地方经济社会发展需要的高素质应用型创新人才，城乡规划专业在2020版的基础上，开展2022版人才培养方案的修订。

一、培养方案修订的指导思想

本次人才培养方案的修订根据教育部和学校的相关文件要求，以本科专业类教学质量国家标准和专业认证标准为依据，以促进学生全面发展和适应社会发展需求为根本，将学校人才培养总目标“培养具有高度社会责任感，善于合作、勇于创新、视野宽广，掌握从事专业所需的基础知识和专业技能，具有综合运用所学科学理论方法和手段分析并解决实际问题的能力，能有效解决现场实际问题的高素质应用型创新人才”充分体现和落实在专业教学计划的修订工作中。

二、培养方案的修订依据

1、《教育部关于加快建设高水平本科教育全面提高人才培养能力的意见》（教高〔2018〕2 号）
2、《教育部关于深化本科教育教学改革全面提高人才培养质量的意见》（教高〔2019〕6 号）
3、《广东工业大学本科专业建设管理办法》（广工大规字〔2020〕21 号附件 1）
4、《广东工业大学本科课程建设管理办法》（广工大规字〔2020〕21 号附件 2）
5、《高等学校城乡规划本科指导性专业规范》（2013 年版）
6、《高等学校城乡规划专业评估文件》（2018 版）

三、培养方案修订的具体要求和主要修订内容

1、准予毕业的总学分：城乡规划专业准予毕业的总学分不低于 201 学分。

2、课程体系由人文社科基础、自然科学基础、专业基础和专业领域课程四个模块组成，如图 2，前三个模块构成专业基本模块，基本模块 144.5 学分（约占 72%），专业领域课程为特色拓展模块，56.5 学分（约占 28%）；基本模块课程为该专业的毕业基本要求，在保证各专业基本培养要求的条件下，通过构建专业领域课程形成特色培养。对于实验、实习、实训、设计等实践性环节，理工艺术类专业要求不低于 52 学分（不低于 25%）。

本次修订调整了部分课程性质，将部分专业基础课程前置，构建以综合思维能力、空间构建能力、社会洞察力、公共政策理解能力为核心的专业基础能力，逐步培养学生全方位的专业能力，应对《高等学校城乡规划本科指导性专业规范》对于城乡规划专业学生知识 - 能力的要求，明确将能力培养作为贯穿专业教育的课程主线，全面提升学生综合素质。

为适应城乡规划学科发展，使学生在专业学习的开始即明确学科的本质属性与科学内涵，本次修订取消了部分建筑类基础性课程，将部分规划基础性课程前置，使学生在学习起步阶段能更好的建立专业思维基础；调整了部分课程学分，增加了数学和计算机等自然科学基础课程的学分，增设了部分地理类及管理类课程，强化了城乡规划专业特色。课程总体设置符合学科发展大方向。

以立德树人成效作为检验人才培养工作的根本标准，把思想政治教育贯穿人才培养全过程，促进专业教育和思政教育深度融合，促进知识传授和价值引领有机统一，每门课程的课程大纲均体现课程思政。

四、培养方案特色设置与课程结构体系

培养方案的编制主要根据《全国高等学校城乡规划专业本科（五年制）设置基本条件》、《全国高等学校城乡规划专业本科（五年制）教育评估标准》、《广东工业大学本科培养方案及教学计划管理办法》等的要求，形成以下特色：

1. 围绕培养主轴，构建平台、形成体系

在教学计划、教学大纲和相关课程教学内容制定等方面，强调以扎实的规划设计能力培养为主轴，理论与实践教学、创新与能力拓展的结合，最终构建由“课程平台”、“师生联动创新教育平台”、“校企协同实践平台”三个平台为基础的培养体系（图 1 ）。

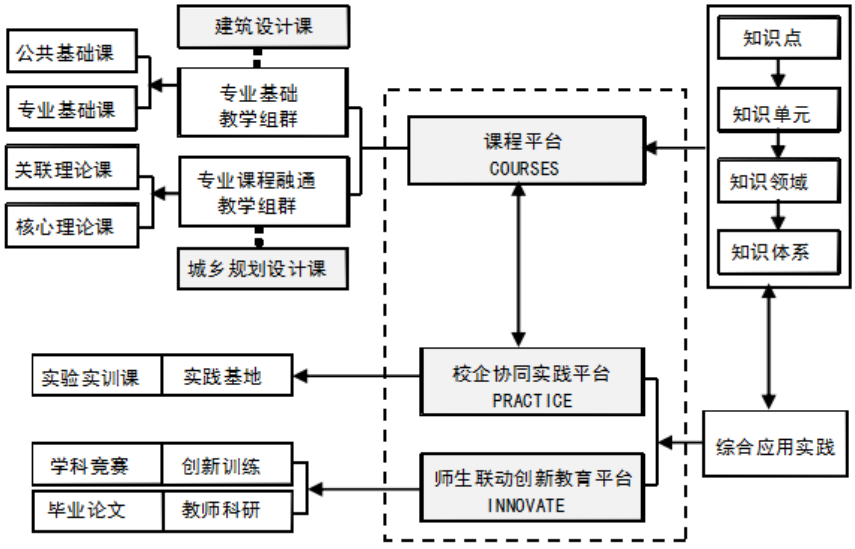


图1 城乡规划专业培养体系

2. 形成以设计课为核心的特色课程体系

课程平台包含专业基础教学组群和专业课程融通教学组群，校企协同实践平台包括课程的实践环节，师生联动创新教育平台包含实验实训、实践基地、创新训练和学科竞赛等。三大平台都围绕着核心设计课，从一年级至五年级，贯穿整个教学课程体系。

3. 强化课程组群，夯实基础、交叉融合

加强低年级公共基础和设计基础教学的平台课程，在教学方法上以教师为主导，学生为主体，实行发散思维教学的感知教育，加强基础知识的掌握和能力训练。高年级以规划设计类课程为主轴，以城市与区域发展、城乡规划理论与方法、城乡规划实施等专业理论课程为主体，融合城乡社会经济类、建筑与土木工程类、景观环境工程类等相关知识领域的内容，使综合性的专业知识得到融会贯通。

4. 依托创新平台，师生联动、教学共进

充分利用区位优势，立足地方，灵活组织课内外多类型的教学活动。依托创新平台，课堂教学与教师纵横向科研项目结合，课外教学与各层次设计竞赛、大学生创新实验训练项目相结合，教师走出去学习与回来教学相结合。教师广泛参与指导，师生联动，全面提高学生的理论素养和实践应用能力，提高团队精神和协同创新能力。

5. 依托实践平台，校企协同、开放拓展

依托企业的技术与人才优势，共建良好的学术平台，实施“开放办学”，在实践教学环节中，企业参与教学，学生通过参加企业的项目实践，得到专业人员的指导，拓展专业知识，提升专业能力，校企协作互动进一步加强。

课题体系结构分为 4 个模块，见图 2。课程构成统计表见表 1。

Introduction

In order to construct the undergraduate talent training system with the characteristics of our university, cultivate high-quality applied innovative talents with a high sense of social responsibility and adapt to the needs of local economic and social development, the urban and rural planning specialty carries out the revision of the 2022 edition talent training program on the basis of the 2020 edition.

I. Guiding ideology of culitivation scheme revision

According to the requirements of relevant documents of the Ministry of Education and the university, the revision of the talent training plan is based on the national standards of undergraduate professional teaching quality and professional certification standards, and is based on promoting students' all-round development and adapting to the needs of social development. To cultivate high-quality applied innovative talents who have a high sense of social responsibility, are good at cooperation, dare to innovate, have a

broad vision, master the basic knowledge and professional skills required for the profession, have the ability to analyze and solve practical problems by comprehensively using the scientific theory, methods and means learned, and can effectively solve practical problems on the spot.The overall goal of talent training of the university is fully embodied and implemented in the revision of professional teaching plan.

II. Basis for revision of culitivation scheme

1. Opinions of the Ministry of Education on Accelerating the Construction of High-level Undergraduate Education and Improving the Ability of Talents Training in an All-round Way (Jiaogao [2018] No.2)

2. Opinions of the Ministry of Education on Deepening the Reform of Undergraduate Education and Teaching and Improving the Quality of Talents Training in an All-round Way (Jiaogao [2019] No.6)

3. Measures for the Construction and Management of Undergraduate Majors in Guangdong University of Technology (Annex 1 of Gdut guizi [2020] No.21)

4. Measures for the Construction and Management of Undergraduate Courses in Guangdong University of Technology (Annex 2 of Gdut guizi [2020] No. 21)

5. Guiding Professional Standards for Undergraduate Urban and Rural Planning in Colleges and Universities (2013 Edition)

6. Assessment Documents for Urban and Rural Planning in Colleges and Universities (2018 Edition)

III. Specific requirements and main contents of revision of culitivation scheme

1. Total credits for graduation: The total credits for graduation of urban and rural planning major shall not be less than 201 credits.

2. The curriculum system consists of four modules, namely, humanities and social sciences foundation, natural science foundation, professional foundation and professional field courses, as shown in Figure 2. The first three modules constitute the basic professional module, with 144.5 credits (about 72%) for the basic module and 56.5 credits (about 28%) for the characteristic development module of professional field courses. The basic module curriculum is the basic requirement for the graduation of this major, and under the condition of guaranteeing the basic training requirements of each major, the characteristic training is formed by constructing the professional field curriculum. For practical links such as experiment, practice, training and design, the major of science, engineering and art requires no less than 52 credits (no less than 25%).

This revision adjusts the nature of some courses, puts some professional basic courses in front, constructs professional basic abilities with comprehensive thinking ability, space construction ability, social insight and public policy understanding ability as the core, and gradually cultivat es students'all-round professional abilities. In order to meet the requirements of 《Guiding Professional Standards for Undergraduate Urban and Rural Planning in Colleges and Universities》 for the knowledge and ability of students majoring in urban and rural planning, it is clear that the ability training should be taken as the main line of the curriculum throughout the professional education, so as to comprehensively improve the comprehensive quality of students.

In order to adapt to the development of urban and rural planning discipline and make students clear the essential attributes and scientific connotation of the discipline at the beginning of professional learning, this revision cancels some basic courses of architecture and puts some basic courses of planning in front, so that students can better establish professional thinking foundation at the initial stage of learning. Some course credits have been adjusted, the credits of basic natural science courses such as mathematics and computer have been increased, some geography and management courses have been added, and the characteristics of urban and rural planning specialty have been strengthened. The overall curriculum is in line with the general direction of discipline development.

Taking the effectiveness of moral education as the basic criterion to test the work of personnel training, ideological and political education should be carried out throughout the whole process of personnel training, promoting the deep integration of professional education and ideological and political education, promoting the organic unity of knowledge imparting and value guidance, and the syllabus of each course reflects the ideological and political curriculum.

IV. Characteristic setting of culitivation scheme and curriculum structure system

The compilation of the culitivation scheme is mainly based on the requirements of the Basic Conditions for the Establishment of Undergraduates of Urban and Rural Planning Specialty (Five-year System) in National Colleges and Universities, the Educational Evaluation Standards for Undergraduates of Urban and Rural Planning Specialty (Five-year System) in National Colleges and Universities, and the Undergraduate Training Program and Teaching Plan Management Measures of Guangdong University of Technology.

1. Around the main axis of culture, build a platform and form a system

In the teaching plan, syllabus and related courses teaching content development and other aspects, emphasis on solid planning and design ability training as the main axis, the combination of theory and practice teaching, innovation and ability development, and ultimately build by the curriculum platform, teacher-student interaction innovation education platform, school-enterprise collaborative practice platform three platform-based training system.

2. Forming a Characteristic Curriculum System with Design Course as the Core

The course platform includes professional basic teaching group and professional course integration teaching group, the school-enterprise collaborative practice platform includes the practice link of the course, and the teacher-student innovative education platform includes experimental training, practice base, innovative training and subject competition. The three platforms are all around the core design course, from grade one to grade five, throughout the whole teaching curriculum system.

3. Strengthen curriculum group, consolidate foundation and cross integration

We should strengthen the platform courses of public basic and design basic teaching in lower grades, take teachers as the leading role and students as the main body in teaching methods, implement the perception education of divergent thinking teaching, and strengthen the mastery of basic knowledge and ability training. The higher grades take the planning and design courses as the main axis, take the urban and regional development, urban and rural planning theory and methods, urban and rural planning implementation and other professional theory courses as the main body, and integrate the contents of urban and rural social economy, architecture and civil engineering, landscape environmental engineering and other related knowledge fields, so that the comprehensive professional knowledge can be integrated.

