武汉理工大学物流工程学院

School of Logistics Engineering of
Wuhan University of Technology

本科专业培养方案

Undergraduate Program

（Grade 2013）

武汉理工大学教务处

Academic Affairs Office of Wuhan University of Technology

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物流工程专业本科培养方案
Undergraduate Program for Specialty in Logistics Engineering

一、业务培养目标

Ⅰ Educational Objectives

1.具有系统的管理学、工学基础理论；

2.掌握物流工程项目策划、预测、设计和实施、物流装备设计与运用以及物流系统运作与管理等基础知识与基本技能；

3.能在企业、科研院所及政府部门从事物流系统设计、决策、管理、运营；

4.能在物流工程领域从事技术、管理等工作的基本能力。

（1） With the basic theories of systematic administration and engineering;

（2） To grasp the project planning, forecast, design and implementation in logistics engineering, and the design and application in logistics equipment, and have the basic knowledge and skills in logistics system operation and management.

（3） Be engaged in design, decision making, management and operation for logistics system in enterprises, research institutes and government departments.

（4） With the basic capability in technology and management etc. for logistics engineering.

二、业务培养要求

Ⅱ Educational Requirement

本专业学生主要学习物流管理与工程类、管理科学与工程类等相关学科的基本原理和基本知识及物流工程专业知识，接受物流工程项目策划与设计、物流装备设计与运用等方面的基本训练，掌握物流工程项目设计、物流装备设计与运用、物流系统运作与管理等方面的基本能力。

毕业生应获得以下几方面的知识和能力：

1. 具有扎实的自然科学基础、良好的人文、艺术和社会科学基础

2. 掌握本专业必需的制图、编程、测试、文献检索等方面的技能，具有制定实验方案，进行实验和数据分析与处理能力

3. 能熟练地进行物流系统及其工程的分析与设计，具备设计物流工程基本工艺的能力

4. 系统地掌握物流工程专业领域的基础理论知识和专业技能，具有对物流工程问题进行系统建模、分析求解和论证的初步能力，了解其科学前沿和发展趋势

5. 具有本专业领域的较扎实的工程实践能力和现代物流工程分析工具的使用能力

6. 具有在工业生产企业从事物流工程等方向的设计、规划、应用研究、运行管理的能力

7. 具有良好的道德品质和社会责任感

8. 具有良好的团队合作精神、创新精神和交流沟通能力

9. 具有较好的国际视野、终身学习意识和继续学习的能力

Students of this major shall grasp the basic theories and knowledge of logistics management and engineering, management science and engineering and professional knowledge of logistics engineering, accept training in planning and design of logistics engineering project, logistics equipment design and application etc, and be capable to master the basic ability in designing logistics project, operating logistics equipment and managing logistics systems.

Graduates should acquire the knowledge and ability as follow:

(1) With solid foundation of natural science, good humanities, arts and social science.

(2) To grasp the necessary skills in engineering drawing, programming, testing and literature search,and be

capable to formulate the experimental program and analyze the experiment and data.

(3) Be able to skilled in analysis and design of logistics system and its engineering, and have the basic ability in designing logistics engineering.

(4) To grasp the basic theories and knowledge and professional skills in the field of logistics engineering, with the capability in system modeling, analysis and demonstration for logistics engineering problems, and understand the scientific frontier and development trends.

(5)With solid ability in engineering practice and analysis for modern logistics engineering.

(6)With the ability in planning design, application research and operation management in industrial enterprises.

(7) With a strong commitment to social responsibility and ethical values.

(8) With good communication skill as well as team working and innovation.

(9) With a global outlook, the belief of life-long study and the ability to keep on learning.

学生业务培养要求对于培养目标的支撑关系如下

培养目标 培养要求	目标 1	目标 2	目标 3	目标 4
毕业要求 1	√			√
毕业要求 2		√	√	√
毕业要求 3		√	√	√
毕业要求 4	√	√		√
毕业要求 5		√	√	√
毕业要求 6		√	√	√
毕业要求 7				√
毕业要求 8				√
毕业要求 9				√

三、主干学科

Ⅲ Major Disciplines

主干学科：物流管理与工程、管理科学与工程、交通运输工程、机械工程、电子信息工程

Major Disciplines: Logistics Management and Engineering, Transportation Engineering，Mechanical Engineering, Electronic Information Engineering

四、专业核心课程与专业特色课程

Ⅳ Core Courses and Characteristic Courses

专业核心课程：工程图学、理论力学、材料力学、电工与电子技术基础、机械设计基础、现代物流学、运筹学、物流系统工程、供应链管理、现代物流装备、物流设施规划与设计、物流系统建模与仿真、物流自动化系统设计与应用、物流信息系统。

Core Courses: Engineering Cartography, Theoretical Mechanics, Materials Mechanics, Fundamentals of Electrical Engineering ＆ Electronic Technology, Fundamentals of Mechanical Design, Modern Logistics, Operation Research, Logistic System Engineering, Supply Chain Management, Modern Logistics Equipment, Logistic Equipment Planning and Design, Modeling and Simulation of Logistic System, Design and Application of Logistic Automation System, Logistics Information System.

专业特色课程：控制工程基础、机电传动与控制、液压及气压传动、交通运输工程概论、智能交通系统、物流决策基础、物联网技术、仓储技术与设备、港口平面布局及装卸工艺、起重运输机械、设备综合管理、TCP/IP 和网络软件编程、数据库技术。

Characteristic Courses: Fundamentals of Engineering Control, Mechanical and Electronic Transmission and Control, Hydraulic and Pneumatic Transmission, Introduction to Transportation Engineering, Intelligent transportation system, Fundamentals of Logistics Decision Making, Technology of Internet of Things, Warehouse Storage Technology and Equipment, Port Layout Planning and Handling Techniques Technology, Crane Machinery, Comprehensive Management of Facilities, TCP/IP and Network Programming, Technique of Database.

五、计划学制与学位

Ⅴ Length of School and Degree

修业年限：四年

Duration: Four years

授予学位：工学学士

Degree Granted: Bachelor of Engineering

六、最低毕业学分规定

Ⅵ Graduation Credit Criteria

课程类别 课程性质	通识课程 Public Basic Courses	学科大类课程 Basic Disciplinary Courses	专业课程 Specialized Courses	个性课程 Personalized Course	集中性实践 Practice Courses	课外学分 Study Credit after Class	总学分 Total Credits
必修课 Required Courses	35	40.5	43	\	32	\	190
选修课 Elective Courses	9	2	8.5	10	\	10	

七、课程修读指导建议

Ⅶ Recommendations on Course Studies

通识课程和学科大类中的课程组是指内容相似或平行的一组课程，要求学生 m 选 1 或者 m 选 n。其设置是为了增加学生选课的灵活性，满足学生不同层次的需求。

物流工程专业在学科大类选择中，必修课课程组中选课注意：

（1）电工与电子技术基础选 A1

（2）专业选修中，先按专业方向选择物流自动化方向或物流技术与装备方向中的 2-3 门课，再在选修课的公共部分至少选择 1-2 门选修课。

（3）专业选修课和个性化课程推荐第 4-6 学期选修，便于第 7 学期实践和工作双选。

The curriculum group is a group of lessons which have similar content. It requires the students to choose one or more of them to study. The "curriculum group" is designed to make students' selection more flexible, and also to meet different needs.

Students major in logistics engineering should note the following matters:

(1) If they select the curriculum such as "Electrical Engineering " they should choose the "Electrical Engineering AⅠ" option.

(2) There are 2 studying direction for major elective course: logistics automation and logistics technology & equipment. First of all, the students must determine 2-3 courses in the same studying direction. Then they need to select at least 1-2 courses in the public portion of elective course.

(3) Special elective courses and personalized courses should be selected during 4th~6th terms due to the practice courses and the activity of seeking work during 7th term.

