物流工程专业培养方案

Undergraduate Program of Logistics Engineering

I.专业介绍 Introduction

西南交通大学是我国发展建设物流管理与工程类专业最早的重点大学之一。上世纪末，依托学校交通运输特色，面向国际物流发展方向、国内经济社会发展与物流领域人才紧缺的总体需求，于 1994 年起开始培养物流工程方向高水平人才，设立物流工程研究所。2001 年，在交通运输大类中设立物流工程、物流管理方向，招收该专业本科生；2003 年经教育部批准，成为我国第一批正式设置物流工程专业的重点高校，正式招收本科生。专业排名常年稳居全国前列。

Southwest Jiaotong University is one of the earliest key universities to develop logistics management and engineering specialties in China. At the end of last century, relying on the transportation characteristics of SWJTU, facing the overall demand of international logistics development, domestic economic and social development and the shortage of talents in the field of logistics, the Institute of Logistics Engineering was established in1994 in order to train high-level talents in the direction of logistics engineering. In 2001, the direction of logistics engineering and logistics management was set up in the major categories of transportation to recruit undergraduates of this specialty. In 2003, with the approval of the Ministry of Education, SWJTU became one of the first batch of key universities in China to officially set up logistics engineering specialty and formally recruit undergraduates. And its professional ranking has always been in the forefront in China.

专业代码：120602
Program Code: 120602
专业名称： 物流工程
Program Name: Logistics Engineering

II.培养目标 Objectives

物流工程专业致力于培养德智体美劳全面发展，具有大系统优化思想、供应链一体化管理思想和广阔的国际化视野，优秀创新意识、团队合作能力和终身学习能力，能够在物流领域特别是综合运输领域从事规划设计、项目管理实施、技术系统集成应用、科学研究等工作的复合型人才。

毕业5年左右能够成为物流工程技术领域的骨干人才。包括能够在物流系统规划设计、物流技术研发与应用、物流系统管理等方面的企业、院所、政府部门及高校工作。

Logistics engineering specialty is committed to cultivating compound talents with all-round development of morality, intelligence, sports, beauty and labor, who are to possess the idea of large-scale system optimization, integrated supply chain management and broad

internationalization vision, excellent innovation consciousness, team cooperation ability and lifelong learning ability. Moreover, the nurtured talents can engage in planning and design, project management implementation, integrated application of technology and system, scientific research and so on in the field of logistics, especially in the field of integrated transportation.

Graduated for 5 years or so, cultivated students are able to become a professional talent in the field of logistics engineering technology. Including enterprises, institutions, government departments and universities in logistics system planning and design, logistics technology research and application, logistics system management.

III.专业毕业要求 Graduation Requirements

毕业要求一级指标 First-level index of graduation requirements	毕业要求二级指标 Second-level index of graduation requirements
1. 思想品德：忠党爱国，具备勤劳勇敢、自强不息的民族精神，德智体美劳全面发展的行业人才。 **1. Morality:** Have ardent love for the motherland and the Communist Party of China, have the character of industrious and brave，have national spirit of constant self-improvement, and professional talents of all-around development of virtue, intellect, physical education, beauty and labor.	1.1爱国爱党，坚决拥护党的领导，深入理解中国共产党的行动指南。 1.1 Love our country, support the Communist Party of China and understand the guidelines for action deeply.
	1.2具备竣实扬华、自强不息的交大精神，以及为国家富强、行业进步而奋斗的志向和社会责任感。 1.2 Take the spirit of SWJTU of waiting for talents and revitalizing the Chinese Nation, and constantly strive to become stronger, have the ambition to realize the great renaissance of the Chinese nation and sense of social responsibility.
	1.3具有良好的社会公德和法律意识，主动适应新时代社会主义现代化建设和物流行业发展需求。 1.3 Have the sense of social morals and law consciousness, adapt to new era's great modern socialist development and the developing requirements of logistics industry.
2.工程知识：能够将数学、自然科学、工程基础和专业知识用于解决复杂物流系统工程问题。 **2.Engineering knowledge:** Be able to use mathematics, science, engineering fundamentals and expertise to solve complex logistics system engineering problems	2.1掌握数学与自然科学知识，能将其用于物流系统分析、建模和求解。 2.1 Be master of the mathematics and science knowledge, be able to mathematically model, analyze and solve logistics system engineering systems.
	2.2掌握计算机相关基础知识，能将其用于物流信息系统构建、系统仿真及复杂算法求解。 2.2 Be master of the computational techniques and relevant knowledge, be able to design logistics information systems, simulate systems and implement complex algorithms.
	2.3能够应用运筹学以及工程基础和物流工程管理专业知识，开展复杂物流系统规划、设计及运营管理的工程实践。 2.3 Be master of the operation research, engineering fundamentals and logistics engineering management professional knowledge, be able to conduct and function the engineering practice of complex logistics system planning, design and operation management.
3. 问题分析：能够应用数学、自然科学和工程科学的基本原理，识别、表达、并通过文献研究分析复杂物流系统工程问题。 **3. Problem Analysis:** Be able to identify, express and analyze complex logistics system engineering problems by applying the basic principles of mathematics, natural science and engineering science.	3.1能够应用数学、自然科学和工程科学的基本原理，识别、表达复杂物流系统的工程问题。 3.1 Be able to identify and express the engineering problems of complex logistics system by applying the basic principles of mathematics, natural science and engineering science.
	3.2能够通过有关同类研究成果综述，分析复杂物流系统工程问题的核心环节及影响因素。 3.2 Be able to analyze the core links and influencing factors of complex logistics system engineering problems by virtue of the summary of similar research results.
	3.3能够运用数学、自然科学和工程科学的技术与方法，提出综合改善系统、提高服务效能的技术路线。 3.3 Be able to put forward the technical route of comprehensive improvement of system and service efficiency by using the technology and method of mathematics, natural science and engineering science.