4. Relying on innovative platform, teacher-student interaction and teaching progress together

Make full use of the advantages of location, based on the local, flexible organization of various types of teaching activities inside and outside class. Relying on innovative platform, classroom teaching is combined with teachers'vertical and horizontal scientific research projects, extracurricular teaching is combined with design competitions at all levels, innovative experimental training projects for college students, and teachers go out to learn and come back to teach. Teachers participate in guidance extensively, teachers and students interact, improve students'theoretical literacy and practical application ability in an all-round way, and improve team spirit and collaborative innovation ability.

5. Relying on the practice platform, school-enterprise collaboration, open development

Relying on the technology and talent advantages of enterprises, we should build a good academic platform and implement open school running. In the practical teaching link, enterprises participate in teaching, students participate in project practice of enterprises, get the guidance of professionals, expand professional knowledge, enhance professional ability, and further strengthen the cooperation and interaction between schools and enterprises.

The subject architecture is divided into four modules, as shown in Figure 2. The statistical table of course composition is shown in Table 1.

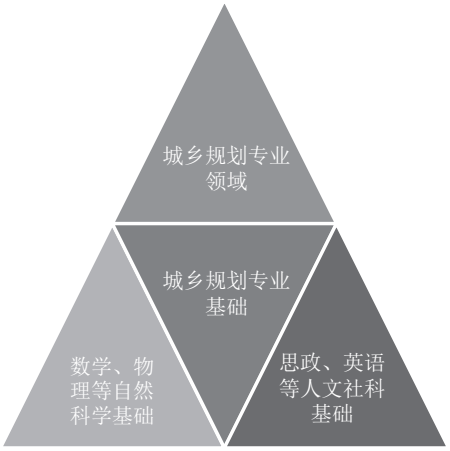


图2　城乡规划专业课程体系结构

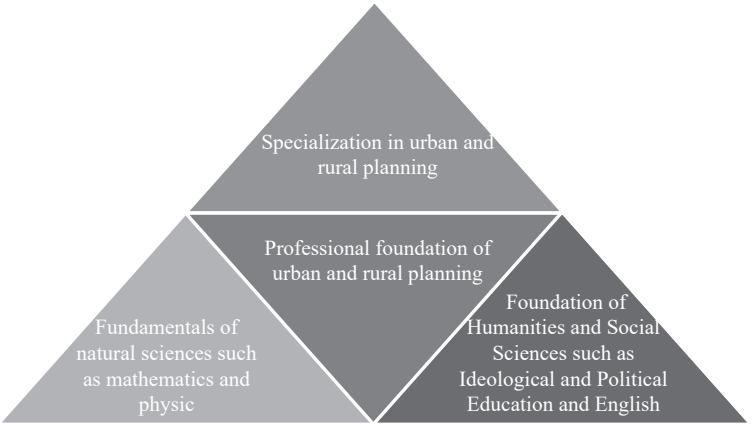


Fig. 2　Curriculum system structure of urban and rural planning specialty

表1　课程构成表

Table 1　Course composition table

模块 Module	学分 Credits	课程类别 Course Category	课程名称 Course Name	学分 Credits	性质 property
基本模块 144.5学分 Basic Module 144.5 Credits	17.5	自然科学 基础 Foundation of Natural Science	微积分 Calculus	4	必修 Compulsoy- Courses
			概率论与数理统计C Probability Theory and Mathematical Statistics C	2.5	
			人工智能基础：科学与工程 Foundations of Artificial Intelligence: Science and Engineering	2	
			自然科学类与工程技术基础类公选课 Public Elective Courses of Natural Science and Engineering Technology	3	
	41.5	人文社科 基础 Foundation of Humanities and Social Sciences	思想道德与法治 Ideological Morality and Rule of Law	3	
			中国近现代史纲要 Outline of Modern Chinese History	3	
			马克思主义基本原理 Basic Principles of Marxism	3	

模块 Module	学分 Credits	课程类别 Course Category	课程名称 Course Name	学分 Credits	性质 property
基本模块 144.5学分 Basic Module 144.5 Credits	41.5	人文社科基础 Foundation of Humanities and Social Sciences	毛泽东思想和中国特色社会主义理论体系概论 Introduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics	3	
			习近平新时代中国特色社会主义思想概论 Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	3	
			形势与政策 Situation and Policy	2	
			体育 Physical Education	4	
			大学英语 College English	8	
			大学生心理健康教育 College Students' Psychological Health Education	2	
			大学生职业规划与创新教育 College Students' Career Planning and Entrepreneurship Education	1	
			大学生就业创业指导 Guidance of College Students' Employment and Entrepreneurship	1.5	
			军事理论 Military Theory	2	
			国家安全教育 National Security Education	1	
			军训 Military Training	2	
			人文社科类公选课 Public Elective Courses of Humanities and Social Science	9	
	85.5	专业基础 Basic Specialty Courses	建筑设计基础 Architectural Design Basis	11	必修（69.5学分） Compulsoy-Courses （69.5 Credits）
			画法几何与阴影透视 Descriptive Geometry & Shadow Perspective	3.5	
			美术（1） Fine Arts（1）	2	
			专业导论 Specialty Introduction	1	
			建筑设计（1） Architectural Design（1）	6	
			城市建设史 History of Urban Construction	3	
			遥感与地理信息科学 RemoteSensing and Geography Information Science	2	

模块 Module	学分 Credits	课程类别 Course Category	课程名称 Course Name	学分 Credits	性质 property
基本模块 144.5学分 Basic Module 144.5 Credits	85.5	专业基础 Basic Specialty Courses	空间数据分析及规划应用 Spatial Data Analysis and Planning Application	2	
			社会调查研究方法 Social Research and Study Method	2	
			城乡规划原理 Principles of urban and rural planning	4.5	
			城市道路与交通规划 Urban Road &TransportationPlanning	3.5	
			详细规划设计 Detailed Planning & Design	11	
			乡村规划设计 Rural Planning and Design	3	
			国土空间总体规划 Territorial Spatial Master Planning	6	
			城市设计 Urban Design	3	
			控制性详细规划 Regulatory Detailed Planning	3	
			建筑设计基础实验 Experiment of Architectural Design Basis	1	
			认识实习 Cognitive Practice	2	
			美术（2）、（3） Fine Arts（2）、（3）	4.5	任选不少于16学分 Choose no less than 16 credit
			平面构成 Graphics Construction	1	
			信息检索与利用 Information Search & Utilization	1	
			专业文献导读与写作规范 Professional Literature Guidance and Writing Norm	1	
			中外建筑史 History of Chinese and Foreign Urban Construction	2.5	
			名建筑赏析 Appreciation of famous building	1.5	
			场地设计原理 Principle of Site Design	1.5	
			环境心理学 Environmental Psychology	1.5	
			建筑摄影 Architectural Photography	1	

模块 Module	学分 Credits	课程类别 Course Category	课程名称 Course Name	学分 Credits	性质 property
基本模块 144.5学分 Basic Module 144.5 Credits	85.5	专业基础 Basic Specialty Courses	测量与地图学 Surveying and Cartography	2	
			中外园林史 History of Chinese and Foreign Gardens	2	
			城市环境物理 Urban Environmental Physics	2	
			土地资源评价与公共管理 Land Resource Evaluation and Public Management	2	
			专业英语 Specialized English	2	
			景观设计 Landscape Design	2.5	
			美术实习 Art Practice	4	
			建筑测绘实习 Practice of Architectural Surveying and Mapping	1	
			建筑摄影实验 Architectural Photography Experiment	1	
			城市环境物理实验 Experiment of Urban Environmental Physics	1	
			建筑表现图 Architectural Illustration	1	
			建筑设计课程设计（1） Course Design of Architectural Design（1）	1	
城乡规划方向56.5学分 Direction of urban and rural planning 56.5 Credits	56.5	城乡规划专业领域 Specialized field of urban and rural planning	城市园林绿地规划 Urban Green Space System Planning	3	任选不少于18.5学分 Choose no less than 18.5credit
			建筑与城乡历史文化遗产保护 Historical Cultural Heritage of Architecture and City	2	
			风景区规划设计 Scenic Area Planning	1.5	
			城市市政工程规划 Project of Municipal Engineering	2.5	
			城市地理学 Urban Geography	2	
			城市社会学 Urban Sociology	2	
			控制性详细规划理论 Theory of Regulatory Detailed Planning	1	

模块 Module	学分 Credits	课程类别 Course Category	课程名称 Course Name	学分 Credits	性质 property
			区域国土空间规划 Regional Territorial Spatial Planning	2	
			城市设计概论 Introduction of Urban Design	2	
			城市经济学 Urban Economics	2	
			国土空间规划管理与法规 Management and Regulation on Territorial Spatial Planning	2	
			专业方向前沿课 Frontier Lesson	1	
			规划师业务知识 Knowledge of Planner Business	1	
			城市生态与环境保护 Urban Ecology & Environment Protection	2.5	
			建筑类专业社会实践工作坊 Social Practice Workshop for Architectural Majors	2	
			城市园林绿地规划课程设计 Course Design of Urban Landscape Green Space Planning	1	必修+限选（38学分） Compulsory + Restricted (38 credits)
			乡村规划课程设计 Course Design of Rural Planning	1	
			城市设计课程设计 Course Design of Urban Design	1	
			规划师业务与管理实习 Business and Management Practice for Planners	14	
			毕业实习 Graduation Practice	1	
			详细规划设计课程设计 Course Design of Detailed Planning & Design	4	
			国土空间总体规划课程设计 Course Design of Territorial Spatial Master Planning	2	
			控制性详细规划课程设计 Course Design ofRegulatory Detailed Planning	1	
			毕业设计（论文） Graduation Design(Thesis)	13	

城乡规划
Urban and Rural Planning

专业代码：082802
Code: 082802
学制：五年
Length of schooling: Five Years
授予学位：工学学士
Degree:Bachelor of Engineering
制定（修订）时间：2022 年 3 月
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一、培养目标

本专业依托地方发展特色，培养学生面向社会主义现代化建设需求 , 德、智、体、美全面发展 , 具有良好的职业道德品质和专业素质。以学科宽口径发展为导向，培养学生成为具备城乡规划设计及管理、建筑设计、园林景观规划等多方面的专业理论知识和相关职业基本技能，以及初步应用研究能力和创新思维能力的高级应用型人才。通过专业教学和实践等环节，使学生能够就业于城乡规划设计、城乡规划管理、建筑设计及房地产开发等部门，从事城乡规划设计与研究、城乡规划管理、建筑设计、房地产策划与咨询等方面的工作 , 以更好服务于本地区经济和社会发展需要。

I. Educational objectives

This professional teaching relying on local development characteristics, raises the student with the aim of the five-year Bachelor’s program in Urban Planning and a broad basic foundation in the subject. Students will explore the most important areas of urban planning, such as, urban and rural planning and management, architecture design, landscape design. The teaching and projects have been carefully selected to give students a good impression of the field as a whole. When students complete the Bachelor’s study, they will be awarded a Bachelor’s degree. Most of them find a job at one of the many research institutes, private enterprises or governmental research departments of urban planning; other graduates find a job at government, either at provincial level or at municipal level. Some other students choose to follow the Urban Planning or Architectural Master’s programmer after they received their Bachelor’s degree.