八、理论教学建议进程表

Ⅷ Theory Course Schedule

课程类别 Course Classification	课程性质 Course Nature	课程编号 Course Number	课程名称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Operation	实践 Practice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
通识课程 Public Basic Courses	必修课 Required Courses	4220001111	思想道德修养与法律基础 Morals, Ethics and Fundamentals of Law	3	48			8		1-6		
		4220002111	中国近现代史纲要 Outline of Contemporary and Modern Chinese History	2	32					1-6		
		4220003111	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 Socialism with Chinese Characteristics	4	96			32		1-6		
		4220005111	马克思主义基本原理 Marxism Philosophy	3	48			8		1-6		
		1060003111	军事理论 Military Theory	1	32			16		1-4		
		4210001111	体育 1 Physical Education Ⅰ	1	32					1		
		4210002111	体育 2 Physical Education Ⅱ	1	32					2	体育 1	
		4210003111	体育 3 Physical Education Ⅲ	1	32					3	体育 2	
		4210004111	体育 4 Physical Education Ⅳ	1	32					4	体育 3	
		1050001131	心理健康教育 Mental Health Education	1	16					1-2		
		4030002111	大学英语 A1 College English A Ⅰ	3	64				16	1		
		4030003111	大学英语 A2 College English A Ⅱ	3	64				16	2	大学英语 A1	
		4030004111	大学英语 A3 College English A Ⅲ	3	64				16	3	大学英语 A2	
		4030005111	大学英语 A4 College English A Ⅳ	3	64				16	4	大学英语 A3	
		4120017111	大学计算机基础 Foundation of Computer	2	32		12			1		
		程序设计语言课程组(三选一，3 学分) Courses of Computer Program Design (select one out of three, Credits: 3)										
		4120023111	计算机程序设计基础(C 语言) Fundamentals of Computer Program Design(C)	3	48		12			2	大学计算机基础	
		4120024111	计算机程序设计基础(FORTRAN 语言) Fundamentals of Computer Program Design(FORTRAN)	3	48		12			2	大学计算机基础	
		4120025111	计算机程序设计基础(VB 语言) Fundamentals of Computer Program Design(VB)	3	48		12			2	大学计算机基础	
		小 计 Subtotal		35	736		24	64	64			
	选修课 Elective Courses	创新创业类 Innovation and Entrepreneurship Courses		全校学生要求至少取得 9 学分，建议在每个类别中分别至少选修一门课程。 All students are required to obtain at least nine credits, and suggested to select at least one course in five categories respectively.								
		人文社科类 Arts and Social Science Courses										
		经济管理类 Economy and Management Courses										

课程类别 Course Classification	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Operation	实践 Practice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		科学技术类 Science and Technology Courses										
		艺术体育类 Art and Physical Education Courses										
学科大类课程 Basic Disciplinary Courses	必修课 Required Courses	4180142131	专业导论 Introduction of Specialty	1	16					1		
		4180017111	工程图学 B Engineering Graphics B	4	64		4			2		
		4050063111	高等数学 A 上 Advanced Mathematics A Ⅰ	5	80					1		
		4050064111	高等数学 A 下 Advanced Mathematics A Ⅱ	5	80					2	高等数学 A1	
		4050023111	大学物理 B Physics B	5.5	88					2		
		4180316111	现代物流学 Modern Logistics	2	32					2		
		4050229111	线性代数 Linear Algebra	2.5	40					1		
		4050058111	概率论与数理统计 B Probability and Mathematical Statistics B	3	48					3	高等数学 A2	
		4050224111	物理实验 B Physics Lab. B	1	32	32				3	大学物理 B	
		4100009111	电工与电子技术基础 B 上 Fundamentals of Electrical Engineering & Electric Technology B Ⅰ	3.5	56	12				3		
		4180140111	运筹学 Operational Research	3	48					4	线性代数 概率论与数	
		4180068111	物流系统工程 B Logistic System Engineering B	2	32					5	概率论与数理统计 B	
		4180145121	供应链管理 Supply Chain Management	3	48					6	现代物流学	
		小 计 Subtotal		40.5	664	44	4					
	选修课 Elective Courses	4020073111	经济法 A Economic Law A	2.5	40					5		
		4180040021	交通运输工程概论 A Introduction to Transportation Engineering A	2	32					4		
		4170014111	财务管理 B Financial Management B	2	32					5		
		4180224131	物流决策基础 Fundamentals of Logistics Decision Making	2.5	40		8			4	现代物流学	
		4050053111	复变函数与积分变换 C Complex Function Theory	2	32					3		
		小 计 Subtotal		11	176		8					
		修读说明：要求至少选修 2 学分。 NOTE：Minimum subtotal credits:2.										

课程类别 Course Classification	课程性质 Course Nature	课程编号 Course Number	课程名称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Operation	实践 Practice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
专业课程 Specialized Courses	必修课 Required Courses	4080054111	互换性与测量技术 B Interchangeability and Measurement B	2	32	4				3		
		4080078111	金属工艺学 B Metallurgical Technology B	2.5	40	4				3		
		4140126111	理论力学 B Theoretical Mechanics B	3	48					3		
		4100010111	电工与电子技术基础 B 下 Electrical Engineering BII	2	32	4				4	电工与电子技术基础 B1	
		4140004111	材料力学 C Materials Mechanics C	4	64	4				4		
		4180152121	控制工程基础 Fundamentals of Engineering Control	2.5	40					4		
		4180031111	机械设计基础 Fundamentals of Mechanical Design	3.5	56	6				4		
		4180087111	液压及气压传动 B Hydraulic and Pneumatic Transmission B	2.5	40					5		
		4180007111	单片机原理及接口技术 B Principles and Interfaces of Single Chip Microcomputer B	2.5	40					5		
		4180167121	现代测试技术 Modern Testing Technology	2.5	40					5		
		4100019111	电力电子技术 C Power Electronics C	2.5	40					5		
		4180147121	机电传动及控制 C Mechanical and Electronic Transmission and Control C	3	48					5		
		4180094111	现代物流装备 Modern Logistics Equipment	2	32					6		
		4180207131	物流设施规划与设计 B Logistic Equipment Planning and Design B	2	32					6	物流系统工程 B	
		4180070111	物流系统建模与仿真 B Modeling and Simulation of Logistic System	2	32					6	物流系统工程 B	
		4180076111	物流自动化系统设计与应用 B Design and Application of Logistic Automation System B	2.5	40					7		
		4180072111	物流信息系统 B Logistic Information System B	2	32					7		
		小 计 Subtotal		43	688	18						
	选修课 Elective Courses	物流自动化方向 Logistics Automation Semiconductor Materials and Devices										
		4120192121	物联网技术 Technology of Internet of Things	2	32					6		
		4180175121	自动识别技术 Automatic Identification Technology	2	32					5		
		4180038111	计算机控制技术 B Computer Control Technology B	2.5	40	4				6		
		小 计 Subtotal		6.5	104	4						
		物流技术与装备方向 Logistics Technology and Equipment										

课程类别 Course Classification	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Operation	实践 Practice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		4180011111	港口平面布局及装卸工艺 Port Layout Planning and Handling Techniques Technology	2	32					6		
		4180091111	装卸搬运车辆 Handling and Carrying Vehicles	2	32					5		
		4180200131	起重运输机械 Crane Machinery	2.5	40	4				6		
		小 计 Subtotal		6.5	104	4						
		公共部分 Public Courses										
		4120075111	数据库技术 Technique of Database	2	32		12			5		
		4180005111	传感器原理及应用 B Sensors Principle and Application B	2	32	6				6		
		4180234131	机器人技术 Robot Technology	2	32	2				6		
		4180235131	仓储技术与设备 Warehouse Storage Technology and Equipment	2	32	2				7		
		小 计 Subtotal		8	128	10	12					
		修读说明：要求至少选修 8.5 学分。 NOTE：Minimum subtotal credits:8.5.										
个性课程 Personalized Course	选修课 Elective Courses	4180050111	连续运输机 Continuous Conveying Machines	3	48					6		
		4120006111	TCP/IP 和网络软件编程 TCP/IP and Network Programing	2.5	40		10			6		
		4180058111	设备综合管理 Comprehensive Management of Facilities	2	32					7		
		4180037111	集装箱装卸机械 Container Handling Machines	2	32					7		
		4140159111	智能交通系统 Intelligent transportation system	2	32					7		
		4180166121	现场总线技术 Fieldbus Technology	2	32	4				7		
		4180034111	机械振动 B Mechanical Vibration B	1.5	24					7		
		4180028111	机械 CAD(B) Mechanical CAD(B)	2	32					7		
		小 计 Subtotal		17	272	4	10					
		修读说明：学生可跨专业自主选择修读全校其他专业的课程，建议修读以上课程。要求至少选修 10 学分。 NOTE：Students can choose any courses from the other specialties, and are especially suggested to choose the courses above. Minimum subtotal credits: 10.										

九、集中性实践教学环节建议进程表

Ⅸ Practice Schedule

课程编号 Course Number	实践环节名称 Practice Courses Name	周数 Weeks	学分 Crs	建议修读学期 Suggested Term
1060002111	军事训练 Military Training	3	1.5	1
4180121111	物流认知实习 Logistics cognition practice	1	1	2（暑期）
4180114111	机械制造工程实训 C Practice of Mechanical Manufacturing Engineering C	2	2	4
4180109111	机械设计基础课程设计 Course Design on Fundamentals of Mechanical Design	2	2	4
4180106111	工程软件训练 Engineering Software Training	1	1	4（暑期）
4100068111	电工电子实习 A Practice of Electrical Engineering & Electronics A	2	2	5
4180105111	单片机原理及接口技术课程设计 Course Design on Principles and Interfaces of Single Chip Microcomputer	2	2	5
4180184121	物流自动化与装备综合实验 B 1 Comprehensive Experiment on Logistics Automation & Equipment Major Synthetical Experiments BI	1	1	5
4180108111	机电传动及控制课程设计 Course Design on Mechanical and Electronic Transmission and Control	2	2	6
4180222131	物流系统建模与仿真课程设计 B Design Practice of Machinery Designing Technology B	1	1	6
4180185121	物流自动化与装备综合实验 B 2 Comprehensive Experiment on Logistics Automation & Equipment Major Synthetical Experiments BII	0.5	0.5	7
4180127111	物流自动化系统设计与应用课程设计 Course Design on Design and Application of Logistics Automation System	2	2	7
4180219131	专业实习 Professional Practice	3	3	7
4180178121	毕业设计（论文） Graduation Design（Thesis）	17	11	8
小　　计　Subtotal		39.5	32	

十、其它要求

Ⅹ Other Demands

《形势与政策》课程，平均每学期 16 学时，一般按专题进行，在第七学期末考核，计 2 个课外学分，具体由学校学生发展指导中心负责组织落实。

Situation & Policy, a 16 hours/term with 2 credits course, is taught according to topics and tested at the end of the 7th term . The course will be arranged by the University Students' Affairs' Department in each school.