4.设计/开发解决方案：能够设计针对复杂物流系统工程问题的解决方案，能够在规划、设计、管理环节中体现创新意识。 **4. Designing & Developing Solutions:** Be able to design solutions to complex logistics system engineering problems and to embody innovative consciousness in planning, design and management.	4.1能够明确和筛选完成工程任务所需的方法和技术， 并熟悉其优缺点。 4.1 Be able to identify and screen the methods and techniques required to complete engineering tasks, and be familiar with their advantages and disadvantages.
	4.2能够针对复杂物流系统工程问题设计相应的解决方案,并用图纸和设计报告等形式呈现设计成果。 4.2 Be able to design solutions to complex logistics system engineering problems and present results in the form of drawings and reports.
	4.3具备创新思维，能够通过知识融合，运用交叉学科知识分析方案实施的可行性。 4.3 Have innovative thinking and ability to analysis the feasibility of the program through the integration of knowledge and cross-disciplinary knowledge.
5. 研究：能够基于科学原理并采用科学方法对复杂物流系统工程问题进行研究，包括设计实验、分析与解释数据、并通过信息综合得到合理有效的结论。 **5. Research:** Be able to study complex logistic system engineering problems based on scientific principles and scientific methods, including designing experiments, analyzing and interpreting data, and obtaining reasonable and valid conclusions through information synthesis.	5.1针对运输、仓储、配送等作业组织的复杂性、时效性及随机性特点，选择研究方法，设计可行的实验方案。 5.1 Select research methods and design feasible experimental schemes, for the complexity, timeliness and randomness of transportation, warehousing, distribution and other operational organizations.
	5.2能正确收集和整理实验数据，用设备及软件进行数据处理和分析，并获取合理有效的结论。 5.2 Be able to collect and organize experimental data correctly, use equipment and software for data processing and analysis, and obtain reasonable and effective conclusions.
	5.3能够根据实验结论，分析出结论所展现出的科学含义。 5.3 Be able to analyze the scientific meaning according to the experimental conclusions.
6.使用现代工具：能够针对复杂物流系统工程问题，开发、选择与使用恰当的技术、资源、现代工程工具和信息技术工具，包括对复杂工程问题的预测与模拟，并能够理解其局限性。 **6. Using Advanced Tools:** Be able to develop, select and use appropriate technology, resources, modern engineering tools and information technology tools for complex logistics system engineering problems, including prediction and simulation of complex engineering problems, and understand their limitations.	6.1 能够识别复杂物流系统工程的技术特征、资源与影响因素，面向实际问题进行针对性的分析。 6.1 Be able to identify the technical characteristics, resources and influencing factors of complex logistics system engineering, and conduct targeted analysis for practical problems.
	6.2能够运用现代工程工具和信息技术工具，进行针对本专业复杂工程问题解决的计算、设计与系统开发。 6.2 Be able to use modern engineering tools and information technology tools to carry out calculation, design and system development for complex engineering problems solving in this major.
	6.3能够选择现代工程工具和信息技术工具进行物流工程的实际问题的预测与模拟，并理解其局限性。 6.3 Be able to select modern engineering tools and information technology tools for the prediction and simulation of practical problems in logistics engineering and understand their limitations.
7.工程与社会：能够基于工程相关背景知识进行合理分析，评价工程问题解决方案对社会、健康、安全、法律以及文化的影响，并理解应承担的责任。 **7. Engineering And Society:** Be able to conduct a rational analysis based on engineering-related background knowledge, evaluate the impact of engineering problem solutions on society, health, safety, law, and culture, and understand the responsibilities.	7.1具有系统的物流工程实践学习经历，能够基于工程相关背景合理分析不同工作环境、工作条件对物流系统实际解决方案的适应能力。 7.1 Have systematic logistics engineering practice learning experience. Be able to reasonably analyze the adaptability of different working environments and working conditions to the actual solution of the logistics system based on the relevant background of the project.
	7.2运用哲学、社会学、心理学、法律等基础知识，评价复杂物流系统工程问题解决方案及实践对社会、健康、安全、法律以及文化的影响。 7.2 Be able to apply basic knowledge such as philosophy, sociology, psychology, and law to evaluate the impact of complex logistics system engineering problem solutions. Have positive impact on the society, health, safety, law, and culture.
	7.3在分析和评价过程中，理解应承担的责任。 7.3 Understand the responsibilities in the analysis and evaluation process.
8.环境和可持续发展：能够理解和评价针对复杂物流系统工程问题的专业工程实践对环境、社会可持续发展的影响。	8.1理解环境保护和可持续发展对物流系统的要求。 8.1 Understand the requirements of the logistics system for environmental protection and sustainable development.