二、毕业要求

本专业学生在培养过程中，强调对学生坚实广泛的学科基础；学以致用的专业实践能力；城乡规划、建筑学和景观设计三位一体的通识基础能力的培养。使学生具有开阔的视野和科学全面的执业实践知识，促使学生养成独立工作和团队合作的能力，具有成熟的思维方式、正确的价值观和社会、职业道德。最终掌握城乡规划、城市设计和城乡规划管理等的知识和精专设计的能力，并具有在相关部门工作的基本技能，培养学生具有全球的意识和终身学习的习惯。

经过五年的系统学习，本专业学生在毕业时应达成以下毕业要求

1. 基础及工程知识：能够掌握历史、哲学、艺术的基础知识，社会科学学科的研究方法入门知识和自然科学与工程技术的基础知识，并用于设计和解决城市问题。

2. 城乡规划理论及相关知识：在广义建筑学科（城乡规划、建筑学、风景园林学）的专业综合平台基础上，培养学生扎实的专业基本原理、方法和手段等方面的专业知识。熟悉社会经济、建筑与土木工程、景观环境工程、规划技术、规划专题等方面的一般知识和理论。

3. 问题调研、分析、表达：能应用数学、自然科学和工程科学的基本原理，调查、分析、研究、表达，并通过文献研究分析复杂的城市、建筑与风景园林问题，以获得有效的结论。

4. 设计 / 解决问题能力：能够创造性地利用城乡规划学及相关的建筑学和风景园林学等学科的基本原理和专业技能解决城乡规划、设计、建设和管理实践中遇到的问题，具有城乡规划编制与城市设计的能力。

5. 研究：能基于城乡规划学及相关的建筑学和风景园林学科的基本原理并采用科学的方法对城市、社会、建筑、环境等问题进行研究，包括方案比较、数据分析、模拟数字等，并得出有效的解决方案或方法。

6. 使用现代工具：能够针对城乡规划、建筑、风景园林等问题，开发、选择和使用恰当的技术、现代工程工具和信息技术工具，包括对设计方案形成的分析、模拟、表达，并能够理解其局限性。

7. 专业的社会影响评价能力：能够基于城乡规划背景知识进行合理分析和评价，正确看待城乡

规划对解决城市问题，推进城市有效运转、保证社会公平公正的影响，并理解应承担的责任。

8. 环境和城乡可持续发展：能够理解和评价针对城市、社会、建筑、环境问题的管理手段、解决方案与实践对环境、城乡可持续发展的影响。

9. 职业规范：具有人文社会科学素养、社会责任感，能够在城乡规划设计与管理实践中理解并遵守城乡规划职业道德和规范，履行责任。

10. 个人、团队合作和领导管理能力：通过团队设计项目的组织与教学，使学生能够在多学科背景下的团队中承担个体、团队成员以及负责人的角色。

11. 沟通：能够就城乡规划现状、方案设计等问题与甲方、业界同行和社会公众等进行有效的沟通和交流，包括撰写调研报告和方案汇报等。并具备一定的国际视野，能够在跨文化背景下进行沟通和交流。

12. 城乡规划管理：能理解并掌握国家有关城乡规划的方针、政策和法规与城乡规划管理的基本方法和能力，并在实践中应用。

13. 全球意识与终身学习：能够在全球化的环境里保持清晰的意识，有竞争力地、负责任地行使自己的职责，并具有自主学习和终身学习的意识，具备不断学习和适应发展的能力。

II.Graduation requirements

This discipline enable students to have a solid and broad discipline foundation, a practice ability, and an integrated knowledge of urban-rural planning, architecture and landscape architecture.This discipline also enable students to possess a broad view and a comprehensive knowledge of urban-rural planning practice, an ability of teamwork and leadership, a mature mode of think, true value, and professional ethics. This discipline enable students to grasp the professional knowledge, methods and skills of urban-rural planning, urban design and urban-rural management, and enable students to have a clear awareness of globalization and build up the ability of lifelong learning.

With five-year training,students are supposed to gain following graduation Requirement:

1.Foundation&Engineering knowledge: To master the basic knowledge of history, philosophy and art, the introduction of research methods in social sciences and the basic knowledge of natural sciences and engineering technology, and to design and solve urban problems.

2.Urban-rural planning principles and professional knowledge: Based on the integrated platform of the broad architectural discipline, to enable students to grasp solid professional basic principles, methodsand skills. To enable students to familiar with knowledge and principles of socialeconomical, architecture,engineer,landscape and urban technology.

3.Discovering, analyzing and expressing problems: Can apply the basic principles of mathematics, natural science and engineering science to investigate, analyze, study, express, and analyze complex urban, architectural and landscape problems through literature research in order to obtain effective conclusions.

4.Design/solving problems: Be able to creatively use the basic principles and professional skills of urban-rural planning and related disciplines such as architecture and landscape architecture to solve the problems encountered in urban-rural planning, design, construction and management practice, and have the ability of urban-rura l planning and urban design.

5.Research: Based on the basic principles of urban and rural planning and related architecture and landscape architecture disciplines, scientific methods are used to study urban, social, architectural and environmental issues, including scheme comparison, data analysis, simulation and digital, and effective solutions or methods are obtained.

6.Usage of contemporary techniques: Be able to develop, select and use appropriate technology, modern engineering tools and information technology tools for urban and rural planning, architecture, landscape architecture and other issues, including the analysis, simulation and expression of design schemes, and understand their limitations.

7.Professional societal impact ability: Based on the background knowledge of urban and rural planning, we can make a reasonable analysis and evaluation, correctly view the impact of urban and rural planning on solving urban problems, promoting the effective operation of the city, ensuring social equity and justice, and understand the responsibilities to be assumed.

8.Environmental and Urban-rural sustainable development: Be able to understand and evaluate the impact of management methods, solutions and practices for urban, social, architectural and environmental problems on the environment and sustainable development of urban and rural areas.

9. Professional norms: With humanistic and social science literacy and social responsibility, they can understand and abide by the professional ethics and norms of urban and rural planning in the practice of urban and rural planning design and management, and fulfill their responsibilities.

10.Personal, teamwork and leadership: Through the organization and teaching of team design projects, students can assume the roles of individuals, team members and leaders in a team in a multidisciplinary context.

11. Communication: Be able to communicate and communicate effectively with Party a, industry colleagues and the public on the current situation of urban and rural planning, scheme design and other issues, including writing research reports and scheme reports. And have a certain international perspective, able to communicate and exchange in a cross-cultural context.

12.Urban-rural management: Be able to understand and master the national guidelines, policies and regulations on urban and rural planning and the basic methods and abilities of urban and rural planning management, and apply them in practice.

13. Global awareness and lifelong learning: Be able to maintain a clear awareness in the global environment, exercise their responsibilities competitively and responsibly, and have a sense of self-learning and lifelong learning, with the ability to constantly learn and adapt to development.

三、专业培养特色

1. 确立“结合工作室的 3+2 培养模式”。在前三年教学中建立专业基础，奠定学生宽厚的专业基础和基本能力。在后两年的教学中，以面向社会实践的职业教育为特点，考虑专业评估的相关要求，内容既包括实践性强的教学内容，也包括较长时间的设计院实习过程和与实际项目结合的毕业设计，进一步加强学生的实践和适应社会需求的能力，以达到最终的培养目标。建立以教师科研项目和主题为基础的工作室，结合教师的实际科研项目，产、学、研结合，主要在后两年学生的职业教育中，将主干课程城市规划设计、建筑设计等课程依托工作室完成教学任务，为学生营造良好的实践教学环境，得到实践的锻炼；

2. 注重在学院整体建筑教育大平台基础上，强调以扎实的规划设计能力培养为主轴，强调理论与实践教学、创新与能力拓展的结合。最终构建三个平台，即由“专业基础教学组群 + 专业课程融通教学组群”组成的“课程平台”，“师生联动创新教育平台”、“校企协同实践平台”的 C(Courses +P(Practice)+I（Innovate) 为模式的培养体系；

3. 适应注册规划师资格的能力培养，在注重专业基础知识教授的同时，在课程设置以及教学大纲编排方面考虑注册规划师资格考试内容的要求，并调整、增设相关课程的学时比例；

4. 突出岭南地方特色，在城乡规划人才培养中重视结合地域社会文化；

5. 突出学生主体地位，结合专业特色，加强创新意识的培养，以及观察调研，分析判断，构思表达和综合协调等多方面能力培养；

6. 突出课程体系的整体性。课程体系中有系统的设置系列课程群，并形成不同课程群之间的良好协调关系。

III. Features of speciality cultivation

1.Establish 3 + 2 training mode combined with studio. In the first three years of teaching, we should establish a professional foundation and lay a broad professional foundation and basic ability for students. In the latter two years of teaching, with the characteristics of vocational education for social practice, considering the relevant requirements of professional evaluation, the content includes not only practical teaching content, but also a long time of design Institute practice process and graduation design combined with actual projects, to further strengthen students'ability to practice and adapt to social needs, in order to achieve the ultimate training goal.The establishment of teachers' research projects and theme-based studio, combined with teachers' actual research projects, production, learning and research, mainly in the latter two years of students' vocational education, the main courses such as urban planning and design, architectural design and other courses rely on the studio to complete the teaching task, to create a good practical teaching environment for students, to get practical training.

2.On the basis of the overall architectural education platform of the college, it emphasizes the cultivation of solid planning and design ability as the main axis, and emphasizes the combination of theory and practice teaching, innovation and ability development. Finally, three platforms are constructed, namely, the curriculum platform composed of professional basic teaching group + professional curriculum

integration teaching group, the C (Courses + P (Practice) + I (Innovate) mode of teacher-student interaction innovation education platform and school-enterprise collaborative practice platform.

3.To adapt to the ability training of registered planner qualification, while focusing on the teaching of professional basic knowledge, the requirements of registered planner qualification examination content should be considered in curriculum and syllabus arrangement, and the proportion of relevant courses should be adjusted and added.

4. THighlighting the local characteristics of Lingnan and attaching importance to the combination of regional social culture in the training of urban and rural planning talents.

5. We should give prominence to the students' principal position, strengthen the cultivation of innovative consciousness in combination with the professional characteristics, and cultivate the abilities of observation and investigation, analysis and judgment, conception and expression, and comprehensive coordination.

6. Highlight the integrity of the curriculum system. In the curriculum system, a series of curriculum groups are systematically set up, and a good coordination relationship between different curriculum groups is formed.

四、专业主干学科

城乡规划

IV.Keydiscipline for the specialty

Urban and Rural Planning

五、专业核心课程

城乡规划原理、城市生态与环境保护、空间数据分析及规划应用、城市建设史、城市市政工程规划、城市道路与交通规划、详细规划设计、国土空间总体规划、控制性详细规划、城市设计、国土空间规划管理与法规、社会调查研究方法 。

V.Core courses

Principle of Urban and Rural Planning, Urban Ecology & Environment Protection, Spatial Data Analysis and Planning Application, History of Urban Construction, Project of Municipal Engineering, Urban Road & Transportation Planning, Detailed Planning and Design，Territorial Spatial Master Planning, Regulatory Detailed Planning，Urban Design，Territory spatial planning management and regulations, Social Research & Study Method.

六、特色课程（全英课程、双语课程及其他特色教学改革课程）

空间数据分析及规划应用、城市生态与环境保护、建筑与城乡历史文化遗产保护、城市园林绿地规划等。

VI. Featured courses (Englishcourses, bilingual courses and other featured reforming courses)

Spatial Data Analysis and Planning Application，Urban Ecology & Environment Protection，Historical Cultural Heritage of Architecture and City, Urban Green Space System Planning etc.

七、毕业学分要求

课内总学分不低于 201 学分，实践教学环节学分不少于 52 学分。

VII.Credits required for graduation

Total curricular credits are not less than 201 credits, practice teaching credits are at least 52 credits.

八、主要实践教学环节

建筑设计基础实验、认识实习、规划师业务与管理实习、毕业实习、毕业设计（论文）等。

VIII.Main components of practical teaching

Experiment of Architectural Design Basis，Cognitive Practice，Business and Management Practice for Planners，Urban planning management practice， Graduation Practice，Graduation Design(Thesis) etc.