物流管理专业本科培养方案
Undergraduate Program for Specialty in Logistics Management

一、业务培养目标

Ⅰ Educational Objectives

本专业旨在培养了解管理与经济领域的基础理论和基本方法，掌握物流与供应链管理领域的专业理论与技术方法，具备较强的物流系统管理与运作能力、物流系统工程技术和方法的综合应用能力，以及供应链系统分析、设计与运作管理能力，能在企业、科研院所及政府部门从事物流系统优化及运营管理、供应链设计与运作管理等方面工作的复合型专业人才。

The object of this specialty aims at training advanced logistics applications talents with basic theories of systematic management and economics, who should master professional theories and methods in the areas of logistics and supply chain management, and who should have good skills in logistics system operation management, comprehensive application of logistics system engineering techniques and methods, and skills in supply chain analysis, design and operation management. The talents can be engaged in the careers of logistics system optimization and operation management, supply chain design and operation management in enterprises, research institutes and governments, etc..

二、业务培养要求

Ⅱ Educational Requirements

本专业学生主要学习经济学类、工商管理类、物流管理与工程类、管理科学与工程类等相关学科的基本理论、知识以及物流管理专业的专业知识，接受供应链设计与管理、物流系统优化与运营等方面的基本训练，具备供应链设计、物流系统优化、物流信息系统设计以及物流运营管理等方面的基本能力。

毕业生应获得以下几方面的知识和能力：

1. 具有人文社会科学、自然科学、外语及计算机等方面的基本知识；
2. 掌握经济学、工商管理、物流管理与工程、管理科学与工程类学科的基本理论和基本知识；
3. 掌握物流与供应链管理的基本理论与方法，了解物流工程的基本方法与技术；
4. 具有供应链设计、物流系统优化、物流信息系统设计、物流运作与管理的基本技能，具备较强的物流管理实际工作能力；
5. 具有较宽广的国际视野，熟悉国内外供应链和物流运作所涉及的技术、经济、管理等方面的标准、惯例、法律、政策等；
6. 了解国内外供应链及物流领域理论与实际发展状况和趋势，了解国内外企业物流和物流企业的先进运作模式，了解国内外物流及相关行业的发展现状及趋势；
7. 具有一定的知识获取能力，包括自主学习能力、表达能力、社交能力、计算机及信息技术应用能力；
8. 具有一定的知识应用能力，包括综合实验能力、专业实践能力和运用专业知识发现、分析、解决问题的综合能力；
9. 具备一定的创新能力，包括批判性思维能力、创造性思维能力、创新实践能力、创业能力、科学研究与科技开发能力。

This specialty are designed to help undergraduate develop the professional knowledge of logistics management and the basic theories and knowledge of related disciplines, such as economics, business administration, logistics management and engineering, management science and engineering, etc.. After the training of supply chain design and management, logistics system optimization and operation, and other skills, they can obtain abilities to solve practical problems concerned with supply chain design, logistics system optimization, logistics information system design and logistics operation management.

The students awarded their bachelor degree of management should acquire the abilities and knowledge as follows:

1. Master comprehensive knowledge of humanities and social science, natural science, foreign language, computer science, etc.;

2. Master fundamental theories and knowledge of economics, business administration, logistics management and engineering, management science and engineering, etc.;

3. Master fundamental method and technology of supply chain design, logistics system optimization, and logistics engineering;

4. Have basic skills of supply chain design, logistics system optimization, logistics information design and logistics operation management, and have the practical ability of logistics management;

5. Be familiar with standards, policies, laws and regulations about the technology, economics and management of supply chain and logistics in domestic and overseas with broad international vision;

6. Have the knowledge of development status and trends about the theories and related industries of supply chain and logistics in domestic and overseas, and have the knowledge of advanced operation modes of enterprise-logistics and logistics enterprises in domestic and overseas;

7. Obtain abilities of acquiring knowledge, including self-learning, expression, social intercourse and application of computer and information technology;

8. Obtain abilities of applying knowledge, including comprehensive experimental skills, professional practice and comprehensive skills of using professional knowledge to discover, analyze and solve problems;

9. Obtain abilities of innovation, including critical thinking, creative thinking, innovation practices, entrepreneurship, scientific research and technology development.

本专业的毕业要求对于本专业培养目标的支撑关系如下表：

培养目标 / 毕业要求	目标 1	目标 2	目标 3	目标 4	目标 5
	了解管理与经济领域的基础理论和基本方法	掌握物流与供应链管理领域的专业理论与技术方法	具备较强的物流系统管理与运作能力	具备较强的物流系统工程技术和方法的综合应用能力	具备较强的供应链系统分析、设计与运作管理能力
毕业要求 1	√	√			
毕业要求 2	√	√			
毕业要求 3		√		√	
毕业要求 4			√	√	√
毕业要求 5	√		√		√
毕业要求 6		√			
毕业要求 7	√	√	√	√	√
毕业要求 8			√	√	√
毕业要求 9		√	√	√	√

三、主干学科

Ⅲ Major Disciplines

主干学科：物流管理与工程、管理科学与工程、工商管理、交通运输

Major Disciplines: Logistics Management and Engineering, Management Science and Engineering,

Business Administration, Transportation

四、专业核心课程与专业特色课程

Ⅳ Core Courses and Characteristic Courses

专业核心课程：现代物流学、运作管理、供应链管理、物流系统建模与仿真、物流系统工程、物流信息系统、ERP 原理与应用、国际物流、库存控制与仓储管理、采购管理、物流运输组织与管理、物流设施与设备、物流成本管理，等等。

Core Courses: Modern Logistics, Operations Management, Supply Chain Management, Logistics System Modeling& Simulation, Logistics System Engineering, Logistics Information System, ERP Principles and Applications, International Logistics, Inventory Control & Warehousing Management, Purchasing Management, Logistics Transportation Organization & Management, Logistics Facilities and Equipment, Logistics Cost Management, etc.

专业特色课程：企业经营沙盘模拟综合实验、物流经济地理、物流市场营销、物流金融、绿色物流、物流方案设计与应用、物流中心规划与管理、电子商务、港口生产管理，等等。

Characteristic Courses: Sand Table Simulation of Business Operations, Logistics Economic Geography, Logistics Marketing, Logistics Finance, Green Logistics, Logistics Solutions Designing and Applying, Logistics Center Planning and Management, Electronic Commerce, Port Production Management, etc.

五、计划学制与学位

Ⅴ Length of School and Degree

修业年限：四年

Duration： Four Years

授予学位：管理学学士

Degree Granted: Bachelor of Management

六、最低毕业学分规定

Ⅵ Graduation Credit Criteria

课程类别 课程性质	通识课程 Public Basic Courses	学科大类课程 Basic Disciplinary Courses	专业课程 Specialized Courses	个性课程 Personalized Course	集中性实践 Practice Courses	课外学分 Study Credit after Class	总学分 Total Credits
必修课 Required Courses	35	41	40	\	26	\	190
选修课 Elective Courses	9	4	15	10	\	10	

七、课程修读指导建议

Ⅶ Recommendations on Course Studies

请参考“理论教学建议进程表”中的有关修读说明。

另外，鼓励参加全国大学生物流设计大赛、全国大学生交通科技大赛等课外学科竞赛等。

Please refer to the relevant taking note in the next “Theory Course Schedule”. In addition, the students will be encouraged to participate in the National Contest on Logistics Design by University Students (NCOLD), the National Competition of Transport Science and Technology for Students (NACTranS) and other extracurricular academic competition etc..