8. Environment And Sustainable Development: Understand and evaluate the impact of professional engineering practices for complex logistics system engineering problems on environmental and social sustainability.	8.2了解物流领域在环境保护和可持续发展方面的方针、政策和法律、法规。 8.2 Understand the guidelines, policies, laws and regulations on environmental protection and sustainable development in the field of logistics.
	8.3能够从可持续发展战略的层面评价复杂物流系统工程项目及实施方案对城市发展、生态环境等方面的影响。 8.3 Be able to evaluate the impact of complex logistics system engineering projects and implementation plans on urban development and ecological environment from the perspective of sustainable development strategies.
9. 职业规范：具有人文社会科学素养、社会责任感，能够在工程实践中理解并遵守工程职业道德和规范，履行责任。 **9. Professional Ethics：**Have spirit and literacy in humanities and social science, and social responsibility. Understand and follow engineering code of conduct for professional ethics and criterions in engineering practice. Discharge the responsibilities.	9.1具有健康人格、道德修养、思辨能力、社会责任和科学精神。 9.1 Have healthy personality, moral cultivation, speculative ability, social responsibility and scientific spirit.
	9.2具有工程师职业道德、操守和素质，并清晰了解其行为边界。 9.2 Have professional ethics, integrity and quality of engineers. Understand the behavior boundaries of engineers clearly.
	9.3具有行业发展和推动社会进步的责任感，并在实践中自觉履行责任。 9.3 Have sense of responsibility for industry development and social progress. Discharge the responsibilities consciously in practice.
10.个人和团队：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. Individual And Team:** Be able to play the roles of individual, team member and leader in a multidisciplinary team.	10.1能够独立完成团队分配的任务，胜任团队成员的角色与责任，控制自我并了解、理解他人需求和意愿。 10.1 Be able to accomplish tasks assigned by the team independently, be competent for the roles and responsibilities of team members, self-control and comprehend and understand the needs and wishes of others.
	10.2具有与相关专业的工程师与技术人员工作与合作的能力。 10.2 Be able to work and cooperate with engineers and technicians in related fields.
	10.3能够从系统整体优化的角度主导复杂物流系统工程任务。 10.3 Be able to lead the task of complex logistics system engineering from the perspective of overall system optimization.
11. 沟通：能够就复杂物流系统工程问题与业界同行及社会公众进行有效沟通和交流，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. Communication:** Be able to communicate effectively with industry colleagues and the society on complex logistics system engineering issues. Have a certain international perspective and ability to communicate in a cross-cultural background.	11.1能够熟练运用文字、图表、报告及多媒体等表达工具。 11.1 Be proficient in expression tools such as text, graphics, reports, and multimedia.
	11.2能够使用技术语言进行沟通与表达，准确阐述观点，回应质疑，能够按照技术标准或规范编制工程文档。 11.2 Be able to communicate and express in technical language, explain the point of view, respond to question and have the ability to prepare engineering documents in accordance with technical standards or specifications.
	11.3熟练掌握一门外语，具备一定的国际视野，了解物流行业的国际前沿，能够与跨文化背景的人进行沟通和交流。 11.3 Be familiar with a foreign language, have a certain international perspective, understand the international frontiers of the logistics industry, have the ability to communicate with people across cultural backgrounds.
12.项目管理：理解并掌握工程管理原理与经济决策方法，并能在多学科环境中应用。 **12.Project Management:** Understand and master the principle of engineering management and method of economic decision, apply them to resolve multidisciplinary problems.	12.1 掌握工程项目或产品设计和实施的全周期、全流程进行的过程管理和经济决策的方法。 12.1 Be master of the method of engineering management and economic decision during the whole cycle and process of the designing and implementation of the engineering project or product.
	12.2了解复杂物流系统工程及产品全周期、全流程的成本构成，理解其中涉及的工程管理与经济决策问题。 12.2 Comprehend the cost structure of the complex logistic system engineering and product during the whole cycle and process, and understand the related problems of engineering management and economic decision.
	12.3能在多学科环境下(包括模拟环境)，在设计开发解决方案的过程中，运用工程管理与经济决策方法。 12.3 Be able to apply the method of engineering management and economic decision during the process of the solution designing and development under the multidisciplinary environment, including simulation environment.
13.终身学习：具有自主学习和终身学习的意识，有不断学习和适应发展的能力。 **13. Lifelong Learning:** Have the consciousness of self-learning and lifelong learning, have the ability to continuously learn and adapt to development.	13.1能够认识到自主和终身学习的必要性。 13.1 Be able to recognize the need for self-learning and lifelong learning.
	13.2掌握一定的学习方法和技巧，包括对技术问题的理解能力，归纳总结的能力和提出问题的能力等。 13.2 Be master of certain learning methods and skills, including the ability to understand technical issues, to summarize and to ask questions.