九、课程体系的构成及课程学分分配比例
IX.Course system structure and course credit proportion
1、课内部分 Intra-curricular sector

课程类别 Course Category		内容说明 Description	总学分 Total Credits	总学时 Total Teaching Hours	占总学分比例 Percentage	小计 Subtotal
必修 Comp-ulsory Courses	公共基础课 Basic Public Courses	含“思想政治理论课”、体育、大学英语、高等数学、大学物理、计算机文化基础等。Courses such asIdeological& Political Theories, University Physical Education, College English, AdvancedMathematics, Basic Computer Literary.	45	836	22.3%	55.4%
	专业基础课 Basic Specialty Courses	构筑专业基础平台的基本概念、理论和基础知识的课程。Courses for constructing the basic concepts, theories and knowledge underlying the specialty.	32.5	520	16.2%	
	专业课 Specialty Courses	构筑专业方向的概念、理论和知识的课程。Courses for constructing concepts, theories and knowledge of the specialty emphasis.	34	544	16.9%	
	实验实习实训 Experimental and Practical Courses		20		10%	20%
	设计（论文） Graduation Design (Thesis)		20		10%	

课程类别 Course Category		内容说明 Description	总学分 Total Credits	总学时 Total Teaching Hours	占总学分比例 Percentage	小计 Subtotal
选修 Elective Courses	全校性公共课（至少选12.0学分） University Wide Public Courses (A minimum of 12.0 credits required)	指人文社科类、自然科学与工程技术类全校性公选课。University wide public elective courses in humanities and social sciences, natural sciences, and engineering.	12.0	192	6.0%	21.6%
	专业基础课（至少选13.0学分） Basic Specialty Courses (A minimum of 13.0 credits required)	指相关学科和跨学科的基础理论和知识的课程。Courses for basic theories and knowledge in the main discipline and related disciplines.	13.0	208	6.4%	
	专业课（至少选18.5学分） Specialty Courses (A minimum of 18.5 credits required)	指学科方向和跨学科方向的基础理论和知识的课程。Courses for basic theories and knowledge in the disciplinary emphasis and interdisciplinary emphasis.	18.5	296	9.2%	

课程类别 Course Category		内容说明 Description	总学分 Total Credits	总学时 Total Teaching Hours	占总学分比例 Percentage	小计 Subtotal
选修 Elective Courses	实验实习实训（至少选2.0学分） Experimental and Practical Courses (A minimum of 2.0 credits required)		2.0		1.0%	3%
	设计（论文）（至少选4.0学分） Graduation Design (Thesis) (A minimum of 4.0 credits required)		4.0		2.0%	
合计 Total			201.0	2612	100%	100%

2、课外部分 Extra-curricular sector

课程类别 Category		课程名称 Course Name	学分 Credits	总学时 Total Teaching Hours	实验学时 Teaching Hours for Experiments	实习实训学时 Teaching Hours for Practice	上机学时 Teaching Hours with Computers
必修 Comp-ulsory Courses	公共教育类 Public Education	入学教育 Entrance Education	0.5	0.5周			
		公益活动 Social Work	1.0	16			
		社会实践 Social Practice	2.0	32			
		“毛泽东思想和中国特色社会主义理论体系概论”课外导读 Extra-curricular guided reading of AnIntroduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics	1.0	16			
		毕业教育 Graduation Education	0.5	0.5周			
	小计 Subtotal		5.0	80			

	课外活动名称 Extra-curricular Activities	课外活动和社会实践的要求 Requirements for Extra-curricularActivity and Social Practice		课外学分 Extra-curricular Credits
选修 Elective Courses	英语及计算机考试 English and computer tests	全国大学英语六级考试 National College English Test (CET)6	考试成绩达到学校要求者 Meeting score requirement of the university	2
		全国计算机等级考试 National Computer Rank Examination (NCRE)	获二级以上证书者 Granted certificate of or above Level 2	2
		全国计算机软件资格、水平考试 National computer software qualification and proficiency tests	获程序员证书者 Granted programmer’s certificate	2
			获高级程序员证书者 Granted advanced programmer’s certificate	3
			获系统分析员证书者 Granted system analyst’s certificate	4
	行业资格考试 Professional qualification tests	参加全国行业资格统考 Nationwide uniform professional qualification tests	获行业资格证书者 Granted professional qualification certificate	1
	竞赛 Contests	校级 University level	获一等奖者 Awarded first prize	2
			获二等奖者 Awarded second prize	1
			获三等奖者 Awarded third prize	0.5
		省级 Provincial level	获一等奖者 Awarded first priz	3
			获二等奖者 Awarded second prize	2
			获三等奖者 Awarded third prize	1
		全国 National level	获一等奖者 Awarded first priz	5
			获二等奖者 Awarded second prize	4
			获三等奖者 Awarded third prize	3
	系列讲座 Serial lectures	参加学校组织的系列讲座 Attending serial lectures held on the campus	参加累计4场次以上Attending a minimum of 4 lectures	1
	论文 Academic papers	在全国性一般刊物发表论文 Having papers published in nationwide average journals	每篇论文 Per paper	1
		核心刊物发表论文 Having papers published in nationwide key journals	每篇论文 Per paper	2
	课外科技创新活动 Extra-curricular scientific and technological innovation activities	参与课外科技创新活动 Participating extra-curricular scientific and technological innovation activities	每项 Per event	1

十、课程设置及学时（学分）分配
X.Program requirements and credit (teaching hours) distribution
1、课内部分 Intra-curricular sector

课程类别 Category		课程名称 Course Name	学分 Credits	总学时 Total Teaching Hours	实验学时 Teaching Hours for Experiments	实习实训学时 Teaching Hours for Practice	上机学时 Teaching Hours with Computers
必修 Compulsory Courses	公共基础课 Basic Public Courses	中国近现代史纲要 Outline of Modern Chinese History	3.0	48		12	
		思想道德与法治 Ideological Morality and Rule of Law	3.0	48		12	
		马克思主义基本原理 Basic Principles of Marxism	3.0	48		12	
		毛泽东思想和中国特色社会主义理论体系概论 Introduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics	3.0	48		12	
		习近平新时代中国特色社会主义思想概论 Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	3.0	48			
		形势与政策 Situation and Policy	2.0	64		32	
		体育(1) Physical Education (1)	1.0	36		20	
		体育(2) Physical Education (2)	1.0	36		20	
		体育(3) Physical Education (3)	1.0	36		20	
		体育(4) Physical Education (4)	1.0	36		20	
		大学英语(1) College English (1)	4.0	64		16	
		大学英语(2) College English (2)	4.0	64		16	
		军事理论 Military Theory	2.0	36			
		国家安全教育 National Security Education	1.0	16		10	
		大学生职业规划与创业教育 College Students' Career Planning and Entrepreneurship Education	1.0	16		8	
		大学生就业创业指导 Guidance of College Students' Employment and Entrepreneurship	1.5	24		16	

课程类别 Category		课程名称 Course Name	学分 Credits	总学时 Total Teaching Hours	实验学时 Teaching Hours for Experiments	实习实训学时 Teaching Hours for Practice	上机学时 Teaching Hours with Computers
必修 Compulsory Courses	公共基础课 Basic Public Courses	大学生心理健康教育 College Students' Psychological Health Education	2.0	32		8	
		微积分 Calculus	4.0	64			
		概率论与数理统计C Probability Theory and Mathematical Statistics C	2.5	40			
		人工智能基础：科学与工程 Foundations of Artificial Intelligence: Science and Engineering	2.0	32			
		小计 Subtotal	45.0	836		234	
	专业基础课 Basic Specialty Courses	建筑设计基础（1） Architectural Design Basis（1）	4.0	64	8		
		建筑设计基础（2） Architectural Design Basis（2）	7.0	112	12		
		画法几何与阴影透视（1） Descriptive Geometry & Shadow Perspective（1）	1.0	16			
		画法几何与阴影透视（2） Descriptive Geometry & Shadow Perspective（2）	2.5	40			
		专业导论 Specialty Introduction	1.0	16			
		美术（1） Fine Arts（1）	6.5	104			
		建筑设计（1） Architectural Design（1）	6.0	96			
		城市建设史** History of Urban Construction	3.0	48			
		遥感与地理信息科学 RemoteSensing and Geography Information Science	2.0	32			
		空间数据分析及规划应用** Spatial Data Analysis and Planning Application	2.0	32			
		社会调查研究方法** Social Research and Study Method	2.0	32			
		小计 Subtotal	32.5	520	64		
	专业课 Specialty Courses	城乡规划原理（1）** Principles of urban and rural planning（1）	2.0	32			

课程类别 Category		课程名称 Course Name	学分 Credits	总学时 Total Teaching Hours	实验学时 Teaching Hours for Experiments	实习实训学时 Teaching Hours for Practice	上机学时 Teaching Hours with Computers
必修 Compulsory Courses	专业课 Specialty Courses	城乡规划原理（2）** Principles of urban and rural planning（2）	2.5	40			
		城市道路与交通规划（1）** Urban Road &TransportationPlanning（1）	2.0	32	8		
		城市道路与交通规划（2）** Urban Road &TransportationPlanning（2）	1.5	24	6		
		详细规划设计（1）** Detailed Planning & Design（1）	6.0	96	12		
		详细规划设计（2）** Detailed Planning & Design（2）	5.0	80	8		
		乡村规划设计 Rural Planning and Design	3	48	8		
		国土空间总体规划** Territorial Spatial Master Planning	6.0	96	12		
		城市设计** Urban Design	3.0	48	8		
		控制性详细规划** Regulatory Detailed Planning	3.0	48	8		
		小计 Subtotal	34	544	70		
	实验实习实训 Experimental and Practical Courses	军训 Military Training	2.0	2周		32	
		建筑设计基础实验 Experiment of Architectural Design Basis	1.0	16	16		
		认识实习 Cognitive Practice	2.0	2周		32	
		规划师业务与管理实习 Business and Management Practice for Planners	14.0	14周		224	
		毕业实习 Graduation Practice	1.0	1周		16	
		小计 Subtotal	20.0		16	304	
	设计（论文） Graduation Design (Thesis)	详细规划设计课程设计（1） Course Design of Detailed Planning & Design（1）	2.0	2周		32	
		详细规划设计课程设计（2） Course Design of Detailed Planning & Design（2）	2.0	2周		32	
		国土空间总体规划课程设计 Course Design of Territorial Spatial Master Planning	2.0	2周		32	

课程类别 Category		课程名称 Course Name	学分 Credits	总学时 Total Teaching Hours	实验学时 Teaching Hours for Experiments	实习实训学时 Teaching Hours for Practice	上机学时 Teaching Hours with Computers
必修 Compulsory Courses	设计（论文） Graduation Design (Thesis)	控制性详细规划课程设计 Course Design ofRegulatory Detailed Planning	1.0	1周		16	
		毕业设计（论文） Graduation Design(Thesis)	13.0	13周		208	
		小计 Subtotal	20.0			320	

课程类别 Category		课程名称 Course Name	学分 Credits	总学时 Total Teaching Hours	实验学时 Teaching Hours for Experiments	实习实训学时 Teaching Hours for Practice	上机学时 Teaching Hours with Computers
选修 Elective Courses	校公共选修课 University Wide Public Courses	自然科学与工程技术类Natural Sciences and Engineering Technology.	3.0	48			
		人文社科类 Humanities and Social Sciences	9.0	144			
		小计（至少选12.0学分） Subtotal (at least 12.0 credits)	12.0	192			
	专业基础课 Basic Specialty Courses	美术（2）、（3） Fine Arts（2）、（3）	4.5	72			
		公共建筑设计原理 Principles of Public Building Design	1.0	16			
		平面构成 Graphics Construction	1.0	16			
		信息检索与利用 Information Search & Utilization	1.0	16			8
		专业文献导读与写作规范 Professional Literature Guidance and Writing Norm	1.0	16			
		中外建筑史 History of Chinese and Foreign Urban Construction	2.5	40	8		
		名建筑赏析 Appreciation of famous building	1.5	24	8		
		场地设计原理 Principle of Site Design	1.5	24			
		环境心理学 Environmental Psychology	1.5	24			

课程类别 Category		课程名称 Course Name	学分 Credits	总学时 Total Teaching Hours	实验学时 Teaching Hours for Experiments	实习实训学时 Teaching Hours for Practice	上机学时 Teaching Hours with Computers
选修 Elective Courses	专业基础课 Basic Specialty Courses	建筑摄影 Architectural Photography	1.0	16			
		测量与地图学 Surveying and Cartography	2.0	32			
		中外园林史 History of Chinese and Foreign Gardens	1.5	24	8		
		城市环境物理 Urban Environmental Physics	2.5	40			12
		专业英语 Specialized English	2.0	32			
		景观设计 Landscape Design	2.5	40	12		
		土地资源评价与公共管理 Land Resource Evaluation and Public Management	2.0	32			
		小计（至少选13.0学分） Subtotal (at least credits)	13.0	208			
	专业课 Specialty Courses	城市园林绿地规划BL Urban Green Space System Planning	3	48	8		
		建筑与城乡历史文化遗产保护BL Historical Cultural Heritage of Architecture and City	2.0	32			
		城市市政工程规划** Project of Municipal Engineering	2.5	40			
		城市地理学 Urban Geography	2.0	32			
		城市社会学 Urban Sociology	2.0	32			
		控制性详细规划理论 Theory of Regulatory Detailed Planning	1.0	16			
		区域国土空间规划 Regional Territorial Spatial Planning	2.0	32	4		
		风景区规划设计 Scenic Area Planning	1.5	24	4		
		城市设计概论 Introduction of Urban Design	2.0	32			
	专业课 Specialty Courses	城市经济学 Urban Economics	2.0	32			
		国土空间规划管理与法规** Management and Regulation on Territorial Spatial Planning	2.0	32	4		
		专业方向前沿课 Frontier Lesson	1.0	16			