八、理论教学建议进程表

Ⅷ Theory Course Schedule

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
通识课程 Public Basic Courses	必修课 Required Courses	4220001111	思想道德修养与法律基础 Morals, Ethics and Fundamentals of Law	3	48			8		1-6		
		4220002111	中国近现代史纲要 Outline of Contemporary and Modern Chinese History	2	32					1-6		
		4220003111	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 Socialism with Chinese Characteristics	4	96			32		1-6		
		4220005111	马克思主义基本原理 Marxism Philosophy	3	48			8		1-6		
		1060003131	军事理论 Military Theory	1	32			16		1-4		
		4210001111	体育 1 Physical Education Ⅰ	1	32					1		
		4210002111	体育 2 Physical Education Ⅱ	1	32					2	体育 1	
		4210003111	体育 3 Physical Education Ⅲ	1	32					3	体育 2	
		4210004111	体育 4 Physical Education Ⅳ	1	32					4	体育 3	
		1050001131	心理健康教育 Mental Health Education	1	16					1-2		
		4030002111	大学英语 A1 College English A Ⅰ	3	64				16	1		
		4030003111	大学英语 A2 College English A Ⅱ	3	64				16	2	大学英语 A1	
		4030004111	大学英语 A3 College English A Ⅲ	3	64				16	3	大学英语 A2	
		4030005111	大学英语 A4 College English A Ⅳ	3	64				16	4	大学英语 A3	
		4120017111	大学计算机基础 Foundation of Computer	2	32		12			1		
		程序设计语言课程组(三选一，3 学分) Courses of Computer Program Design (select one out of three, Credits: 3)										
		4120023111	计算机程序设计基础(C 语言) Fundamentals of Computer Program Design(C)	3	48		12			2	大学计算机基础	
		4120024111	计算机程序设计基础(FORTRAN 语言) Fundamentals of Computer Program Design(FORTRAN)	3	48		12			2	大学计算机基础	
		4120025111	计算机程序设计基础(VB 语言) Fundamentals of Computer Program Design(VB)	3	48		12			2	大学计算机基础	
		小 计 Subtotal		35	736		24	64	64			

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
	选修课 Elective Courses	创新创业类 Innovation and Entrepreneurship Courses		全校学生要求至少取得 9 学分，建议在每个类别中分别至少选修一门课程。 All students are required to obtain at least nine credits, and suggested to select at least one course in five categories respectively.								
		人文社科类 Arts and Social Science Courses										
		经济管理类 Economy and Management Courses										
		科学技术类 Science and Technology Courses										
		艺术体育类 Art and Physical Education Courses										
学科大类课程 Basic Disciplinary Courses	必修课 Required Courses	4180142131	专业导论 Introduction of Specialty	1	16					1		
		4050229111	线性代数 Linear Algebra	2.5	40					1		
		4050063111	高等数学 A 上 Advanced Mathematics A Ⅰ	5	80					1		
		4050064111	高等数学 A 下 Advanced Mathematics A Ⅱ	5	80					2	高等数学 A 上	
		4180017111	工程图学 B Engineering Graphics B	4	64		4			2		
		4050463131	大学物理 B Physics B	5.5	88					2		
		4180316111	现代物流学 Modern Logistics	2	32					2		
		4050058111	概率论与数理统计 B Probability and Mathematical Statistics B	3	48					3	高等数学 A 下	
		4050224111	物理实验 B Physics Lab. B	1	32	32				3	大学物理 B	
		4100012111	电工与电子技术基础 C Fundamentals of Electrical Engineering & Electric Technology C	4	64	10				3		
		4180140111	运筹学 Operational Research C	3	48					4	线性代数 概率论与数理统计 B	
		4180068111	物流系统工程 B Logistic System Engineering B	2	32					5	运筹学 C	
		4180145121	供应链管理 Supply Chain Management	3	48					6	现代物流学 运作管理	
		小 计 Subtotal		41	672	42	4					
	选修课 Elective Courses	4020073111	经济法 A Economic Law A	2.5	40					4		
		4140113111	交通运输工程概论 A Introduction to Transportation Engineering A	2	32					4		
		4180317131	工业工程基础 Fundamentals of Industrial Engineering	2	32					4		
		4170014111	财务管理 B Financial Management B	2	32					4		
		4180224131	物流决策基础 Fundamentals of Logistics Decision Making	2.5	40		8			4	现代物流学	

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		4120195121	物联网技术 Technology of Internet of Things	2	32					6		
		4180011111	港口平面布局及装卸工艺 Port Layout Planning and Handling Techniques Technology	2	32					6		
		小 计 Subtotal		15	240							
		修读说明：物流管理专业要求至少选修 4 学分，物流工程专业要求至少选修 2 学分。 NOTE：Minimum subtotal 4 credits for the major of logistics management, and 2 credits for the major of logistics engineering.										
专业课程 Specialized Courses	必修课 Required Courses	4170059111	管理学原理 C Principles of Management C	2	32					3		
		4010095111	微观经济学 B Micro-economics B	3	48					3		
		4170065111	会计学 B Accounting B	2	32					3		
		4180057111	商务统计 Business Statistics	2.5	40		8			4	概率论与数理统计 B	
		4180156121	商品流通学 Commodity Circulation	2.5	40					4		
		4180225131	物流信息系统 Logistics Information System	4	64		24			5		
		4180226131	运作管理 Operations Management	3.5	56	16				5		
		4180227131	库存控制与仓储管理 Inventory Control and Warehousing Management	2.5	40	8				5		
		4180146121	国际物流 International Logistics	4	64		24			5		
		4180228131	物流项目管理 Logistics Project Management	2.5	40		8			5		
		4180159121	采购管理 Purchasing Management	2.5	40					6		
		4180095111	ERP 原理与应用 A ERP Principles and Applications A	2.5	40					6	运作管理	
		4180229131	物流系统建模与仿真 Logistics System Modeling and Simulation	2.5	40		8			6	物流系统工程	
		4180153121	企业经营沙盘模拟综合实验 Sand Table Simulation of Business Operations	2	64	40	24			6		
		4180230131	物流运输组织与管理 Logistics Transportation Organization & Management	2	32					7		
		小 计 Subtotal		40	672	64	96					
	选修课 Elective Courses	4180061111	物流经济地理 Logistics Economic Geography	2	32					5		
		4180066111	物流市场营销 Logistics Marketing	2	32					5		
		4180065111	物流设施与设备 Logistics Facilities and Equipment	2	32					5		
		4180231131	质量管理 Quality Management	2	32					6		
		4180165121	物流中心规划与管理 Logistics Center Planning and Management	2.5	40		8			6		

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		4180232131	电子商务 Electronic Commerce	2.5	40		8			6		
		4180052111	绿色物流 Green Logistics	2	32					7		
		4180160121	物流方案设计与应用 Logistics Solutions Designing and Applying	2	32					7		
		4180206131	物流金融 Logistics Finance	2	32					7		
		4180062111	物流经济学 Logistics Economics	2	32					7		
		4180060111	物流成本管理 Logistics Cost Management	2	32					7		
		4180074111	物流战略管理 Logistics Strategy Management	2	32					7		
		4180047111	客户关系管理 Customer Relationship Management	2	32					7		
		4180013111	港口生产管理 Port Production Management	2	32					7		
		4180019111	工效学 Ergonomics	2	32					7		
		小 计 Subtotal		31	496		16					
		修读说明：要求至少选修 15 学分。 NOTE：Minimum subtotal credits: 15.										
个性课程 Personalized Course	选修课 Elective Courses	4180235121	港口企业管理学 Port Enterprise Management	3	48					6		
		4180211131	物流运筹方法与应用 Logistics Operation Research Method and Applications	3	48			16		6		
		4180236121	物联网技术 Technology of Internet of Things	2	32					6		
		4180205131	物流管理定量模型与应用 Quantitative Model and Application of Logistics Management	3	48			16		7		
		4180209131	物流系统数据分析与处理 Data Analysis and Processing in Logistics	3	48		16			7		
		4180203131	生产计划与控制 Production Planning and Control	3	48		16			7		
		4180213131	系统动力学 System Dynamics	2	32					7		
		4180223121	仿生优化方法 Bionic Optimization Method	2	32					7		
		小 计 Subtotal		21	336		32	32				
		修读说明：学生可跨专业自主选择修读全校其他专业的课程，建议学生选择修读以上课程。要求至少选修 10 学分。 NOTE：Students can choose any courses from the other specialties, and are especially suggested to choose the courses above. Minimum subtotal credits: 10.										

九、集中性实践教学环节建议进程表

Ⅸ Practice Schedule

课程编号 Course Number	实践环节名称 Practice Courses Name	周数 Weeks	学分 Crs	建议修读学期 Suggested Term	第二专业 Second Major
1060002111	军事训练 Military Training	3	1.5	1	
4180121111	物流认知实习 Logistics Cognition Practice	1	1	2（暑）	
4180114111	机械制造工程实训 C Practice of Mechanical Manufacturing Engineering C	2	2	4	
4100069111	电工电子实习 B Practice of Electrical Engineering & Electronics B	1	1	5	
4180126111	物流信息系统课程设计 Course Design on Logistics Information System	2	2	5	
4180233131	物流系统建模与仿真实训 Training on Logistics System Modeling and Simulation	2	2	6	
4180431131	ERP 与 SCM 系统模拟 ERP and SCM System Simulation	1.5	1.5	6	
4180218131	专业实习 Professional Practice	4	4	6（暑期）	
4180178121	毕业设计（论文） Graduation Design（Thesis）	17	11	8	
小　　计　Subtotal		33.5	26		

十、其它要求

Ⅹ Other Demands

《形势与政策》课程，平均每学期 16 学时，一般按专题进行，在第七学期末考核，计 2 个课外学分，具体由学校学生发展指导中心负责组织落实。

Situation & Policy, a 16 hours/term with 2 credits course, is taught according to topics and tested at the end of the 7th term . The course will be arranged by the University Students' Affairs' Department in each school.