	13.3能够适应不同工作环境和工作条件，具有创新、探索和终身学习的意识，掌握自主学习方法和途径。 13.3 Be able to adapt to different working environments and working conditions, have the awareness of innovation, exploration and lifelong learning, and master the methods and ways of self-learning.

IV.学制与学位 Duration and Degree

学制：四年

Duration: Four years

学位：工学学士

Degree: Bachelor of Engineering

V.主干学科与主干课程 Main Subject and Main Course

主干学科：物流管理与工程

Main Subject： Logistics Management and Engineering

专业基础课程：运筹学、系统工程（物流）、供应链管理 B。

Professional Basic Courses: Operation Research, System Engineering (Logistics), Supply Chain Management B。

专业核心课程：物流系统规划、物流中心规划与设计、物流设备与应用、生产计划与控制、物流技术经济学、项目管理（物流）、物流工程制图、物流信息系统、物流系统仿真、配送作业优化与组织、数据分析与计算、人工智能与机器学习、智能仓储、智慧物流技术。

Specialized Core Course：Logistics System Planning, Logistics Center Planning and Design, Logistics Equipment and Application, Production Planning and Control, Logistics Technology Economics, Project Management (Logistics), Logistics Engineering Drawing, Logistics Information System, Logistics System Simulation, Distribution Operation Optimization and Organization, Data Analysis and Calculation, Artificial Intelligence and Machine Learning, Intelligent Warehousing, Intelligent Logistics Technology.

VI.毕业学分基本要求 Basic Requirements of Credits for Graduation

课程体系 Curriculum System		**学分要求 Credits Requirements**						
		必修 Compulsory		**限修 Distributional Electives**		**选修 Free Electives**		**小计 Subtotal**
		理论 Theory	**实践 Practice**	**理论 Theory**	**实践 Practice**	**理论 Theory**	**实践 Practice**	
公共基础课程 Public Basic Courses	思想政治类 Ideological Politics Courses	14	2					16
	军事类 Military Courses	2	2					4
	外语类 Foreign Language Courses	6		2				8

	体育类 Physical Education Courses		4					4
通识教育课程 General Education Courses	核心通识课 Core General Education Courses			6				6
	新生研讨课 Freshman Seminar	2						2
学科与专业基础课程（含实验） Discipline and Specialty Foundational Courses(Including Experiments）	数学与自然科学基础课 Foundational Courses on Mathematics and Natural Science	31	6					37
	专业基础课 Professional Foundational Courses	14	1					15
专业课程（含实验） Specialized Courses(Including Experiments）	专业核心课程 Specialized Core Course	27.5	1.5					29
	专业限修课程 Specialized Restricted Courses			8				8
实习实践教学 Practice Courses	基本技能训练、实习实训、综合课程设计、社会与文化素质实践、毕业实习与毕业设计 Basic Skills Training, Practical Training, Integrated Curriculum Design, Social and Cultural Quality Practice, Graduation Internship and Graduation Design		19				4	23
多元化课程 Diversified Courses	跨学科课程、美育专业类课程、学科竞赛类课程、其它个性化选修课程等 Interdisciplinary Courses, Aesthetic Education Courses, Subject Competition Courses, other Personalized Elective Courses，etc					4		4
创新创业实践 Innovation and Entrepreneurship Practice	创新创业训练计划项目、个性化实验、学科竞赛、创新讲座等 Innovation and Entrepreneurship Training Program, Personalized Experiments, Subject Competition, Innovation Lectures, etc				2			2

必修环节 A Compulsory Part	大学生综合素质提升、学生体质达标测评 Comprehensive Quality Improvement Courses for College Students, Assessment of Students' Physical Fitness							0
总　计 Total								158