课程类别 Category		课程名称 Course Name	学分 Credits	总学时 Total Teaching Hours	实验学时 Teaching Hours for Experiments	实习实训学时 Teaching Hours for Practice	上机学时 Teaching Hours with Computers
选修 Elective Courses	专业课 Specialty Courses	规划师业务知识 Knowledge of Planner Business	1.0	16			
		城市生态与环境保护**BL Urban Ecology & Environment Protection	2.5	40	8		
		建筑类专业社会实践工作坊* Social Practice Workshop for Architectural Majors	2	32		28	
		小计（至少选18.5学分） Subtotal (at least credits)	18.5	296			
	实验实习实训 Experimental and Practical Courses	美术实习（1） Art Practice（1）	2.0	2周			
		美术实习（2） Art Practice（2）	2.0	2周			
		建筑测绘实习 Practice of Architectural Surveying and Mapping	1.0	1周		16	
		建筑摄影实验 Architectural Photography Experiment	1.0	1周	16		
		城市环境物理试验 Experiment of Urban Environmental Physics	1.0	16			
		小计（至少2.0选学分） Subtotal (at least credits)	2.0				
	设计（论文） Graduation Design (Thesis)	建筑设计课程设计（1） Course Design of Architectural Design	1.0	1周			
		建筑表现图 Architectural Illustration	1.0	1周			
		城市园林绿地规划课程设计 Course Design of Urban Landscape Green Space Planning	1.0	1周			
		乡村规划课程设计 Course Design of Rural Planning	1.0	1周			
		城市设计课程设计 Course Design of Urban Design	1.0	1周			
		小计（至少选4.0学分） Subtotal (at least credits)	4.0				

说明：
explanation：
* 标注该符号为大类平台课程
*Mark the symbol as a platform course of a large category
** 标注该符号为专业核心课程
**Mark the symbol as the core curriculum of the major
BL 标注该符号为双语课程
BLMark this symbol as a bilingualcourtse

附录

①毕业要求对培养目标的支撑关系

专业的毕业要求完全覆盖了《工程教育认证标准（2017）》通用标准的毕业要求，并作了适当延伸，具体见表 1；专业的毕业要求支撑了培养目标的实现，具体见表 2。

表1 城乡规划专业毕业要求与论证标准的毕业要求

通用标准毕业要求项	1	2	3	4	5	6	7	8	9	10	11	12
本专业目标相应支撑项	1/2	3	4	5	6	7	8	9	10	11	12	13

表2 专业毕业要求支撑专业培养目标

培养目标 / 毕业要求	技术研究	技术应用	合作交流	道德修养	学习创新	服务社会
1.基础及工程知识	√	√				√
2.城乡规划理论及相关知识	√	√			√	√
3.问题调研、分析、表达	√	√			√	
4.设计/解决问题能力	√	√			√	
5.研究	√	√			√	√
6.使用现代工具		√	√		√	
7.专业的社会影响评价能力		√		√		√
8.环境和城乡可持续发展		√		√		√
9.职业规范			√	√		√
10.个人、团队合作和领导管理能力			√	√		√
11.沟通			√	√	√	
12.城乡规划管理			√		√	√
13.全球意识与终身学习			√		√	√

②课程体系对毕业要求的支撑关系

城乡规划专业课程体系对毕业要求的支撑关系，参见表 3。

表3　城乡规划专业课程体系对毕业要求的支撑

课程体系	课程名称	1.基础及工程知识	2.城乡规划理论及相关知识	3.问题调研、分析、表达	4.设计/解决问题能力	5.研究	6.使用现代工具	7.专业的社会影响评价能力	8.环境和城乡可持续发展	9.职业规范	10.个人、团队合作和领导管理能力	11.沟通	12.城乡规划管理	13.全球意识与终身学习
数学与自然科学类课程	微积分	√												
	概率论与数理统计C	√												
	人工智能基础：科学与工程	√												
	自然科学与工程技术类公选课	√												
专业基础必修课	建筑设计基础	√			√									
	画法几何与阴影透视	√												
	专业导论		√					√						
	建筑设计（1）	√		√	√		√					√		
	美术（1）	√												
	城市建设史	√	√			√								
	遥感与地理信息科学	√					√							
	空间数据分析及规划应用			√			√							
	社会调查研究方法			√		√						√		
专业基础课选修课	美术（2）、（3）	√												
	公共建筑设计原理	√		√										
	平面构成	√												

课程体系	课程名称	1. 基础及工程知识	2. 城乡规划理论及相关知识	3. 问题调研、分析、表达	4. 设计/解决问题能力	5. 研究	6. 使用现代工具	7. 专业的社会影响评价能力	8. 环境和城乡可持续发展	9. 职业规范	10. 个人、团队合作和领导管理能力	11. 沟通	12. 城乡规划管理	13. 全球意识与终身学习
专业基础课选修课	信息检索与利用						√							
	专业文献导读与写作规范	√					√							
	中外建筑史	√												
	名建筑赏析			√										
	场地设计原理				√									
	环境心理学		√											
	建筑摄影						√							
	测量与地图学	√												
	中外园林史	√	√											
	城市环境物理	√					√		√					
	专业英语											√		
	景观设计			√	√			√			√			
	土地资源评价与公共管理		√	√					√				√	
专业必修课	详细规划设计			√	√		√					√		
	城乡规划原理		√						√					
	城市道路与交通规划		√	√										
	乡村规划设计		√	√	√		√			√		√		
	国土空间总体规划		√	√	√		√			√	√	√		
	城市设计		√	√	√	√	√				√	√		
	控制性详细规划		√	√	√		√			√	√	√		

课程体系	课程名称	1.基础及工程知识	2.城乡规划理论及相关知识	3.问题调研、分析、表达	4.设计/解决问题能力	5.研究	6.使用现代工具	7.专业的社会影响评价能力	8.环境和城乡可持续发展	9.职业规范	10.个人、团队合作领导管理能力	11.沟通	12.城乡规划管理	13.全球意识与终身学习
专业选修课	城市园林绿地规划		√						√					
	建筑与城乡历史文化遗产保护		√		√				√				√	
	城市市政工程规划		√										√	
	城市地理学		√											
	城市社会学	√	√											
	控制性详细规划理论		√										√	
	区域国土空间规划		√											
	风景区规划设计			√	√			√	√					
	城市设计概论		√											
	城市经济学		√											
	国土空间规划管理与法规									√			√	
	专业方向前沿课		√											
	规划师业务知识							√		√			√	
	城市生态与环境保护		√					√	√					
	建筑类专业社会实践工作坊				√						√	√		
人文社会科学类通识教育课程	中国近现代史纲要									√				
	思想道德与法治									√				
	马克思主义基本原理									√				

课程体系	课程名称	1.基础及工程知识	2.城乡规划理论及相关知识	3.问题调研、分析、表达	4.设计/解决问题能力	5.研究	6.使用现代工具	7.专业的社会影响评价能力	8.环境和城乡可持续发展	9.职业规范	10.个人、团队合作和领导管理能力	11.沟通	12.城乡规划管理	13.全球意识与终身学习
人文社会科学类通识教育课程	毛泽东思想和中国特色社会主义理论体系概论							√		√				
	习近平新时代中国特色社会主义思想概论							√		√				
	形势与政策							√	√	√				
	大学英语											√		
	军训										√			
	入学教育													√
	公益活动							√						
	社会实践							√						
	“毛泽东思想和中国特色社会主义理论体系概论”课外导读													√
	毕业教育													√
	体育										√			
	军事理论									√	√			
	国家安全教育									√				
	大学生职业规划与创业教育													√
	大学生就业创业指导													√
	大学生心理健康教育										√	√		√
	人文社科类公选课					√				√	√			

课程体系	课程名称	1. 基础及工程知识	2. 城乡规划理论及相关知识	3. 问题调研、分析、表达	4. 设计/解决问题能力	5. 研究	6. 使用现代工具	7. 专业的社会影响评价能力	8. 环境和城乡可持续发展	9. 职业规范	10. 个人、团队合作领导管理能力	11. 沟通	12. 城乡规划管理	13. 全球意识与终身学习
基础实验实训	建筑设计基础实验	√					√							
	建筑摄影实验						√							
	建筑测绘实习						√							
	城市环境物理实验	√					√		√					
	美术实习	√												
专业知识综合应用实践环节	建筑设计课程设计（1）			√	√									
	建筑表现图			√										
	认识实习			√					√					
	详细规划设计课程设计			√	√									
	乡村规划课程设计			√	√									
	城市园林绿地规划课程设计			√	√									
	国土空间总体规划课程设计			√	√									
	控制性详细规划课程设计			√	√									
	城市设计课程设计			√	√									
	规划师业务与管理实习			√	√		√	√	√	√	√	√	√	
	毕业实习			√			√							
	毕业设计（论文）		√	√	√	√	√	√	√	√	√	√	√	√

③毕业要求达成度评价

本专业根据表 3 课程体系对毕业要求的支撑，综合考虑理论课程、实验实训、毕业设计等实践课程对各项毕业要求及其指标点达成的关联程度，同时将每项毕业要求（或指标点）归一化，制定以下权重系数设定规则：

1）理论课程的权重系数：学分数 *1；

2）实验课程的权重系数：学分数 *1.5；

3）课程设计及实训课的权重系数：学分 *1.5；其中采用 PBL 模式的权重系数：学分 *2；

4）毕业设计的权重系数：学分 *2。根据以上规则，我们制定了各门课程支撑各项毕业要求实现的权重系数表，具体参见表 4。

表4　课程支撑毕业要求实现的权重系数表

指标点		指标点权重	主要教学环节	教学环节权重
1.基础及工程知识：掌握历史、哲学、艺术的基础知识，社会科学学科的研究方法入门知识和自然科学与工程技术的基础知识，并用于设计和解决城市问题。	1.1掌握人文科学知识，尤其是人居环境、建筑学、中国和西方城乡规划与文化知识。	0.15	中外建筑史	0.30
			中外园林史	0.25
			城市建设史	0.45
	1.2以社会学的方法和角度研究城乡规划。	0.03	社会调查研究方法	0.50
			城市社会学	0.50
	1.3自然科学学科与工程技术的基础知识和前沿知识。	0.43	测量与地图学	0.12
			遥感与地理信息科学	0.12
			人工智能基础：科学与工程	0.12
			建筑设计基础（1）（2）	0.46
			画法几何与阴影透视（1）（2）	0.18
	1.4具备美术、建筑、规划、园林作品的鉴赏能力，具有一定的绘画技巧。	0.30	美术（1）	0.22
			中外建筑史	0.26
			中外园林史	0.16
			美术实习	0.36
	1.5数学和逻辑学的基础知识。	0.09	微积分	0.62
			概率论与数理统计C	0.38

指标点		指标点权重	主要教学环节	教学环节权重
2.城乡规划理论及相关知识：在广义建筑学科（城乡规划、建筑学、风景园林学）的专业综合平台基础上，掌握专业基本原理和解决问题的基本方法、手段。	2.1城乡规划原理、城市道路交通、设计等专业知识和理论知识	0.50	专业导论	0.04
			测量与地图学	0.08
			土地资源评价与公共管理	0.08
			城乡规划原理（1）（2）	0.18
			城市道路与交通规划（1）（2）	0.15
			城市设计概论	0.08
			遥感与地理信息科学	0.08
			空间数据分析及规划应用	0.08
			控制性详细规划理论	0.04
			专业方向前沿课	0.04
	2.2建筑理论及相关知识	0.30	建筑设计（1）	0.60
			场地设计原理	0.20
			中外建筑史	0.20
	2.3城市生态与环境知识	0.08	环境心理学	0.20
			城市园林绿地规划	0.20
			建筑与城乡历史文化遗产保护	0.27
			城市生态与环境保护	0.33
	2.4城市地理学知识	0.05	城市地理学	0.50
			区域国土空间规划	0.50
	2.5城市经济学知识	0.02	城市经济学	1.00
	2.6城市社会学知识	0.02	城市社会学	1.00
	2.7城市工程系统知识	0.03	城市市政工程规划	1.00