机械设计制造及其自动化专业本科培养方案
Undergraduate Program for Specialty in Mechanical Design & Manufacture & Automation

一、业务培养目标

Ⅰ Educational Objectives

本专业培养具有扎实的自然科学和人文社会科学基础知识，具有优良的道德品质和社会责任感，具有宽阔的国际视野和优良的综合素质，具备扎实的机械设计制造及其自动化专业基础理论知识与应用能力，具有良好的工程实践能力和现代化工程工具使用能力，具有将机械工程领域最新科学技术成果转化为生产力的创造潜能和高新技术产品的研究开发能力，具有团队合作精神和管理与协调大型工程的领导潜质的工程技术人才。

本专业培养的学生毕业五年左右应达到以下目标：

1. 能设计高效的工程技术解决方案并有效的运用工程技术原则；
2. 在机械工程及相关专业领域承担重要任务或担任领导角色；
3. 具有高尚的职业道德；
4. 通过研究生教育、继续教育或其他终身学习渠道增加知识和提升能力；
5. 能够承担服务企业、报效祖国、引领社会、造福人类的社会与专业责任。

This specialty aims at training engineering technical talents, those have solid natural science and social science knowledge, have admirable moral character and the social responsibility, have broad international view and excellent comprehensive quality, have solid foundation of theoretical knowledge and the application ability about Mechanical Engineering and Automation, have ability of engineering practice and modern engineering tool using ability, have the creative research ability to transform the latest scientific and technological achievements into productive, and have the team cooperation and the management ability of large projects.

The graduates after 5 years will achieve the following objectives:

1. to design efficient engineering solutions and apply effectively the principles of engineering technology;
2. to undertake the important task or leadership roles in mechanical engineering and related field;
3. to have a admirable occupation morality;
4. to increase knowledge and ability through the graduate education, continuing education or others channels;
5. to undertake the responsibility of serving enterprises, serving the country, leading society and benefit human.

二、业务培养要求

Ⅱ Educational Requirements

本专业学生通过学习机械学、自动化及控制技术的基础理论和方法，接受现代机械工程师的基本训练，具有港口机械、流体传动及控制、模具等专业方向的理论知识与应用能力。

毕业生能获得以下几方面的知识和能力：

1.具有从事工程工作所需的相关数学、自然科学基础以及良好的人文、社会、经济和管理

科学基础；

2. 掌握本专业必需的制图、实验、测试、文献检索等方面的技能，具有制定实验方案，进行实验、处理和分析数据的能力；

3. 能熟练地应用电子计算机进行机械系统和部件设计、分析，具有设计基本工艺的能力；

4. 较系统地掌握本专业领域的基础理论知识，具有对机械工程问题进行系统表达、建立模型、分析求解和论证的初步能力；

5. 具有本专业领域内某个专业方向（如港口机械、流体传动及控制、模具等）所必要的工程实践技术和技能，及现代化工程工具使用能力，了解其科学前沿和发展趋势；

6. 具有在工业生产第一线从事港口机械、流体传动及控制、模具等方向的设计、制造、应用研究、运行管理的能力，了解生产、设计、研究与开发、环境保护和可持续发展等方面的方针、政策和法律、法规，能正确认识工程对于客观世界和社会的影响，并能综合考虑经济、环境、法律、安全、健康、伦理等制约因素；

7. 具有良好的工程职业道德和社会责任感；

8. 具有团队合作精神、创新精神和良好的交流沟通能力；

9. 具有国际视野、终身学习意识和继续学习的能力。

With the basic theories and methods of Mechanics, Automation and Control Technology, and with the basic training of modern mechanical engineers, the undergraduates will have the theoretical knowledge and the application ability about Port Machinery, Fluid Power Transmission and Control, Mold, etc..

The graduates will achieve the following knowledge and abilities:

1. have the favorable foundation of mathematics, natural science, humanities, sociology, economy and management;

2. have the necessary skills of drafting, experiment, testing, literature retrieval, etc., and have the abilities of designing the experiment, processing and analyzing the data;

3. use the computers to design and analyze the mechanical systems and components;

4. master systematically the basic theories in this specialty, with the abilities of analyzing, modeling and demonstration of the mechanical engineering problems;

5. master the engineering practice and technical skills in the field of port machinery, hydraulic transmission and control, or mold, etc., and know how to use the modern engineering tool and the trend of scientific frontier;

6. have the abilities of design, manufacture, applied research, operation management about port machinery, fluid transmission and control, and mold in the industrial production line, and know the guidelines, policies and laws, regulations about production, design, research and development, environmental protection and sustainable development, and have a correct understanding of the influence of the project on the objective world and society, and be able to consider the economic, environmental, legal, security, health, ethics etc. restraining factor;

7. have admirable engineering occupation moral character and the social responsibility;

8. have the team cooperation, the innovation and the good communication skills;

9. have international vision, the ability of lifelong learning.

三、学生毕业要求对应培养目标的支撑关系

Ⅲ Relation between Graduation Requirements and Educational Objectives

培养目标 毕业要求	目标 1	目标 2	目标 3	目标 4	目标 5
毕业要求 1	√		√	√	
毕业要求 2	√			√	
毕业要求 3				√	
毕业要求 4		√			√
毕业要求 5				√	
毕业要求 6	√	√			
毕业要求 7			√		√
毕业要求 8				√	√
毕业要求 9				√	√

Educational Objectives Graduation Requirements	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5
Requirement 1	√		√	√	
Requirement 2	√			√	
Requirement 3				√	
Requirement 4		√			√
Requirement 5				√	
Requirement 6	√	√			
Requirement 7			√		√
Requirement 8				√	√
Requirement 9				√	√

四、主干学科

Ⅳ Major Disciplines & Major Courses

主干学科：力学、机械工程

Major Disciplines: Mechanics, Mechanical Engineering.

五、专业核心课程与专业特色课程

Ⅴ Core Courses and Characteristic Courses

专业核心课程：理论力学、材料力学、机械原理、机械设计、电工与电子技术基础、现代测试技术、起重运输机械、塑、压工艺与模具设计、液压及气压传动、机电传动及控制等

Core Courses ：Major Courses: Theoretical Mechanics, Materials Mechanics, Principles of Machinery, Mechanical Design, Fundamentals of Electrical Engineering & Electronic Technology , Modern Testing Technology, Crane Machinery, Plastic Shaping and Mould Design, Hydraulic and Pneumatic Transmission, Mechanical and Electronic Transmission and Control, etc.

专业特色课程：起重运输机械、液压及气压传动、机电传动及控制、现代测试技术、塑、压工艺与模具设计

Characteristic Courses：Crane Machinery，Hydraulic and Pneumatic Transmission，Mechanical and Electronic Transmission and Control，Modern Testing Technology，Plastic Shaping

and Mould Design.

六、计划学制与学位

Ⅵ Length of Program and Degree

修业年限：四年

Duration: Four years

授予学位：工学学士

Degree Granted: Bachelor of Engineering

七、最低毕业学分规定

Ⅶ Graduation Credit Criteria

课程类别 课程性质	通识课程 Public Basic Courses	学科大类课程 Basic Disciplinary Courses	专业课程 Specialized Courses	个性课程 Personalized Course	集中性实践 Practice Courses	课外学分 Study Credit after Class	总学分 Total Credits
必修课 Required Courses	35	53.5	25	\	30	\	190
选修课 Elective Courses	9	0	17.5	10	\	10	

八、课程修读指导建议

Ⅷ Recommendations on Course Studies

通识课程和学科大类中的课程组是指内容相似或平行的一组课程，要求学生 m 选 1 或者 m 选 n。其设置是为了增加学生选课的灵活性，满足学生不同层次的需求。

机械设计制造及其自动化专业在学科大类选择中，必修课课程组中选课注意：互换性与测量技术选 A、金属工艺学选 A、理论力学选 A、材料力学课程组选 A，选修课程选机械设计制造及其自动化专业选修模块。

专业选修中，先按专业方向选择各自方向中的三门课，再在选修课的公共部分至少选择两门选修课。

The curriculum group is a group of lessons which have similar content. It requires the students to choose one or more of them to study. The "curriculum group" is designed to make students' selection more flexible, and also to meet different needs.

Students major in Mechanical Design & Manufacture & Automation should note the following matters: (1) If they select the curriculum such as “Basic technology of exchangeability measurement”, “Metal technology”, “theoretical mechanics” and “mechanics of materials”, they should choose the “A” option. (2) When they pick out the selected courses, they should choose the ones in Mechanical Design & Manufacture & Automation module.(3) There are 3 studying direction for major elective course: First of all, the students must determine 3 courses in the same studying direction. Then they need to select at least 2 courses in the public portion of elective course.

