华北电力大学（留学生）英语授课

North China Electric Power University (International Student) Taught in English

管理科学与工程一级学科硕士学位研究生培养方案

Training Program for Postgraduates in First-level Discipline of Management Science and Engineering

（学科代码：0871　　授予工学硕士学位）

(Discipline Code: 0871, Degree: Master Degree of Engineering)

一、学科简介

I. Brief Introduction to the Discipline

华北电力大学“管理科学与工程”分别于 1997、2006 年获得国务院学位办授权“管理科学与工程”一级学科硕士和博士点，并于 2009 年获国家人力资源与社会保障部批准“管理科学与工程博士后科研流动站”， 该学科是原国家电力工业部重点学科，现为北京市重点学科。2016 年获批“新能源电力与低碳发展研究”（智库型）北京市重点实验室，华北电力大学管理科学与工程学科在全国第四轮学科评估进入 B+档。学科核心专业工程管理本科专业为国家级和北京市特色专业，是华北电力大学首批双一流本科专业，中国科学评价研究中心和武汉大学中国教育质量评价中心发布的《2016 年中国大学及学科专业评价报告》中,该专业在全国 322 所开设该专业的高校中排名第 9。

The postgraduate and doctoral programs of the first-level discipline of “Management Science and Engineering” of North China Electric Power University were authorized by the Academic Degrees Committee of the State Council in 1997 and 2006 respectively; “the post-doctoral research program of Management Science and Engineering” was approved by the Ministry of Human Resources and Social Security in 2009; this discipline was a key discipline of the Ministry of Electric Power Industry, and is now a key discipline of Beijing. The Beijing Key Laboratory of "Research on New Energy Power and Low Carbon Development" (Think Tank) was approved in 2016. The discipline of Management Science and Engineering of North China Electric Power University has entered the B+ category in the fourth round of discipline evaluation nationwide. Engineering Management in the undergraduate program is a core major of the discipline and a characteristic specialty of China and Beijing. It is included in the first batch of double first-class undergraduate majors in North China Electric Power University. In A Report on the Competitiveness Evaluation of Universities and Subjects in China in 2016 published by the Research Center for Chinese Science Evaluation and the Evaluation Center of Chinese Education

Quality of the Wuhan University, the major ranked 9th among 322 universities in China that offer the major.

学科具有国家级教学团队和北京市优秀教学团队，形成了由全国优秀教师、北京市教学名师和优秀教师、北京市师德标兵、教育部新世纪优秀人才组成的教学科研团队。近年来，学科科研经费居全国同类学科前列；每年在能源、工程、管理、经济等领域一流国际、国内学术期刊上发表 SCI、SSCI、EI、CSSCI、CSCD 收录高水平论文百余篇，论文质量名列前茅，在国内外获得很大的学术反响，形成了能源电力管理学派。

The discipline has a national-level teaching team, an excellent teaching team in Beijing, and a teaching and research team composed of national excellent teachers, famous teachers and excellent teachers in Beijing, teachers' moral pacesetters in Beijing, and new century excellent talents of the Ministry of Education. In recent years, the scientific research funding of this discipline ranks in the forefront of similar disciplines in China; every year, more than 100 high-level papers are published in first-class international and domestic academic journals in the fields of energy, engineering, management, economics and so on and included in SCI, SSCI, EI, CSSCI and CSCD. The quality of the papers is among the best, which has gained great academic response at home and abroad, forming the school of energy and power management.

学科定位：依托能源电力行业的优势资源，构建以“新能源电力”为特色的“管理科学与工程”学科平台，打造中国最具影响的能源电力管理科学人才教育基地，为国家能源战略和社会发展培养高质量的具有鲜明电力行业特色的专门人才，建成在全国具有重要影响的电力管理智库，形成具有国际影响力的能源电力管理中国学派。

Discipline orientation: Rely on the superior resources of the energy and power industry to construct the discipline platform of “Management Science and Engineering” characterized by "new energy power", build the most influential education base for scientific personnel of energy and power management in China, train high-quality professionals with distinctive characteristics of the power industry for the national energy strategy and social development, build an electric power management think tank with important influence in China, and form a Chinese school of energy and power management with international influence.

本学科通过多年创新发展，综合实力位居国内同类学科领先行列。长期以来，该学科致力于解决管理科学基础前沿和工程建设领域（特别是能源电力工程急需解决的）重大管理问题，在工程项目管理、电力工程与建设管理、信息管理及决策支持、能源管理理论与方法、供应链管理、工程模型分析与决策等方面开展了卓有成效的系列研究,培养了一大批优秀人才，为国家经济社会发展做出了重要贡献。

Through years of innovation and development, this discipline ranks in the forefront of similar disciplines in China in terms of the comprehensive strength. For a long time, the discipline has been committed to solving major management problems in the fundamental frontier of Management Science and in the field of engineering construction, especially urgent problems in

energy and power engineering. It has carried out a series of fruitful studies on Engineering Project Management, Power Engineering and Construction Management, Information Management and Decision Support, Theory and Method of Energy Management, Supply Chain Management, Engineering Model Analysis and Decision-making and other aspects, trained a large number of outstanding personnel and made important contributions to the economic and social development of China.