指标点		指标点权重	主要教学环节	教学环节权重
3.问题调研、分析、表达：能应用数学、自然科学和工程科学的基本原理，调查、分析、研究、表达，并通过文献研究分析复杂的城市、建筑与风景园林问题，以获得有效的结论。	3.1建筑、城乡规划调研能力：掌握在场地、城乡规划区域内特定问题的发现与调研的能力	0.67	认识实习	0.04
			风景区规划设计	0.03
			建筑设计	0.09
			详细规划设计	0.16
			城市园林绿地规划	0.06
			乡村规划设计	0.06
			城市设计	0.06
			国土空间总体规划	0.10
			控制性详细规划	0.06
			规划师业务与管理实习	0.14
			毕业设计	0.20
	3.2城乡规划分析、表达、撰写调研报告能力、学术论文能力	0.27	社会调查研究方法	0.40
			空间数据分析及规划应用	0.40
			专业文献导读与写作规范	0.20
	3.3查阅文献能力	0.06	信息检索与利用	1.00
4.设计/解决问题能力：能够创造性地利用城乡规划学及相关的建筑学和风景园林学等学科的基本原理和专业技能解决城乡规划、设计、建设和管理实践中遇到的问题，具有城乡规划编制与城市设计的能力。	4.1城乡规划专业领域内的核心知识：城乡规划编制与设计	0.63	乡村规划设计	0.04
			详细规划设计	0.15
			国土空间总体规划	0.09
			控制性详细规划	0.04
			城市设计	0.04
			毕业设计	0.32
			规划师业务与管理实习	0.18
			城乡规划原理	0.08
			城市道路与交通规划	0.06

指标点		指标点权重	主要教学环节	教学环节权重
4.设计/解决问题能力：能够创造性地利用城乡规划学及相关的建筑学和风景园林学等学科的基本原理和专业技能解决城乡规划、设计、建设和管理实践中遇到的问题，具有城乡规划编制与城市设计的能力。	4.2具备建筑设计能力	0.31	建筑设计基础（1）（2）	0.49
			建筑设计（1）	0.30
			建筑设计课程设计（1）	0.21
	4.3具备景观规划与设计能力	0.03	景观设计	0.36
			城市园林绿地规划	0.36
			风景区规划设计	0.28
	4.4城乡规划有关的专业技术知识：学习场地设计、城乡遗产与保护等相关知识	0.03	场地设计原理	0.16
			建筑与城乡历史文化遗产保护	0.28
			空间数据分析及规划应用	0.28
			土地资源评价与公共管理	0.28
5.研究：能基于城乡规划学及相关学科的基本原理并采用科学的方法对城市、社会、建筑、环境等问题进行研究，包括方案比较、数据分析、模拟数字等，并得出有效的解决方案或方法。	5.1社会科学学科的研究方法入门知识	0.42	社会调查研究方法	0.38
			环境心理学	0.24
			城市社会学	0.38
	5.2多方案比较、数据分析、模拟城市等	0.58	国土空间总体规划	0.15
			控制性详细规划	0.15
			城市设计	0.15
			毕业设计	0.55
6.使用现代工具：能够针对城乡规划、建筑、风景园林等问题，开发、选择和使用恰当的技术、现代工程工具和信息技术工具，包括对设计方案形成的分析、模拟、表达，并能够理解其局限性。	6.1掌握必要的办公、数据处理与计算、公共数据库等公共资源和通用工具。	0.02	人工智能基础：科学与工程	0.36
			概率论与数理统计C	0.46
			信息检索与利用	0.18

指标点		指标点权重	主要教学环节	教学环节权重
6.使用现代工具：能够针对城乡规划、建筑、风景园林等问题，开发、选择和使用恰当的技术、现代工程工具和信息技术工具，包括对设计方案形成的分析、模拟、表达，并能够理解其局限性。	6.2掌握计算机辅助设计技术、城乡规划数据处理与应用。	0.88	遥感与地理信息科学	0.05
			空间数据分析及规划应用	0.05
			建筑设计（1）	0.06
			详细规划设计	0.12
			国土空间总体规划	0.07
			城市设计	0.05
			控制性详细规划	0.05
			毕业设计	0.31
			规划师业务与管理实习	0.21
	6.3掌握建筑、城乡规划相关的建模及测量等技术	0.10	建筑测绘实习	0.24
			测量与地图学	0.38
			遥感与地理信息科学	0.38
7.专业的社会影响评价能力：能够基于城乡规划背景知识进行合理分析和评价，正确看待城乡规划对解决城市问题，推进城市有效运转、保证社会公平公正的影响，并理解应承担的责任。	7.1正确看待城乡规划对解决城市问题，保证社会公平的影响。通过社会实践，了解城乡规划对社会发展的作用。	0.52	专业导论	0.03
			认识实习	0.09
			公益活动	0.03
			社会实践	0.06
			规划师业务知识	0.03
			城市生态与环境保护	0.06
			自然科学与工程技术类公选课	0.14
			规划师业务与管理实习	0.38
			形势与政策	0.06
			土地资源评价与公共管理	0.06
			建筑与城乡历史文化遗产保护	0.06

指标点		指标点权重	主要教学环节	教学环节权重
7.专业的社会影响评价能力：能够基于城乡规划背景知识进行合理分析和评价，正确看待城乡规划对解决城市问题，推进城市有效运转、保证社会公平公正的影响，并理解应承担的责任。	7.2智存高远、意志坚强、培养崇高的价值观念	0.48	毛泽东思想和中国特色社会主义理论体系概论	0.20
			习近平新时代中国特色社会主义思想概论	0.20
			马克思主义基本原理	0.20
			思想道德与法治	0.30
			大学生职业规划与创业教育	0.10
8.环境和城乡可持续发展：能够理解和评价针对城市、社会、建筑、环境问题的管理手段、解决方案与实践对环境、城乡可持续发展的影响。	8.1城乡规划与城乡可持续发展的关系。	0.48	形势与政策	0.06
			认识实习	0.10
			城市生态与环境保护	0.08
			城乡规划原理	0.14
			规划师业务与管理实习	0.56
			建筑与城乡历史文化遗产城保护	0.06
	8.2城乡规划对环境的影响。	0.13	土地资源评价与公共管理	0.18
			城市园林绿地规划	0.23
			城市设计	0.23
			城市生态与环境保护	0.18
			风景区规划设计	0.18
	8.3具有创新意识与创新能力	0.39	毕业设计	1.00
9.职业规范：具有人文社会科学素养、社会责任感，能够在城乡规划设计与管理实践中理解并遵守城乡规划职业道德和规范，履行责任。	9.1具有人文社会科学素养，了解国情。	0.24	中国近现代史纲要	0.15
			马克思主义基本原理	0.15
			毛泽东思想和中国特色社会主义理论体系概论	0.15
			习近平新时代中国特色社会主义思想概论	0.15
			人文社科类公选课	0.30
			军事理论	0.10

指标点		指标点权重	主要教学环节	教学环节权重
9.职业规范：具有人文社会科学素养、社会责任感，能够在城乡规划设计与管理实践中理解并遵守城乡规划职业道德和规范，履行责任。	9.2具有社会责任感；了解规划师的业务范围和社会责任，刻苦务实、精勤进取。	0.64	思想道德与法治	0.09
			国土空间规划管理与法规	0.06
			规划师业务知识	0.03
			规划师业务与管理实习	0.32
			毕业设计	0.46
			形势与政策	0.04
	9.3思维敏捷、乐于创新	0.12	规划师业务知识	0.10
			人文社科类公选课	0.90
10.个人、团队合作和领导管理能力：通过团队设计项目的组织与教学，使学生能够在多学科背景下的团队中承担个体、团队成员以及负责人的角色。	10.1理解多学科、大团队背景下的现代工程实践中个体的作用，理解个人与团队关系，具有合作意识，具备合作精神。批判性思考和独立工作的能力	0.09	国土空间总体规划	0.24
			控制性详细规划	0.12
			城市设计	0.12
			毕业设计	0.52
	10.2具备合作能力和团队合作完成城乡规划项目调研、分析和规划设计的基本能力，具备项目负责的基本能力	0.68	国土空间总体规划	0.20
			控制性详细规划	0.10
			城市设计	0.10
			乡村规划设计	0.10
			建筑类专业社会实践工作坊	0.07
			毕业设计	0.42
	10.3具备组织协调其它专业工作者协同合作的能力	0.23	规划师业务与管理实习	0.86
			建筑类专业社会实践工作坊	0.14

指标点		指标点权重	主要教学环节	教学环节权重
11.沟通：能够就城乡规划现状、方案设计等问题与甲方、业界同行和社会公众等进行有效的沟通和交流，包括撰写调研报告和方案汇报等。并具备一定的国际视野，能够在跨文化背景下进行沟通和交流。	11.1掌握相关工程语言知识，具备一定的口头和文字语言表达能力，具备较好的沟通技巧，能够在本文化或跨文化背景下进行沟通和交流。	0.38	建筑设计	0.12
			专业方向前沿课	0.04
			规划师业务与管理实习	0.36
			毕业设计	0.48
	11.2能够就复杂工程问题，与业界同行进行深入技术交流，与社会公众进行工程伦理、社会经济、环境发展等层面沟通。掌握在建成环境中与人们交流的能力。能够清晰表达规划思路和设计理念。	0.54	详细规划设计	0.16
			乡村规划设计	0.04
			毕业设计	0.38
			国土空间总体规划	0.08
			城市设计	0.04
			规划师业务与管理实习	0.30
	11.3至少一种外语的应用能力	0.08	大学英语	0.73
			专业英语	0.27
12.城乡规划管理：能理解并掌握国家有关城乡规划的方针、政策和法规与城乡规划管理的基本方法和能力，并在实践中应用。	12.1了解行政管理及行政法学	0.05	国土空间规划管理与法规	0.67
			规划师业务知识	0.33
	12.2了解相关法律、法规及技术标准	0.10	城乡规划原理	0.42
			国土空间规划管理与法规	0.25
			城市市政工程规划	0.33
	12.3了解城乡规划管理的内容	0.85	建筑与城乡历史文化遗产保护	0.04
			规划师业务知识	0.02
			规划师业务与管理实习	0.38
			毕业设计	0.52
			国土空间规划管理与法规	0.04

指标点		指标点权重	主要教学环节	教学环节权重
13.全球意识与终身学习：能够在全球化的环境里保持清晰的意识，有竞争力地、负责任地行使自己的职责，并具有自主学习和终身学习的意识，具备不断学习和适应发展的能力。	13.1具有自主学习的能力，能够自主查阅各种文献获取解决问题的知识和方法。使学生在专业实践中保持终身学习的能力和兴趣	0.86	“毛泽东思想和中国特色社会主义理论体系概论”课外导读	0.18
			专业文献导读与写作规范	0.06
			毕业设计	0.74
	13.2能够意识到社会和科学技术的快速发展及知识更新素质提高的重要性，自主学习和终身学习，以适应未	0.14	入学教育	0.10
			大学生职业规划与创业教育	0.20
			大学生就业创业指导	0.30
			大学生心理健康教育	0.30
			毕业教育	0.10

Appendix

The supporting relationship between graduation requirements and its objectives

The graduation requirements of the major fully cover the graduation requirements of the General Standards of Engineering Education Accreditation Standards (2017), and have been extended appropriately, as shown in Table 1; The graduation requirements of the major support the realization of the training objectives, as shown in Table 2.

Table 1 Graduation requirements of urban and rural planning specialty and graduation requirements of demonstration standard

General Standard Graduation Requirements	1	2	3	4	5	6	7	8	9	10	11	12
Corresponding support items for the professional objective	1/2	3	4	5	6	7	8	9	10	11	12	13

Table 2 Major Graduation Requirements Support Major Training Objectives

Training objective / Graduation Requirements	Technical Research	Technology Application	Cooperation and exchange	Moral accomplish-ment	Learning Innovation	Serving the Society
1. Basic and engineering knowledge	√	√				√
2. Urban and Rural Planning Theory and Related Knowledge	√	√			√	√
3. Problem investigation, analysis and expression	√	√			√	
4. Design/Problem Solving Capability	√	√			√	
5. Research	√	√			√	√
6. Use of modern tools		√	√		√	
7. Professional social impact assessment capability		√		√		√
8. Environment and sustainable urban and rural development		√		√		√
9. Professional Norm			√	√		√
10. Individual, team cooperation and leadership management ability			√	√		√
11. Communicate			√	√	√	
12. Urban and Rural Planning Management			√		√	√
13. Global Awareness and Lifelong Learning			√		√	√

The supporting relationship between course system and its graduation requirements

The supporting relationship between the curriculum system of urban and rural planning specialty and the graduation requirements is shown in Table 3.