九、理论教学进程表
Ⅸ Theoretical Course Schedule

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
通识课程 Public Basic Courses	必修课 Required Courses	4220001111	思想道德修养与法律基础 Morals, Ethics and Fundamentals of Law	3	48			8		1-6		
		4220002111	中国近现代史纲要 Outline of Contemporary and Modern Chinese History	2	32					1-6		
		4220003111	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 Socialism with Chinese Characteristics	4	96			32		1-6		
		4220005111	马克思主义基本原理 Marxism Philosophy	3	48			8		1-6		
		1060003131	军事理论 Military Theory	1	32			16		3		
		4210001111	体育 1 Physical Education Ⅰ	1	32					1		
		4210002111	体育 2 Physical Education Ⅱ	1	32					2	体育 1	
		4210003111	体育 3 Physical Education Ⅲ	1	32					3	体育 2	
		4210004111	体育 4 Physical Education Ⅳ	1	32					4	体育 3	
		4030002111	大学英语 A1 College English A 1	3	64				16	1		
		4030003111	大学英语 A2 College English A Ⅱ	3	64				16	2	大学英语 A1	
		4030004111	大学英语 A3 College English A Ⅲ	3	64				16	3	大学英语 A2	
		4030005111	大学英语 A4 College English A Ⅳ	3	64				16	4	大学英语 A3	
		4120017111	大学计算机基础 Foundation of Computer	2	32		12			1		
		1050001131	心理健康教育 Mental Health Education	1	16					1		
		程序设计语言课程组(三选一，3 学分) Group of Lessons for Fundamentals of Computer Program Design(Choice one from three,3 credits)										
		4120023111	计算机程序设计基础(C 语言) Fundamentals of Computer Program Design(C)	3	48		12			2		
		4120024111	计算机程序设计基础(FORTRAN 语言) Fundamentals of Computer Program Design(FORTRAN)	3	48		12			2		
		4120025111	计算机程序设计基础(VB 语言) Fundamentals of Computer Program Design(VB)	3	48		12			2		
		小 计 Subtotal		35	736		24	64	64			
	选修课 Elective Courses	创新创业类 Innovation and Entrepreneurship Courses	全校学生要求至少取得 9 学分，建议每个类别中分别至少选修一门课程。 All students are required to obtain at least nine credits, and suggested to select at least one course in five categories respectively.									
		人文社科类 Arts and Social Science Courses										
		经济管理类 Economy and Management Courses										

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		科学技术类 Science and Technology Courses										
		艺术体育类 Art and Physical Education Courses										
学科大类课程 Basic Disciplinary Courses	必修课 Required Courses	4180090111	专业导论 Introduction to Specialty	1	16					1		
		4050063111	高等数学 A 上 Advanced Mathematics AⅠ	5	80					1		
		4050064111	高等数学 A 下 Advanced Mathematics AⅡ	5	80					2	高等数学 A 上	
		4180015111	工程图学 A 上 Engineering Graphics AⅠ	3.5	56					1		
		4180016111	工程图学 A 下 Engineering Graphics AⅡ	2.5	40					2	工程图学 A 上	
		4050229111	线性代数 Linear Algebra	2.5	40					2		
		4140125111	理论力学 A Theoretical Mechanics A	4.5	72					2		
		4050024111	大学物理 B Physics B	5.5	88					2		
		4050224111	物理实验 B Physics Lab. B	1	32	32				3		
		4050819121	普通化学 General Chemistry	3	48					3		
		4050815121	普通化学实验 General Chemistry Lab.	1	32	32				3		
		4050486131	数值计算方法 Numerical methods	2	32					4		
		4180022111	互换性与测量技术 A Interchangeability and Measurement B	2.5	40	4				3		
		4180044111	金属工艺学 A Metallurgical Technology B	3	48	4				4		
		4140002111	材料力学 A Materials Mechanics A	5	80	8				3		
		4050058111	概率论与数理统计 B Probability and Mathematics Statistic B	3	48					4		
		4100009111	电工与电子技术基础 A 上 Electrical Engineering AⅠ	3.5	56	10				4		
		小 计 Subtotal		53.5	888	90						
专业课程 Specialized Courses	必修课 Required Courses	4180033111	机械原理 Principles of Machinery	3.5	56	4				3		
		4180030111	机械设计 Mechanical Design	4	64	6				4		
		4180083111	液压及气压传动 A Hydraulic and Pneumatic Transmission A	3	48					5		
		4180198131	控制工程基础 Fundamentals of Engineering Control	2.5	40	6				5		
		4180176121	最优化技术 Optimization Technology	2	32		8			5		

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		4180041111	结构力学 E Structural Mechanics E	2.5	40					5		
		4180214131	现代测试技术 Modern Testing Technology	2.5	40	6				6		
		4180024111	机电传动及控制 A Mechanical and Electronic Transmission and Control A	3	48					6		
		4180032111	机械有限元分析 Finite Element Analysis	2	32		4			5		
		小 计 Subtotal		25	400	22	12					
	选修课 Elective Courses	港口机械方向 Harbor Mechanical Engineering										
		4180144121	港口内燃机 Harbor Combustion Engines	2.5	40					5		
		4180154121	起重运输机械 Crane Machinery	4.5	72					6		
		4180053111	起重运输机金属结构 Metal Structure of Cranes	2.5	40					7		
		小 计 Subtotal		9.5	152							
		流体传动与控制方向 Fluid Power Transmission and Control										
		4180085111	液压力学基础 Hydrokinetic Basis	2.5	40					5		
		4180171121	液压元件与系统 A Hydraulic Elements and Transition Systems	4.5	72					6		
		4180155121	气动技术 Pneumatic Technology	2.5	40					7		
		小 计 Subtotal		9.5	152							
		模具方向 Die & Mould Engineering										
		4180043111	金属成形原理 Principles of Metal Shaping	2.5	40					5		
		4180169121	压、塑工艺与模具设计 Plastic Shaping and Mould Design	4.5	72					6		
		4180004111	冲压工艺与模具设计 Hydraulic Forging Press and Mould Design	2.5	40					7		
		小 计 Subtotal		9.5	152							
		公共部分 Public Courses										
		4180158121	数控技术 Numerical Control Technique	2	32					6		
		4180150121	机械振动 Mechanical Vibration	2	32	2				6		
		4180098111	现代模具制造技术 Die & Mould Manufacture Technology	2	32	2				6		
		4180174121	装卸搬运车辆 Handling and Carrying Vehicles	2	32	2				6		

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		4180197131	机械制造工艺学 Mechanical Manufacturing Techniques	3	48	8				5		
		4180143121	单片机原理及接口技术 Principles and Interfaces of Single Chip	2	32	4				5		
		4180148121	机械 CAD Mechanical CAD	2	32		4			5		
		4180170121	液压控制系统 Hydraulic Control System	2	32	2				7		
		4180058111	设备管理与故障诊断 Device Management and Fault diagnosis	2	32	2				7		
		小 计 Subtotal		19	304	22	4					
		修读说明：按方向模块选修一组，取得 9.5 学分(专业方向必修)；公共部分要求选修 8 学分。 NOTE：Subtotal credits:17.5.										
个性课程 Personalized Course	选修课 Elective Courses	4180175121	自动识别技术 Automatic Identification Technology	2	32					6		
		4180076111	物流自动化系统设计与应用 B Design and Application of Logistic Automation System B	2.5	40					7		
		4180072111	物流信息系统 B Logistic Information System B	2	32					7		
		4100024111	电力拖动与控制系统 B Electrical Drive and Control System B	2.5	40	4				5		
		4180011111	港口平面布局及装卸工艺 Port Layout Planning and Handling Techniques Technology	2	32					6		
		4180005111	传感器原理及应用 B Sensors Principle and Application B	2	32	6				6		
		4180026111	机器人技术 Robot Technology	2	32	2				7		
		4180002111	仓储技术与设备 Warehouse Storage Technology and Equipment	2	32	2				7		
		小 计 Subtotal		17	272	14						
		修读说明：学生可跨专业自主选择修读全校其他专业的课程，建议修读以上课程。要求至少选修 10 学分。 NOTE：Students can choose any courses from the other specialties, and are especially suggested to choose the courses above. Minimum subtotal credits: 10.										