VII.课程设置细化表 Course Programs Table

公共基础课程 Public Basic Courses 共 32 学分，其中必修 30 学分，限修 2 学分，选修 0 学分 A total credits of 32，including 30 for compulsory courses，2 for distributional electives and 0 for free electives								
课程类型 Course Type	**课程名称 Course Name**	**课程性质 Nature of Course**	**总学分 Credits**	**课内实践学分 In-class Practice Credits**	**开课学期 Semester**	**开课学院 School**	**支撑毕业要求指标点 Indicators which Support Graduation Requirements**	**备注 Notes**
思想政治类 Ideological Politics Courses	思想道德修养与法律基础 The Ideological and Moral Cultivation and Legal Basis	必修 Compulsory	3	0.4	第 1 学期 1 Semester	马克思主义学院 School of Marxism	1、7、9	
	中国近现代史纲要 Conspectus of Chinese Modern History	必修 Compulsory	3	0.4	第 2 学期 2Nd Semester	马克思主义学院 School of Marxism	1、7、9	
	马克思主义基本原理 The Basic Principles of Marxism	必修 Compulsory	3	0.4	第 3 学期 3Semester	马克思主义学院 School of Marxism	1、7、9	
	毛泽东思想和中国特色社会主义理论体系概论 I Introduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics I	必修 Compulsory	3	0.4	第 5 学期 5Th Semester	马克思主义学院 School of Marxism	1、7、9	
	毛泽东思想和中国特色社会主义理论体系概论 II Introduction to Mao Zedong Thought and theoretical System of Socialism with Chinese Characteristics II	必修 Compulsory	2	0.4	第 6 学期 6Th Semester	马克思主义学院 School of Marxism	1、7、9	
	形势与政策 I Situation and Policy I	必修 Compulsory	0	0	第 1 学期 1St Semester	马克思主义学院 School of Marxism	1、7、9	
	形势与政策II Situation and Policy II	必修 Compulsory	0	0	第 2 学期 2Nd Semester	马克思主义学院 School of Marxism	1、7、9	
	形势与政策III Situation and Policy III	必修 Compulsory	0	0	第 3 学期 3Rd Semester	马克思主义学院 School of Marxism	1、7、9	

思想政治类 Ideological Politics Courses	形势与政策IV Situation and Policy IV	必修 Compulsory	0	0	第 4 学期 4Th Semester	马克思主义学院 School of Marxism	1、7、9	
	形势与政策 V Situation and Policy V	必修 Compulsory	0	0	第 5 学期 5Th Semester	马克思主义学院 School of Marxism	1、7、9	
	形势与政策VI Situation and Policy VI	必修 Compulsory	0	0	第 6 学期 6Th Semester	马克思主义学院 School of Marxism	1、7、9	
	形势与政策VII Situation and Policy VII	必修 Compulsory	0	0	第 7 学期 7Th Semester	马克思主义学院 School of Marxism	1、7、9	
	形势与政策VIII Situation and Policy VIII	必修 Compulsory	2	0	第 8 学期 8Th Semester	马克思主义学院 School of Marxism	1、7、9	
军事类 Military Courses	军事理论 Military Theories	必修 Compulsory	2	0	第 1 学期 1St Semester	武装部 Security Office	1、9	
	军事技能 Military Skills	必修 Compulsory	2	2	短 1 学期 Short Semester 1	武装部 Security Office	1、9	
外语类 Foreign Language Courses	英语 I College English I	必修 Compulsory	2	0	第 1 学期 1St Semester	外国语学院 School of Foreign languages	11	
	英语 II College English II	必修 Compulsory	2	0	第 2 学期 2Nd Semester	外国语学院 School of Foreign languages	11	
	通用学术英语 English for General Academic Purposes	必修 Compulsory	2	0	第 3 学期 3Rd Semester	外国语学院 School of Foreign languages	11	
	职场英语 Workplace English	限修 Distributional Elective	2	0	第 4 学期 4Th Semester	外国语学院 School of Foreign languages	11	限选 1 门，2 学分 Limited to 1 course, 2 credits
	交际与文化视听说 Viewing, Listening & Speaking in English --Communication & Culture							
	语言、文化与翻译 Language, Culture and Translation							
	英语公共演讲 Public Speaking in English							
体育类 Physical Education Courses	体育 I Physical Education I	必修 Compulsory	1	1	第 1 学期 1St Semester	体育部 Dept. of Physical Education	13	
	体育 II Physical Education II	必修 Compulsory	1	1	第 2 学期 2Nd Semester	体育部 Dept. of Physical Education	13	
	体育 III Physical Education III	必修 Compulsory	0.5	0.5	第 3 学期 3Rd Semester	体育部 Dept. of Physical Education	13	
	体育 IV Physical Education IV	必修 Compulsory	0.5	0.5	第 4 学期 4Th Semester	体育部 Dept. of Physical Education	13	