Table 3 The support of curriculum system of urban and rural planning specialty to graduation requirements

Course System	Course Name	1. Basic and engineering knowledge	2. Urban and Rural Planning Theory and Related Knowledge	3.Problem investigation, analysis and expression	4.Design/ Problem Solving Capability	5. Research	6. Use of modern tools	7. Professional social impact assessment capability	8. Environment and sustainable urban and rural development	9. Professional Norm	10. Individual, team cooperation and leadership management ability	11. Communicate	12. Urban and Rural Planning Management	13. Global Awareness and Lifelong Learning
Mathematics and Natural Science Courses	Calculus	√												
	Probability Theory and Mathematical Statistics C	√												
	Foundations of Artificial Intelligence; Science and Engineering	√												
	Public Elective Courses of Natural Science and Engineering Technology	√												
Professional Basic Compulsory Course	Architectural Design Basis	√			√									
	Descriptive Geometry & Shadow Perspective	√												
	Specialty Introduction		√					√						
	Architectural Design（1）	√		√	√		√					√		
	Fine Arts（1）	√												

Course System	Course Name	1. Basic and engineering knowledge	2. Urban and Rural Planning Theory and Related Knowledge	3.Problem investigation, analysis and expression	4.Design/ Problem Solving Capability	5. Research	6. Use of modern tools	7. Professional social impact assessment capability	8. Environment and sustainable urban and rural development	9. Professional Norm	10. Individual, team cooperation and leadership management ability	11. Communicate	12. Urban and Rural Planning Management	13. Global Awareness and Lifelong Learning
Professional Basic Compulsory Course	History of Urban Construction	√	√			√								
	RemoteSensing and Geography Information Science	√					√							
	Spatial Data Analysis and Planning Application			√			√							
	Social Research and Study Method			√		√						√		
Elective course of professional basic courts	Fine Arts（2）、（3）	√												
	Principles of Public Building Design	√		√										
	Graphics Construction	√												
	Information Search & Utilization						√							
	Professional Literature Guidance and Writing Norm	√					√							
	History of Chinese and Foreign Urban Construction	√												
	Appreciation of famous building			√										

Course System	Course Name	1. Basic and engineering knowledge	2. Urban and Rural Planning Theory and Related Knowledge	3.Problem investigation, analysis and expression	4.Design/ Problem Solving Capability	5. Research	6. Use of modern tools	7. Professional social impact assessment capability	8. Environment and sustainable urban and rural development	9. Professional Norm	10. Individual, team cooperation and leadership management ability	11. Communicate	12. Urban and Rural Planning Management	13. Global Awareness and Lifelong Learning
Elective course of professional basic courts	Principle of Site Design				√									
	Environmental Psychology		√											
	Architectural Photography						√							
	Surveying and Cartography	√												
	History of Chinese and Foreign Gardens	√	√											
	Urban Environmental Physics	√					√		√					
	Specialized English											√		
	Landscape Design			√	√			√			√			
	Land Resource Evaluation and Public Management		√	√					√				√	
Professional Compulsory Course	Detailed Planning & Design			√	√		√					√		
	Principle of Urban and Country		√						√					
	Urban Road & Transportation Planning		√	√										

Course System	Course Name	1. Basic and engineering knowledge	2. Urban and Rural Planning Theory and Related Knowledge	3.Problem investigation, analysis and expression	4.Design/ Problem Solving Capability	5. Research	6. Use of modern tools	7. Professional social impact assessment capability	8. Environment and sustainable urban and rural development	9. Professional Norm	10. Individual, team cooperation and leadership management ability	11. Communicate	12. Urban and Rural Planning Management	13. Global Awareness and Lifelong Learning
Professional Compulsory Course	Rural Planning and Design		√	√	√		√			√		√		
	Territorial Spatial Master Planning		√	√	√		√			√	√	√		
	Urban Design		√	√	√	√	√				√	√		
	Regulatory Detailed Planning		√	√	√		√			√	√	√		
Specialized Elective Course	Urban Green Space System Planning		√						√					
	Historical Cultural Heritage of Architecture and City		√		√				√				√	
	Project of Municipal Engineering		√										√	
	Urban Geography		√											
	Urban Sociology	√	√											
	Theory of Regulatory Detailed Planning		√										√	
	Regional Territorial Spatial Planning		√											

Course System	Course Name	1. Basic and engineering knowledge	2. Urban and Rural Planning Theory and Related Knowledge	3.Problem investigation, analysis and expression	4.Design/ Problem Solving Capability	5. Research	6. Use of modern tools	7. Professional social impact assessment capability	8. Environment and sustainable urban and rural development	9. Professional Norm	10. Individual, team cooperation and leadership management ability	11. Communicate	12. Urban and Rural Planning Management	13. Global Awareness and Lifelong Learning
Specialized Elective Course	Scenic Area Planning			√	√			√	√					
	Introduction of Urban Design		√											
	Urban Economics		√											
	Management and Regulation on Territorial Spatial Planning									√			√	
	Frontier Lesson		√											
	Knowledge of Planner Business							√		√			√	
	Urban Ecology & Environment Protection		√					√	√					
	Social Practice Workshop for Architectural Majors				√						√	√		
General Education Courses of Humanities and Social Sciences	Outline of Modern Chinese History									√				
	Ideological Morality and Rule of Law									√				
	Basic Principles of Marxism									√				

Course System	Course Name	1. Basic and engineering knowledge	2. Urban and Rural Planning Theory and Related Knowledge	3.Problem investigation, analysis and expression	4.Design/ Problem Solving Capability	5. Research	6. Use of modern tools	7. Professional social impact assessment capability	8. Environment and sustainable urban and rural development	9. Professional Norm	10. Individual, team cooperation and leadership management ability	11. Communicate	12. Urban and Rural Planning Management	13. Global Awareness and Lifelong Learning
General Education Courses of Humanities and Social Sciences	Introduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics							√		√				
	Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era							√		√				
	Situation and Policy							√	√	√				
	College English											√		
	Military Training										√			
	Entrance Education													√
	Social Work							√						
	Social Practice							√						
	Extra-curricular guided reading of AnIntroduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics													√
	Graduation Education													√

Course System	Course Name	1. Basic and engineering knowledge	2. Urban and Rural Planning Theory and Related Knowledge	3.Problem investigation, analysis and expression	4.Design/ Problem Solving Capability	5. Research	6. Use of modern tools	7. Professional social impact assessment capability	8. Environment and sustainable urban and rural development	9. Professional Norm	10. Individual, team cooperation and leadership management ability	11. Communicate	12. Urban and Rural Planning Management	13. Global Awareness and Lifelong Learning
General Education Courses of Humanities and Social Sciences	Physical Education										√			
	Military Theory									√	√			
	National Security Education									√				
	College Students' Career Planning and Entrepreneurship Education													√
	Guidance of College Students' Employment and Entrepreneurship													√
	College Students' Psychological Health Education										√	√		√
	Public Elective Courses of Humanities and Social Science					√				√	√			
Basic Experimental Training	Experiment of Architectural Design Basis	√					√							
	Architectural Photography Experiment						√							
	Practice of Architectural Surveying and Mapping						√							
	Experiment of Urban Environmental Physics	√					√		√					
	Art Practice	√												

Course System	Course Name	1. Basic and engineering knowledge	2. Urban and Rural Planning Theory and Related Knowledge	3.Problem investigation, analysis and expression	4.Design/ Problem Solving Capability	5. Research	6. Use of modern tools	7. Professional social impact assessment capability	8. Environment and sustainable urban and rural development	9. Professional Norm	10. Individual, team cooperation and leadership management ability	11. Communicate	12. Urban and Rural Planning Management	13. Global Awareness and Lifelong Learning
Practice of Comprehensive Application of Professional Knowledge	Course Design of Architectural Design（1）			√	√									
	Architectural Illustration			√										
	Cognitive Practice			√					√					
	Course Design of Detailed Planning & Design			√	√									
	Course Design of Rural Planning			√	√									
	Course Design of Urban Landscape Green Space Planning			√	√									
	Course Design of Territorial Spatial Master Planning			√	√									
	Course Design of Regulatory Detailed Planning			√	√									
	Course Design of Urban Design			√	√									
	Business and Management Practice for Planners			√	√		√	√	√	√	√	√	√	
	Graduation Practice			√			√							
	Graduation Design(Thesis)		√	√	√	√	√	√	√	√	√	√	√	√

Graduationreqirements evaluation

According to the support of the curriculum system for graduation requirements in Table 3, this major comprehensively considers the degree of correlation between theoretical courses, experimental training, graduation design and other practical courses for various graduation requirements and their index points, and normalizes each graduation requirement (or index point), and formulates the following rules for setting weight coefficients:

1) Weight coefficient of theoretical courses: credits * 1;

2) Weight coefficient of experimental course: credits * 1.5;

3) Weight coefficient of course design and practical training course: Credits * 1.5; Among them, the weight coefficient of PBL mode is: credits * 2;

4) Weight coefficient of graduation design: credits * 2. According to the above rules, we have formulated the weight coefficient table for each course to support the realization of graduation requirements, see Table 4 for details.

Table 4 Weight coefficient table of course supporting graduation requirement realization

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
1. Basic and engineering knowledge: master the basic knowledge of history, philosophy and art, the introductory knowledge of research methods of social sciences and the basic knowledge of natural sciences and engineering technology, and apply them to the design and solution of urban problems.	1.1 Master the knowledge of humanities, especially the knowledge of human settlements, architecture, urban and rural planning and culture in China and the West.	0.15	History of Chinese and Foreign Urban Construction	0.30
			History of Chinese and Foreign Gardens	0.25
			History of Urban Construction	0.45
	1.2 Study urban and rural planning with sociological methods and perspectives.	0.03	Social Research and Study Method	0.50
			Urban Sociology	0.50
	1.3 Basic and frontier knowledge of natural science and engineering technology.	0.43	Surveying and Cartography	0.12
			RemoteSensing and Geography Information Science	0.12
			Foundations of Artificial Intelligence: Science and Engineering	0.12
			Architectural Design Basis（1）（2）	0.46
			Descriptive Geometry & Shadow Perspective（1）（2）	0.18
	1.4 Have the ability to appreciate art, architecture, planning and garden works, and have certain painting skills.	0.30	Fine Arts（1）	0.22
			History of Chinese and Foreign Urban Construction	0.26
			History of Chinese and Foreign Gardens	0.16
			Art Practice	0.36
	1.5 Basic knowledge of mathematics and logic.	0.09	Calculus	0.62
			Probability Theory and Mathematical Statistics C	0.38

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
2. Urban and rural planning theory and related knowledge: based on the professional comprehensive platform of generalized architectural disciplines (urban and rural planning, architecture, landscape architecture), master the basic principles of professional and basic methods and means to solve problems.	2.1 Urban and rural planning principles, urban road traffic, design and other professional knowledge and theoretical knowledge	0.50	Specialty Introduction	0.04
			Surveying and Cartography	0.08
			Land Resource Evaluation and Public Management	0.08
			Principles of urban and rural planning（1）（2）	0.18
			Urban Road & Transportation Planning（1）（2）	0.15
			Introduction of Urban Design	0.08
			RemoteSensing and Geography Information Science	0.08
			Spatial Data Analysis and Planning Application	0.08
			Theory of Regulatory Detailed Planning	0.04
			Frontier Lesson	0.04
	2.2 Architectural theory and related knowledge	0.30	Architectural Design（1）	0.60
			Principle of Site Design	0.20
			History of Chinese and Foreign Urban Construction	0.20
	2.3 Knowledge of Urban Ecology and Environment	0.08	Environmental Psychology	0.20
			Urban Green Space System Planning	0.20
			Historical Cultural Heritage of Architecture and City	0.27
			Urban Ecology & Environment Protection	0.33
	2.4 Knowledge of urban geography	0.05	Urban Geography	0.50
			Regional Territorial Spatial Planning	0.50
	2.5 Urban Economics Knowledge	0.02	Urban Economics	1.00
	2.6 Knowledge of Urban Sociology	0.02	Urban Sociology	1.00
	2.7 Urban Engineering Systems Knowledge	0.03	Project of Municipal Engineering	1.00