十、集中性实践教学进程表
X Practice Schedule

课程编号 Course Number	实践环节名称 Practice Courses Name	周数 Weeks	学分 Crs	建议修读学期 Suggested Term
1060002111	军事训练 Military Training	3	1.5	1
4180111111	机械原理课程设计 Course Design on Principles of Machinery	1.5	1.5	3
4180113111	机械制造工程实训 B Practice of Mechanical Manufacturing Engineering B	4	4	3

课程编号 Course Number	实践环节名称 Practice Courses Name	周数 Weeks	学分 Crs	建议修读学期 Suggested Term
4180110111	机械设计课程设计 Course Design on Mechanical Design	3	3	4
4100069111	电工电子实习 B Practice of Electrical Engineering & Electronics B	1	1	5
4180186121	专业综合实验 Comprehensive Experiments on the Specialty	1	1	6、7（分散）
4180108111	机电传动及控制课程设计 Course Design on Mechanical and Electronic Transmission and Control	2	2	6
4180116111	起重运输机金属结构课程设计**(港口机械方向)** Course Design on Crane Metal Structures (oriented in Harbor Mechanical Engineering)	2	2	7
4180131111	液压元件与系统课程设计**(流体传动与控制方向)** Course Design on Hydraulic Elements and Transition Systems (oriented in Fluid Power Transmission and	2	2	7
4180130111	压、塑工艺与模具设计课程设计**(模具方向)** Course Design on Plastic Shaping and Mould Design (oriented in Die and Mould Engineering)	2	2	7
4180117111	生产实习 Production Practice	3	3	7
4180180121	毕业设计 Graduation Design	17	11	8
小　　计　Subtotal		37.5	30	
修读说明：方**向课应按方向模块选修一门** NOTE: Students are required to take courses of a complete module which matches their own orientation.				

十一、其它要求

Ⅺ Other Requirements

《形势与政策》课程，平均每学期 16 学时，一般按专题进行，在第七学期末考核，计 2 个课外学分，具体由学校学生发展指导中心负责组织落实。

The course of *Situation & Policy*, 16 hours per term with 2 credits, is given according to specific topics and tested at the end of the 7th term. The course will be arranged by the University's Student Development Instruction Center.

物流工程专业（卓越工程师班）本科培养方案
Undergraduate Program for Specialty in Logistics Engineering (Excellent Engineer Class)

一、业务培养目标

Ⅰ Educational Objectives

1.具备物流工程领域的基本理论和基础知识；

2.具有进行物流自动化系统与物流技术装备设计与应用的综合能力；

3.具有较强工程实际应用能力；

4.适合于物流企业、交通运输企业及机械或电子制造企业、科研院所、政府机构等部门，从事物流技术设备和物流自动化系统的设计与集成、物流系统设计与规划的高级工程技术人才。

（1） With the basic theories of systematic administration and engineering;

（2） To grasp the project planning, forecast, design and implementation in logistics engineering, and the design and application in logistics equipment, and have the basic knowledge and skills in logistics system operation and management.

（3） Be engaged in design, decision making, management and operation for logistics system in enterprises, research institutes and government departments.

（4） With the basic capability in technology and management etc. for logistics engineering.

二、业务培养要求

Ⅱ Educational Requirement

本专业学生主要学习物流工程专业的基础理论和基本知识，接受现代物流技术与装备工程师的强化训练，具有从事物流行业、交通运输行业和制造企业的物流技术装备及物流自动化系统设计、使用维护的较强能力。

毕业生应获得以下几方面的知识和能力：

1.具有扎实的自然科学基础、良好的人文、艺术和社会科学基础

2.掌握本专业必需的制图、实验、测试、文献检索等方面的技能，具有制定实验方案，进行实验、处理和分析数据的能力

3. 能熟练地应用电子计算机进行物流系统及其工程的设计、分析，具有设计基本工艺的能力

4. 较系统地掌握本专业领域的基础理论知识，具有对物流工程问题进行系统表达、建立模型、分析求解和论证的初步能力

5. 具有本专业领域某专业方向所必要的工程实践技术和技能，及现代化工程工具使用能力，了解其科学前沿和发展趋势

6. 具有在工业生产第一线从事物流工程等方向的设计、规划、应用研究、运行管理的能力

7. 具有良好的道德品质和社会责任感

8. 具有团队合作精神、创新精神和良好的交流沟通能力

9. 具有国际视野、终身学习意识和继续学习的能力

Students of this major shall grasp the basic theories and knowledge of logistics management and engineering, management science and engineering and professional knowledge of logistics engineering, accept training in planning and design of logistics engineering project, logistics equipment design and application etc, and be capable to master the basic ability in designing logistics project, operating logistics equipment and managing logistics systems.

Graduates should acquire the knowledge and ability as follow:

(1) With solid foundation of natural science, good humanities, arts and social science.

(2) To grasp the necessary skills in engineering drawing, programming, testing and literature search,and be capable to formulate the experimental program and analyze the experiment and data.

(3) Be able to skilled in analysis and design of logistics system and its engineering, and have the basic ability in designing logistics engineering.

(4) To grasp the basic theories and knowledge and professional skills in the field of logistics engineering, with the capability in system modeling, analysis and demonstration for logistics engineering problems, and understand the scientific frontier and development trends.

(5)With solid ability in engineering practice and analysis for modern logistics engineering.

(6)With the ability in planning design, application research and operation management in industrial enterprises.

(7) With a strong commitment to social responsibility and ethical values.

(8) With good communication skill as well as team working and innovation.

(9) With a global outlook, the belief of life-long study and the ability to keep on learning.

学生业务培养要求对于培养目标的支撑关系如下：

培养目标 培养要求	目标 1	目标 2	目标 3	目标 4
毕业要求 1	√			√
毕业要求 2		√	√	√
毕业要求 3		√	√	√
毕业要求 4	√	√		√
毕业要求 5		√	√	√
毕业要求 6		√	√	√
毕业要求 7				√
毕业要求 8				√
毕业要求 9				√

三、主干学科

Ⅲ Major Disciplines

主干学科：物流管理与工程、管理科学与工程、交通运输、机械、电子信息

Major Disciplines: Logistics Management and Engineering, Management Science and Engineering, Traffic Transportation, Mechanical, Electronic Information.

四、专业核心课程与专业特色课程

Ⅳ Core Courses and Characteristic Courses

专业核心课程：工程图学、理论力学、材料力学、电工与电子技术基础、运筹学、机械设计基础、控制工程基础、液压及气压传动、机电传动及控制、物流系统工程、物流设施规划与设计、物流系统建模与仿真、供应链管理。

Core Courses: Engineering Cartography, Theoretical Mechanics, Materials Mechanics, Fundamentals of Electrical Engineering ＆ Electronic Technology, Operation Research, Fundamentals of Mechanical Design, Fundamentals of Engineering Control, Hydraulic and Pneumatic Transmission, Mechanical and Electronic Transmission and Control, Logistic System Engineering, Mechanical and Electronic Transmission and Control, Logistic Equipment Planning and Design, Modeling and Simulation of Logistic System, Supply Chain Management.

专业特色课程：交通运输工程概论、物流自动化系统设计与应用、物流信息系统、数据库技术、起

重运输机械、仓储技术与设备、港口平面布局及装卸工艺、技术经济学、单片机原理及接口技术、电力电子技术、物联网技术、机器人技术。

Characteristic Courses: Introduction to Transportation Engineering, Design and Application of Logistic Automation System, Logistics Information System, Technique of Database, Crane Machinery, Warehouse Storage Technology and Equipment, Port Layout Planning and Handling Techniques Technology, Principles and Interfaces of Single Chip Microcomputer, Power Electronics, Technology of Internet of Things, Robot Technology.

五、计划学制与学位

Ⅴ Length of Program and Degree

修业年限：四年

Duration: Four years

授予学位：工学学士

Degree Granted: Bachelor of Engineering

六、最低毕业学分规定

Ⅵ Graduation Credit Criteria

课程类别 / 课程性质	通识课程 Public Basic Courses	学科大类课程 Basic Disciplinary Courses	专业课程 Specialized Courses	个性课程 Personalized Course	集中性实践 Practice Courses	课外学分 Study Credit after Class	总学分 Total Credits
必修课 Required Courses	35	46	42.5	\	38.5	\	190
选修课 Elective Courses	9	0	9	\	\	10	

七、课程修读指导建议

Ⅶ Recommendations on Course Studies

通识课程和学科大类中的课程组是指内容相似或平行的一组课程，要求学生 m 选 1 或者 m 选 n。其设置是为了增加学生选课的灵活性，满足学生不同层次的需求。

物流工程专业在学科大类选择中，必修课课程组中选课注意：

（1）电工与电子技术基础选 B1

（2）专业选修课尽量在第 4-6 学期选修，便于第 7 学期实践和工作双选。

The curriculum group is a group of lessons which have similar content. It requires the students to choose one or more of them to study. The "curriculum group" is designed to make students' selection more flexible, and also to meet different needs.

Students major in logistics engineering should note the following matters:

(1) If they select the curriculum such as "Electrical Engineering" they should choose the "Electrical Engineering B1" option.

(2) Special elective courses should be selected during 4th~6th terms due to the practice courses and the activity of seeking work during 7th term.