体育类 Physical Education Courses	体育健康课程 I Diversified Physical Education Courses I	必修 Compulsory	0.5	0.5	第 5 学期 5Th Semester	体育部 Dept. of Physical Education	13	
	体育健康课程 II Diversified Physical Education Courses II	必修 Compulsory	0.5	0.5	第 6 学期 6Th Semester	体育部 Dept. of Physical Education	13	
通识教育课程 General Education Courses 共 8 学分，其中必修 2 学分，限修 6 学分，选修 0 学分 A total credits of 8，including 2 for compulsory courses，6 for distributional electives and 0 for free electives								
课程类型 Course Type	**课程名称 Course Name**	**课程性质 Nature of Course**	**总学分 Credits**	**课内实践学分 In-class practice credits**	**开课学期 Semester**	**开课学院 School**	**支撑毕业要求指标点 Indicators which Support Graduation Requirements**	**备注 Notes**
核心通识课 Core General Education	“交通天下”通识课程 General Studies on Transportation	限修 Distributional Elective	6	0	2-8 学期 2-8 Semester	全校 The whole school	1、2、3、4、5、6、7、8、9、10、11、12、13（按选择细化）（specified by different courses）	为增强学生写作能力，在通识类课程中必须选修一门写作类课程 In order to enhance students' writing ability, one writing course must be selected among general courses.
新生研讨课 Freshman Seminar	物流简话 Introduction to Logistics	必修 Compulsory	2	0	第 1 学期 1St Semester	交通运输与物流学院 School of Transportation and Logistics	7、8、9、10、12	
学科与专业基础课程（含实验） Discipline and Specialty foundational Courses(Including Experiments） 共 53 学分，其中必修 53 学分，限修 0 学分，选修 0 学分 A total credits of 53，including 53 for compulsory courses，0 for distributional electives and 0 for free electives								
课程类型 Course Type	**课程名称 Course Name**	**课程性质 Nature of Course**	**总学分 Credits**	**课内实践学分 In-class practice credits**	**开课学期 Semester**	**开课学院 School**	**支撑毕业要求指标点 Indicators which Support Graduation Requirements**	**备注 Notes**
数学与自然科学基础课 Foundational Courses on Mathematics and Natural Science	高等数学 I High Mathematics I	必修 Compulsory	5	0	第 1 学期 1St Semester	数学学院 School of Mathematics	2	
	高等数学 II High Mathematics II	必修 Compulsory	5	0	第 2 学期 2Nd Semester	数学学院 School of Mathematics	2	
	线性代数 B Linear Algebra B	必修 Compulsory	3	0	第 1 学期 1St Semester	数学学院 School of Mathematics	2	
	概率论与数理统计 Probability Theory and Mathematical Statistics	必修 Compulsory	3	0	第 3 学期 3Rd Semester	数学学院 School of Mathematics	2	

数学与自然科学基础课 Foundational Courses on Mathematics and Natural Science	数学建模 B Mathematical Modeling B	必修 Compulsory	2	0	第 2 学期 2Nd Semester	数学学院 School of Mathematics	2	
	大学物理 BI Fundamentals of Physics BI	必修 Compulsory	3	0	第 2 学期 2Nd Semester	物理科学与技术学院 School of Physical Science and Technology	2	
	大学物理实验 I College Physics Experiments I	必修 Compulsory	1	1	第 2 学期 2Nd Semester	物理科学与技术学院 School of Physical Science and Technology	2、5	
	大学物理 BII Fundamentals of Physics BII	必修 Compulsory	3	0	第 3 学期 3Rd Semester	物理科学与技术学院 School of Physical Science and Technology	2	
	大学物理实验 II College Physics Experiments II	必修 Compulsory	1	1	第 3 学期 3Rd Semester	物理科学与技术学院 School of Physical Science and Technology	2、5	
	计算机程序设计基础 Fundamentals of Computer Programming	必修 Compulsory	3	1	第 1 学期 1St Semester	信息科学与技术学院 School of Information Science and Technology	2	
	数据结构与算法分析 Data Structure and Algorithmic Analysis	必修 Compulsory	3	1.5	第 2 学期 2Nd Semester	交通运输与物流学院 School of Transportation and Logistics	2	
	软件工程 Software Engineering	必修 Compulsory	2	0.5	第 3 学期 3Rd Semester	交通运输与物流学院 School of Transportation and Logistics	2、4、6、10、11	
	数据库技术及应用 A Database Management System A	必修 Compulsory	3	1	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	3、4、6、10、11	
专业基础课 Professional Foundational Courses	运筹学 I Operation Research I	必修 Compulsory	2	0	第 3 学期 3Rd Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、8、10、11、12、13	
	运筹学 II Operation Research II	必修 Compulsory	2	0	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、6、10、11、13	
	运筹学实验 B Operational Research Experiments B	必修 Compulsory	1	1	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、8、10、13	

专业基础课 Professional Foundational Courses	系统工程（物流） System Engineering (Logistics)	必修 Compulsory	2	0	第 3 学期 3Rd Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、5、6、10	
	供应链管理 B Supply Chain Management B	必修 Compulsory	3	0	第 3 学期 3Rd Semester	交通运输与物流学院 School of Transportation and Logistics	4、7、9、10、11、13	
	综合运输工程 Integration Transportation Engineering	必修 Compulsory	2	0	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	5、6、10、13	
	货物运输组织 A Freight Transport Organization A	必修 Compulsory	3	0	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、5、6、13	
专业课程（含实验） Specialized Courses(Including Experiments） 共 37 学分，其中必修 29 学分，限修 8 学分，选修 0 学分 A total credits of 37，including 29 for compulsory courses，8 for distributional electives and 0 for free electives								
课程类型 Course Type	**课程名称 Course Name**	**课程性质 Nature of Course**	**总学分 Credits**	**课内实践学分 In-class practice credits**	**开课学期 Semester**	**开课学院 School**	**支撑毕业要求指标点 Indicators which Support Graduation Requirements**	**备注 Notes**
专业核心课程 Specialized Core Course	生产计划与控制 Production Planning and Control	必修 Compulsory	3	0	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、5、13	
	物流技术经济学 Logistics Technology Economics	必修 Compulsory	2	0.5	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、8、12、13	
	项目管理（物流） Project Management （Logistics）	必修 Compulsory	2	0	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	3、7、10、12、13	
	物流设备与应用 Logistics Equipment and Application	必修 Compulsory	2	0	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、7、8	
	数据分析与计算 Data Analysis and Calculation	必修 Compulsory	2	0	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、6	
	物流工程制图 Logistics Engineering Drawing	必修 Compulsory	3	1	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、11	