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
3. Problem investigation, analysis and expression: can apply the basic principles of mathematics, natural science and engineering science to investigate, analyze, study and express, and analyze complex urban, architectural and landscape problems through literature research to obtain effective conclusions.	3.1 Research capacity of construction and urban-rural planning: the ability to discover and investigate specific problems within the site and urban-rural planning area	0.67	Cognitive Practice	0.04
			Scenic Area Planning	0.03
			Architectural Design	0.09
			Detailed Planning & Design	0.16
			Urban Green Space System Planning	0.06
			Rural Planning and Design	0.06
			Urban Design	0.06
			Territorial Spatial Master Planning	0.10
			Regulatory Detailed Planning	0.06
			Business and Management Practice for Planners	0.14
			Graduation Design(Thesis)	0.20
	3.2 Ability of urban and rural planning analysis, expression, writing research reports and academic papers	0.27	Social Research and Study Method	0.40
			Spatial Data Analysis and Planning Application	0.40
			Professional Literature Guidance and Writing Norm	0.20
	3.3 Access to documentation	0.06	Information Search & Utilization	1.00
4. Design/problem-solving skills: Be able to creatively use the basic principles and professional skills of urban-rural planning and related disciplines such as architecture and landscape architecture to solve the problems encountered in urban-rural planning, design, construction and management practices, and have the ability of urban-rural-planning formulation and urban design.	4.1 Core knowledge in the professional field of urban and rural planning: urban and rural planning compilation and design	0.63	Rural Planning and Design	0.04
			Detailed Planning & Design	0.15
			Territorial Spatial Master Planning	0.09
			Regulatory Detailed Planning	0.04
			Urban Design	0.04

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
4. Design/problem-solving skills: Be able to creatively use the basic principles and professional skills of urban-rural planning and related disciplines such as architecture and landscape architecture to solve the problems encountered in urban-rural planning, design, construction and management practices, and have the ability of urban-rural-planning formulation and urban design.	4.1 Core knowledge in the professional field of urban and rural planning: urban and rural planning compilation and design		Graduation Design (Thesis)	0.32
			Business and Management Practice for Planners	0.18
			Principles of urban and rural planning	0.08
			Urban Road & Transportation Planning	0.06
	4.2 Capable of architectural design	0.31	Architectural Design Basis（1）（2）	0.49
			Architectural Design（1）	0.30
			Course Design ofArchitectural Design（1）	0.21
	4.3 Capable of landscape planning and design	0.03	Landscape Design	0.36
			Urban Green Space System Planning	0.36
			Scenic Area Planning	0.28
	4.4 Professional technical knowledge related to urban and rural planning: learning site design, urban and rural heritage and protection and other related knowledge	0.03	Principle of Site Design	0.16
			Historical Cultural Heritage of Architecture and City	0.28
			Spatial Data Analysis and Planning Application	0.28
			Land Resource Evaluation and Public Management	0.28
5. Research: Based on the basic principles of urban and rural planning and related disciplines and using scientific methods to study urban, social, architectural, environmental and other issues, including scheme comparison, data analysis, simulation and digital, and draw effective solutions or methods.	5.1 Introduction to Research Methods in Social Science	0.42	Social Research and Study Method	0.38
			Environmental Psychology	0.24
			Urban Sociology	0.38
	5.2 Multi-scenario comparison, data analysis, Sim City, etc.	0.58	Territorial Spatial Master Planning	0.15
			Regulatory Detailed Planning	0.15
			Urban Design	0.15
			Graduation Design (Thesis)	0.55

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
6. Use modern tools: Be able to develop, select and use appropriate technology, modern engineering tools and information technology tools for urban and rural planning, architecture, landscape architecture and other issues, including analysis, simulation, expression of design scheme formation, and be able to understand its limitations.	6.1 Master the necessary public resources and general tools such as office, data processing and calculation, public database, etc.	0.02	Foundations of Artificial Intelligence: Science and Engineering	0.36
			Probability Theory and Mathematical Statistics C	0.46
			Information Search & Utilization	0.18
	6.2 Master computer-aided design technology, urban and rural planning data processing and application.	0.88	RemoteSensing and Geography Information Science	0.05
			Spatial Data Analysis and Planning Application	0.05
			Architectural Design（1）	0.06
			Detailed Planning & Design	0.12
			Territorial Spatial Master Planning	0.07
			Urban Design	0.05
			Regulatory Detailed Planning	0.05
			Graduation Design(Thesis)	0.31
			Business and Management Practice for Planners	0.21
	6.3 Grasp the modeling and measurement technology related to construction and urban and rural planning	0.10	Practice of Architectural Surveying and Mapping	0.24
			Surveying and Cartography	0.38
			RemoteSensing and Geography Information Science	0.38
7. Professional social impact assessment ability: Be able to make reasonable analysis and evaluation based on the background knowledge of urban and rural planning, correctly view the impact of urban and rural planning on solving urban problems, promoting the effective operation of the city and ensuring social equity and justice, and understand the responsibilities to be assumed.	7.1 Correctly view the impact of urban and rural planning on solving urban problems and ensuring social equity. Through social practice, we can understand the role of urban and rural planning in social development.	0.52	Specialty Introduction	0.03
			Cognitive Practice	0.09
			Social Work	0.03
			Social Practice	0.06
			Knowledge of Planner Business	0.03
			Urban Ecology & Environment Protection	0.06
			Public elective courses of natural science and engineering technology	0.14

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
7. Professional social impact assessment ability: Be able to make reasonable analysis and evaluation based on the background knowledge of urban and rural planning, correctly view the impact of urban and rural planning on solving urban problems, promoting the effective operation of the city and ensuring social equity and justice, and understand the responsibilities to be assumed.	7.1 Correctly view the impact of urban and rural planning on solving urban problems and ensuring social equity. Through social practice, we can understand the role of urban and rural planning in social development.		Business and Management Practice for Planners	0.38
			Situation and Policy	0.06
			Land Resource Evaluation and Public Management	0.06
			Historical Cultural Heritage of Architecture and City	0.06
	7.2 Be ambitious, strong-willed and cultivate high values	0.48	Introduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics	0.20
			Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	0.20
			Basic Principles of Marxism	0.20
			Ideological Morality and Rule of Law	0.30
			College Students' Career Planning and Entrepreneurship Education	0.10
8. Environmental and urban-rural sustainable development: Be able to understand and evaluate the impact of management methods, solutions and practices for urban, social, building and environmental problems on environmental, urban-rural sustainable development.	8.1 The relationship between urban and rural planning and urban and rural sustainable development.	0.48	Situation and Policy	0.06
			Cognitive Practice	0.10
			Urban Ecology & Environment Protection	0.08
			Principles of urban and rural planning	0.14
			Business and Management Practice for Planners	0.56
			Historical Cultural Heritage of Architecture and City	0.06
	8.2 Impact of urban and rural planning on the environment.	0.13	Land Resource Evaluation and Public Management	0.18
			Urban Green Space System Planning	0.23
			Urban Design	0.23
			Urban Ecology & Environment Protection	0.18
			Scenic Area Planning	0.18
	8.3 Have innovative consciousness and innovative ability	0.39	Graduation Design(Thesis)	1.00

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
9. Professional norms: with humanities and social sciences literacy, social responsibility, able to understand and abide by urban and rural planning professional ethics and norms in urban and rural planning design and management practice, and fulfill responsibilities.	9.1 Have the quality of humanities and social sciences and understand the national conditions.	0.24	Outline of Modern Chinese History	0.15
			Basic Principles of Marxism	0.15
			Introduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics	0.15
			Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	0.15
			Public elective courses of humanities and social science	0.30
			Military Theory	0.10
	9.2 a sense of social responsibility; Understand the business scope and social responsibility of planners, work hard and pragmatic, diligent and enterprising.	0.64	Ideological Morality and Rule of Law	0.09
			Management and Regulation on Territorial Spatial Planning	0.06
			Knowledge of Planner Business	0.03
			Business and Management Practice for Planners	0.32
			Graduation Design(Thesis)	0.46
			Situation and Policy	0.04
	9.3 Quick thinking and willingness to innovate	0.12	Knowledge of Planner Business	0.10
			Public elective courses of humanities and social science	0.90
10. Individual, Teamwork, and Leadership: Organize and teach through team design projects to prepare students to take on individual, team member, and leader roles in a team in a multidisciplinary setting.	10.1 Understand the role of individual in modern engineering practice under the background of multi-disciplinary and large team, understand the relationship between individual and team, have the sense of cooperation and have the spirit of cooperation. Ability to think critically and work independently	0.09	Territorial Spatial Master Planning	0.24
			Regulatory Detailed Planning	0.12
			Urban Design	0.12
			Graduation Design(Thesis)	0.52

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
10. Individual, Teamwork, and Leadership: Organize and teach through team design projects to prepare students to take on individual, team member, and leader roles in a team in a multidisciplinary setting.	10.2 Have the ability of cooperation and teamwork to complete the basic ability of urban and rural planning project research, analysis and planning design, and have the basic ability of project responsibility	0.68	Territorial Spatial Master Planning	0.20
			Regulatory Detailed Planning	0.10
			Urban Design	0.10
			Rural Planning and Design	0.10
			Social Practice Workshop for Architectural Majors	0.07
			Graduation Design(Thesis)	0.42
	10.3 Have the ability to organize and coordinate the cooperation of other professional worker	0.23	Business and Management Practice for Planners	0.86
			Social Practice Workshop for Architectural Majors	0.14
11. Communication: Be able to effectively communicate and exchange with Party a, industry counterparts and the public on the current situation of urban and rural planning, scheme design and other issues, including writing research reports and scheme reports. And have a certain international perspective, able to communicate and exchange in a cross-cultural context.	11.1 Master relevant engineering language knowledge, have certain oral and written language expression ability, have good communication skills, and be able to communicate and communicate in the cultural or cross-cultural background.	0.38	Architectural Design	0.12
			Frontier Lesson	0.04
			Business and Management Practice for Planners	0.36
			Graduation Design(Thesis)	0.48
	11.2 Be able to conduct in-depth technical exchanges with colleagues in the industry on complex engineering issues, and communicate with the public on engineering ethics, social economy, environmental development and other aspects. The ability to communicate with people in the built environment. It can clearly express planning ideas and design concepts.	0.54	Detailed Planning & Design	0.16
			Rural Planning and Design	0.04
			Graduation Design (Thesis)	0.38
			Territorial Spatial Master Planning	0.08
			Urban Design	0.04
			Business and Management Practice for Planners	0.30
	11.3 Ability to use at least one foreign language	0.08	College English	0.73
			Specialized English	0.27

Index Point		Index Point Weight	Main Teaching Courses	Course Weight
12. Urban and rural planning management: Understand and master the guidelines, policies and regulations of the state on urban and rural planning and the basic methods and abilities of urban and rural planning management, and apply them in practice.	12.1 Understanding of Administrative Management and Administrative Law	0.05	Management and Regulation on Territorial Spatial Planning	0.67
			Knowledge of Planner Business	0.33
	12.2 Understand relevant laws, regulations and technical standard	0.10	Principles of urban and rural planning	0.42
			Management and Regulation on Territorial Spatial Planning	0.25
			Project of Municipal Engineering	0.33
	12.3 Understand the contents of urban and rural planning management	0.85	Historical Cultural Heritage of Architecture and City	0.04
			Knowledge of Planner Business	0.02
			Business and Management Practice for Planners	0.38
			Graduation Design(Thesis)	0.52
			Management and Regulation on Territorial Spatial Planning	0.04
13. Global awareness and lifelong learning: Be able to maintain a clear awareness in a global environment, perform their duties competitively and responsibly, have the awareness of self-learning and lifelong learning, and have the ability to constantly learn and adapt to development.	13.1 Have the ability to learn independently, and be able to consult various documents independently to acquire knowledge and methods to solve problems. To enable students to maintain the ability and interest of lifelong learning in professional practice.	0.86	Extra-curricular guided reading of AnIntroduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics	0.18
			Professional Literature Guidance and Writing Norm	0.06
			Graduation Design (Thesis)	0.74
	13.2 Be aware of the rapid development of society and science and technology and the importance of knowledge updating and quality improvement, autonomous learning and lifelong learning to adapt to the future.	0.14	Entrance Education	0.10
			College Students' Career Planning and Entrepreneurship Education	0.20
			Guidance of College Students' Employment and Entrepreneurship	0.30
			College Students' Psychological Health Education	0.30
			Graduation Education	0.10