八、理论教学进程表

Ⅷ Theoretical Course Schedule

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
通识课程 Public Basic Courses	必修课 Required Courses	4220001111	思想道德修养与法律基础 Morals, Ethics and Fundamentals of Law	3	48			8		1-6		
		4220002111	中国近现代史纲要 Outline of Contemporary and Modern Chinese History	2	32					1-6		
		4220003111	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 Socialism with Chinese	4	96			32		1-6		
		4220005111	马克思主义基本原理 Marxism Philosophy	3	48			8		1-6		
		1060003111	军事理论 Military Theory	1	32			16		3		
		4210001111	体育 1 Physical Education Ⅰ	1	32					1		
		4210002111	体育 2 Physical Education Ⅱ	1	32					2	体育 1	
		4210003111	体育 3 Physical Education Ⅲ	1	32					3	体育 2	
		4210004111	体育 4 Physical Education Ⅳ	1	32					4	体育 3	
		1050001131	心理健康教育 Mental Health Education	1	16					1		
		4030002111	大学英语 A1 College English A Ⅰ	3	64				16	1		
		4030003111	大学英语 A2 College English A Ⅱ	3	64				16	2	大学英语 A1	
		4030004111	大学英语 A3 College English A Ⅲ	3	64				16	3	大学英语 A2	
		4030005111	大学英语 A4 College English A Ⅳ	3	64				16	4	大学英语 A3	
		4120017111	大学计算机基础 Foundation of Computer	2	32		12			1		
		程序设计语言课程组(三选一，3 学分) Courses of Computer Program Design (select one out of three, Credits: 3)										
		4120023111	计算机程序设计基础(C 语言) Fundamentals of Computer Program Design(C)	3	48		12			2	大学计算机基础	
		4120024111	计算机程序设计基础(FORTRAN 语言) Fundamentals of Computer Program Design(FORTRAN)	3	48		12			2	大学计算机基础	
		4120025111	计算机程序设计基础(VB 语言) Fundamentals of Computer Program	3	48		12			2	大学计算机基础	
		小 计 Subtotal		35	736		24	64	64			
	选修课 Elective Courses	创新创业类 Innovation and Entrepreneurship Courses	全校学生要求至少取得 9 学分，建议每个类别中分别至少选修一门课程。 All students are required to obtain at least nine credits, and suggested to select at least one course in five categories respectively.									
		人文社科类 Arts and Social Science Courses										
		经济管理类 Economy and Management Courses										
		科学技术类 Science and Technology Courses										

课程类别 Course Classification	课程性质 Course Nature	课程编号 Course Number	课程名称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Operation	实践 Practice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		艺术体育类 Art and Physical Education Courses										
学科大类课程 Basic Disciplinary Courses	必修课 Required Courses	4180138111	专业导论 Introduction to Specialty	1	16					1		
		4180017111	工程图学 B Engineering Graphics B	4	64		4			2		
		4050063111	高等数学 A 上 Advanced Mathematics AⅠ	5	80					1		
		4050064111	高等数学 A 下 Advanced Mathematics AⅡ	5	80					2	高等数学 A1	
		4050229111	线性代数 Linear Algebra	2.5	40					1		
		4050023111	大学物理 B Physics B	5.5	88					2		
		4180316111	现代物流学 Modern Logistics	2	32					2		
		4050224111	物理实验 B Physics Lab. B	1	32	32				3		
		4050058111	概率论与数理统计 B Probability and Mathematics Statistic B	3	48					3		
		4140076111	工程力学 A Mechanics of Engineering A	4	64	4				3		
		4100009111	电工与电子技术基础 B 上 Fundamentals of Electrical Engineering &Electric Technology B Ⅰ	3.5	56	12				3		
		4180023111	互换性与测量技术 B Interchangeability and Measurement B	2	32	4				3		
		4050254111	运筹学 Operational Research	3	48					4	线性代数 概率论与数	
		4180068111	物流系统工程 B Logistic System Engineering B	2	32					5		
		4180020111	供应链管理 A Supply Chain Management A	2.5	40					6	现代物流学	
		小 计 Subtotal		46	752	52	4					
专业课程 Specialized Courses	必修课 Required Courses	4100010111	电工与电子技术基础 B 下 Fundamentals of Electrical Engineering & Electric Technology BII	2	32	4				4	电工与电子技术基础 B1	
		4180036111	机械制造技术基础 D Fundamentals of Machinery D	2.5	40	4				4		
		4180031111	机械设计基础 Fundamentals of Mechanical Design	3.5	56	6				4		
		4180152121	控制工程基础 Fundamentals of Engineering Control	2.5	40					4		
		4180083111	液压及气压传动 A Hydraulic and Pneumatic Transmission A	3	48					5		
		4180007111	单片机原理及接口技术 B Principles and Interfaces of Single Chip Microcomputer B	2.5	40					5		
		4180167121	现代测试技术 Modern Testing Technology	2.5	40					5		

课程类别 Course Classifi-cation	课程性质 Course Nature	课程编号 Course Number	课 程 名 称 Course Title	学分 Crs	学时分配 Including 总学时 Tot hrs.	实验 Exp.	上机 Ope-ration	实践 Prac-tice	课外 Extra-cur	建议修读学期 Suggested Term	先修课程 Prerequisite Course	第二专业 Second Major
		4180175121	自动识别技术 Automatic Identification Technology	2	32					5		
		4180024111	机电传动及控制 A Mechanical and Electronic Transmission and Control	3	48					5		
		4120192121	物联网技术 Technology of Internet of Things	2.5	40	4				6		
		4180038111	计算机控制技术 B Computer Control Technology B	2.5	40	4				6		
		4180005111	传感器原理及应用 B Sensors Principle and Application B	2	32	6				6		
		4180094111	现代物流装备 Modern Logistics Equipment	2	32					6	传感器原理及应用 B	
		4180064111	物流设施规划与设计 A Logistic Equipment Planning and Design A	2.5	40					6	物流系统工程 B	
		4180069111	物流系统建模与仿真 A Modeling and Simulation of Logistic System A	2.5	40					6	物流系统工程 B	
		4180075111	物流自动化系统设计与应用 A Design and Application of Logistic	3	48					7		
		4180072111	物流信息系统 B Logistic Information System B	2	32					7		
		小 计 Subtotal		42.5	680	28						
	选修课 Elective Courses	4180040111	交通运输工程概论 A Introduction of Transportation Engineering A	2	32					4		
		4120075111	数据库技术 Technique of Database	2	32		12			5		
		4180039111	技术经济学 B Technological Economics B	2.5	40					5		
		4180011111	港口平面布局及装卸工艺 Port Layout Planning and Handling	2	32					6		
		4100019111	电力电子技术 C Power Electronics C	2.5	40					6		
		4180193121	电力拖动与控制系统 B Electrical Drive and Control System B	2.5	40	4				6		
		4180234131	机器人技术 Robot Technology	2	32	2				6		
		4120006111	TCP/IP 和网络软件编程 TCP/IP and Network Programming	2.5	40		10			6		
		4180166121	现场总线技术 Field bus Technology	2	32	4				7		
		4100002111	变频器技术及应用 Transducer Technology and Application	2	32					7		
		4180235131	仓储技术与设备 Warehouse Storage Technology and Equipment	2	32	2				7		
		4180200131	起重运输机械 Crane Machinery	3	48	4				7		
		小 计 Subtotal		27	432	16	22					
		修读说明：要求至少选修 10 学分。 NOTE：Minimum subtotal credits: 10										

九、集中性实践教学进程表

Ⅸ Practice Training Table

课程编号 Course Number	实践环节名称 Practice Courses Name	周数 Weeks	学分 Crs	建议修读学期 Suggested Term
1060002111	军事训练 Military Training	3	1.5	1
4180121111	物流认知实习 Logistics cognition practice	1	1	2（暑期，企业）
4180114111	机械制造工程实训 C Practice of Mechanical Manufacturing Engineering C	2	2	4（实习工厂）
4180109111	机械设计基础课程设计 Course Design on Fundamentals of Mechanical Design	2	2	4
4180106111	工程软件训练 Engineering Software Training	1	1	4（暑期，企业）
4100069111	电工电子实习 B Practice in Electrical Engineering & Electronics A	1	1	5
4180105111	单片机原理及接口技术课程设计 Design Practice of Principles and Interfaces of Single Chip	2	2	5
4180182121	物流自动化与装备综合实验 A1 Logistics Automation & Equipment Synthetical Experiment AI	1	1	5
4180108111	机电传动及控制课程设计 Course Design on Mechanical and Electronic Transmission and Control	2	2	6
4180123111	物流系统建模与仿真课程设计 B Design Practice of Machinery Designing Technology B	2	2	6
4180115111	企业工程实训 Enterprise engineering practice	6	6	7（企业）
4180127111	物流自动化系统设计与应用课程设计 Course Exercise in Design and Application on Logistics automation System	2	2	7
4180183121	物流自动化与装备综合实验 A2 Logistics Automation & Equipment Synthetical Experiment AII	1	1	6
4180103111	毕业实习(课题调研) Manufacturing Practice	3	3	7（企业）
4180179121	毕业设计 Graduation Design	17	11	8（企业）
小　　计　Subtotal		46	38.5	

十、其它要求

Other Requirements

《形势与政策》课程，平均每学期 16 学时，一般按专题进行，在第七学期末考核，计 2 个课外学分，具体由学校学生发展指导中心负责组织落实。

The course of *Situation & Policy*, 16 hours per term with 2 credits, is given according to specific topics and tested at the end of the 7th term. The course will be arranged by the University's Student Development Instruction Center.