专业核心课程 Specialized Core Course	人工智能与机器学习 Artificial Intelligence and Machine Learning	必修 Compulsory	2	0.5	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、6	
	物流信息系统 Logistics Information System	必修 Compulsory	2	0	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	1、2、4、5、10、11、12、13	
	物流系统仿真 Logistics System Simulation	必修 Compulsory	2	0	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	3、4、6、10、11	
	配送作业优化与组织 Distribution Operation Optimization and Organization	必修 Compulsory	2	0	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、6、8	
	物流系统规划 Logistics System Planning	必修 Compulsory	3	0	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	3、4、6、8、10、11、12	
	物流中心规划与设计 Logistics Center Planning and Design	必修 Compulsory	3	0	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4	
	智能仓储 Intelligent Warehousing	必修 Compulsory	2	0.5	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	1、2、3、4、7、10、11、12、13	
	智慧物流技术 Intelligent Logistics Technology	必修 Compulsory	2	0	第 7 学期 7Th Semester	交通运输与物流学院 School of Transportation and Logistics	3、4、6、8、10	
专业限修课程 Specialized Restricted Courses	线性优化 Linear Optimization	限修 Distributional Elective	2	0	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2	限修 4 学分 Distributional Electives 4 credits 前置类课程 Pre-course
	非线性规划 Nonlinear Programming		2	0	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、10、11、13	
	服务运作管理 Serve Operation Management		2	0	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	4、10、13	
	城市规划原理 Urban Planning Principle		2	0	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	3	
	人因工程 Human Factors Engineering		2	0	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	3	

专业限修课程 Specialized Restricted Courses	高级编程语言 Advanced Programming Language	限修 Distributional Elective	2	0.5	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、6	限修 4 学分 Distributional Electives 4 credits 进阶类课程 Advanced course
	物流与物联网 Logistics and Internet of Things		2	0	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、6	
	采购与供应管理 Procurement and Supply Management		2	0	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	4、10、11	
	国际物流 International Logistics		2	0	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	1、2、4、6	
	港口码头规划 Port Wharf Planning		2	0	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、4、6、8、10、11	
	航空货运站规划 Air Freight Station Planning		2	0	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、4、6、7、8、10、11、12	
	铁路物流中心设计 Design of Railway Logistics Center		2	0	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、4、10、11	

实习实践教学
Practice Course
共 23 学分，其中必修 19 学分，限修 0 学分，选修 4 学分
A total credits of 23，including 19 for compulsory courses，0 for distributional electives and 4 for free electives

课程类型 Course Type	**课程名称 Course Name**	**课程性质 Nature of Course**	**总学分 Credits**	**课内实践学分 In-class practice credits**	**开课学期 Semester**	**开课学院 School**	**支撑毕业要求指标点 Indicators which Support Graduation Requirements**	**备注 Notes**
基本技能训练、实习实训、综合课程设计、社会与文化素质实践、毕业实习与毕业设计 Basic Skills Training, Practical Training, Integrated	自动堆垛和智能分拣实验 Automatic Stacking and Intelligent Sorting Experiment	必修 Compulsory	1	1	第 4 学期 4Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、4、5、7、9、10	
	物流信息系统实验 Logistics Information System Experiment	必修 Compulsory	1	1	第 5 学期 5Th Semester	交通运输与物流学院 School of Transportation and Logistics	1、2、4、5、10、11、12、13	
	物流系统仿真实验 Logistics System Simulation Experiment	必修 Compulsory	1	1	第 6 学期 6Th Semester	交通运输与物流学院 School of Transportation and Logistics	3、4、6、10、11	

Curriculum Design, Social and Cultural Quality Practice, Graduation Internship and Graduation Design	物流信息系统设计 Design of Logistics Information System	选修 Free Elective	2	2	第 7 学期 7Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、5、7、8、9、10、11、12	选修 4 学分 Free Elective 4 credits
	物流解决方案设计 Logistics Solution Design		2	2	第 7 学期 7Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、5、7、8、9、10、11、12	
	物流装备设计 Logistics Equipment Design		2	2	第 7 学期 7Th Semester	交通运输与物流学院 School of Transportation and Logistics	3、4、5、9	
	仓库设计 Warehouse Design		2	2	第 7 学期 7Th Semester	交通运输与物流学院 School of Transportation and Logistics	2、3、4、5、7、8、9、10、11、12	
	物流规划设计 Design of Logistics Planning		2	2	第 7 学期 7Th Semester	交通运输与物流学院 School of Transportation and Logistics	3、4、5、6、10	
	计算机编程实习 Computer Programming Practice	必修 Compulsory	1.5	1.5	短 1 学期 Short Semester 1	交通运输与物流学院 School of Transportation and Logistics	6	
	认识实习（物流） Cognition Practice (Logistics)	必修 Compulsory	1.5	1.5	短 2 学期 Short Semester 2	交通运输与物流学院 School of Transportation and Logistics	3、6、9	
	生产实习（物流） Specialized Production Practice (Logistics)	必修 Compulsory	2	2	短 3 学期 Short Semester 3	交通运输与物流学院 School of Transportation and Logistics	3、6、9	
	毕业设计（论文） Graduation Dissertation	必修 Compulsory	8	8	第 8 学期 8Th Semester	交通运输与物流学院 School of Transportation and Logistics	1、2、3、4、5、6、7、8、9、10、11、12、13	
多元化课程 **Diversified course** 共 4 学分，其中必修 0 学分，限修 0 学分，选修 4 学分 A total credits of 4，including 0 for compulsory courses，0 for distributional electives and 4 for free electives								
课程类型 Course Type	**课程名称 Course Name**	**课程性质 Nature of Course**	**总学分 Credits**	**课内实践学分 In-class Practice Credits**	**开课学期 Semester**	**开课学院 School**	**支撑毕业要求指标点 Indicators which Support Graduation Requirements**	**备注 Notes**
跨学科课程 Interdisciplinary Course	全校跨学科课程 Interdisciplinary Course of University	选修 Free Elective	2		2-8 学期 2-8 Semester	全校 The whole school	1、2、3、4、5、6、7、8、9、10、11、12、13（按选择细化）（specified by different courses）	选修 4 学分 Free Elective 4 credits 按照《西南交通大学多元化课程修读指导手册》执行。
美育专业类课程 Aesthetic Education Specialty Courses	全校美育专业类课程 Aesthetic Education Specialty Courses of University		2					

学科竞赛类课程 Subject Competition Courses	全校学科竞赛课程 Subject Competition Courses of University		2					Follow the《Instruction manual of diversified courses of southwest Jiaotong University》
个性化选修课程 Personalized Elective Courses	全校个性化选修课程 Personalized Elective Courses of University		2					
创新创业实践 Innovation and Entrepreneurship Practice 共 2 学分，其中必修 0 学分，限修 2 学分，选修 0 学分 A total credits of 2，including 0 for compulsory courses，2 for distributional electives and 0 for free electives								
课程类型 Course Type	**课程名称 Course Name**	**课程性质 Nature of Course**	**总学分 Credits**	**课内实践学分 In-class Practice Credits**	**开课学期 Semester**	**开课学院 School**	**支撑毕业要求指标点 Indicators which Support Graduation Requirements**	**备注 Notes**
创新创业训练计划项目、个性化实验、学科竞赛、创新讲座等 Innovation and Entrepreneurship Training Program, Personalized Experiments, Subject Competition, Innovation Lectures, etc	个性化实验 Individual Experiment	限修 Distributional Electives	2	2	3-7 学期 3-7 Semester	交通运输与物流学院 School of Transportation and Logistics	1、2、3、4、5、6、7、8、9、10、11、12、13（按选择细化）（specified by different courses）	主持或参与结题至少 1 项 Leading or participation at least one project conclusion
	全国大学生物流设计大赛 National Contest On Logistics Design by University Students							获国家级竞赛三等奖及以上 Winning the third prize at the national level or above
	全国大学生交通科技大赛 National Competition of Transport Science and Technology for Students							获校级一等奖或国家级竞赛三等奖及以上 Winning the first prize at this university or the third prize at the national level or above
	创新讲座 Innovative lectures							听全校至少 10 个科技讲座，本院不少于 5 个，提交科技报告 1 份 Listening to at least 10 lectures of science and technology and at least 5 in this school, submitting a report of science and technology

必修环节 **A compulsory part** 共 0 学分，其中必修 0 学分，限修 0 学分，选修 0 学分 A total credits of 0，including 0 for compulsory courses，0 for distributional electives and 0 for free electives								
课程类型 Course Type	**课程名称 Course Name**	**课程性质 Nature of Course**	**总学分 Credits**	**课内实践学分 In-class practice credits**	**开课学期 Semester**	**开课学院 School**	**支撑毕业要求指标点 Indicators which Support Graduation Requirements**	**备注 Notes**
大学生综合素质提升、学生体质达标测评 Comprehensive Quality Improvement Courses for College Students, Assessment of Students' Physical Fitness	大学生综合素质提升（第二、第三课堂） Comprehensive Quality Improvement Courses for College Students（The Second and Third Classroom）	必修 Compulsory	0	0	1-8 学期 1-8 Semester	校团委 Communist Youth League Committee	11、13	
	学生体质达标测评 Assessment of Students' Physical Fitness	必修 Compulsory	0	0	秋季学期 Fall Semester	体育部 Dept. of Physical Education	13	
学分总计 Total Credits			**158**					