二、培养目标

II. Training Objectives

培养全面发展的高层次专门技术人才，我校攻读硕士学位研究生（以下简称硕士生）要求做到以下几点：

In order to cultivate high-level specialized technical personnel with all-round development, students pursuing master's degrees in our university (hereinafter referred to as postgraduates) shall meet the following requirements:

培养对中国有良好认知，理解中国社会主流价值观，具有相应的中文语言能力，具备一定跨文化和全球胜任力，在所在学科具有相当专业知识和学术能力的国际化人才。

Cultivate international talents who have a good understanding of China, understand the mainstream values of Chinese society, have corresponding Chinese language skills, have certain cross-cultural and global competencies, and have considerable professional knowledge and academic abilities in their disciplines.

在管理科学与工程学科领域内掌握坚实的基础理论和系统的专门知识，熟悉所从事的研究领域中科学技术的发展动向。具有创新能力和从事科学研究、教学工作或独立承担专门技术工作的能力。

Master solid basic theory and systematic expertise in the field of Management Science and Engineering Discipline, and be familiar with the development trend of science and technology in the research field. Have the ability to innovate and engage in scientific research, teaching or independent technical work.

三、研究方向

III. Research Direction

管理科学与工程专业是工程学与管理学的交叉学科，具有一级学科博士学位和硕士学位授予权，有博士后科研流动站，是北京市和河北省重点学科，由华北电力大学经济与管理学院承担培养任务。

The major of Management Science and Engineering is an interdisciplinary major of Engineering Science and Management Science. It has been authorized to award doctoral and master's degree of the first-level discipline, and has a post-doctoral research program. It is a key

discipline in Beijing and Hebei Province, the training tasks of which are undertaken by the School of Economics and Management of North China Electric Power University.

主要研究方向及其内容：

Main research directions and contents are as follows:

1．工程项目管理

1．Engineering Project Management

本方向以工程项目为研究对象，主要包括工程建设管理、工程项目评估与决策、工程项目目标控制理论与方法、工程监理、工程造价、国际工程管理、工程项目风险管理、工程保险和担保、建设项目管理信息化等。本方向培养具有坚实的能源和工业、民用建筑工程基础、系统的管理知识和技能、较高的外语水平和计算机应用能力，以及一定的工程实践经历和研究能力的专业化高级管理人才，如咨询工程师、工程建设项目经理、建造师、监理工程师、造价工程师等。

The direction studies engineering projects, mainly including engineering construction management, evaluation and decision-making of engineering projects, theory and method of engineering project target control, engineering supervision, engineering cost, international engineering management, risk management of engineering projects, engineering insurance and guarantee, informatization of construction project management and so on. The direction aims to cultivate professional senior management personnel with a solid foundation of energy and industry and civil construction engineering, systematic management knowledge and skills, a high level of foreign language and computer application skills, as well as certain practical engineering experience and research ability, such as consulting engineers, project managers of engineering construction, constructors, supervision engineers and cost engineers.

2.电力工程与建设管理

2. Power Engineering and Construction Management

本方向培养具有坚实的电力工程与建设相关理论基础，掌握管理科学研究方法论和分析工具，能运用科学的管理理论和方法进行电力工程与建设管理研究和实践的专业化人才。本方向将强化在电力工程、系统工程、优化理论、项目管理、运筹学、统计分析、信息管理等方面的专业训练，将结合电力行业背景，开展以电力工程与建设管理等的研究和实践。

The direction aims to cultivate professional personnel who have a solid theoretical foundation related to electric power engineering and construction, master research methodology and analysis tools of management science, and can use scientific management theories and methods to study and practice power engineering and construction management. The direction will strengthen specialized training in Electric Power Engineering, Systems Engineering, Optimization Theory, Project Management, Operations Research, Statistical Analysis, Information Management, etc.,

and will combine the background of the electric power industry to study and practice power engineering and construction management.

3.信息管理及决策支持

3. Information Management and Decision Support

本方向培养具有现代经济管理理论基础，有较强的计算机和网络应用及信息管理等方面的知识和能力，掌握信息系统分析和设计方法，能从事计算机信息系统建设、维护和信息管理工作的高层次复合型专门人才。注重学生创新精神和应用实践能力的培养，使学生掌握计算机和网络应用方面的技术和技能。具备用计算机和网络技术解决经济及管理领域中信息处理问题的能力；具备综合运用所学知识帮助单位领导分析所处环境、确定目标并利用信息进行管理决策的能力；具备学习和掌握本专业相关领域发展的最新动向的能力；具备对单位现有的信息系统进行改进和提出新的解决方案的能力。

The direction aims to cultivate high-level versatile professionals who have the theoretical basis of modern economic management, have strong knowledge and ability in computer and network application and information management, master analysis and design method of information system, and can engage in the construction and maintenance of computer information system and information management. It pays attention to the cultivation of students' spirit of innovation and practical ability, so that students can master the technologies and skills of computer and network. Student should have the abilities to use computer and network technologies to solve information processing problems in the field of economy and management; to comprehensively use the knowledge learned to help the leadership analyze their environment, determine goals and use information to make management decisions; to learn and grasp the latest trends in the development of fields related to the major; to improve the existing information system of the institution and put forward new solutions.

4．能源管理理论与方法

4．Theory and Method of Energy Management

可从宏观和微观两个角度进行研究，宏观方面研究主要是为政府及有关部门在对能源的开发，生产和消费的全过程进行计划、组织、调控和决策时提供科学理论和方法，如能源产业竞争力研究、能源政策评价、能源预测预警方法、能源定价理论方法等。微观方面研究主要是为企业在低碳政策背景下的生产、经营提供科学管理方法，使企业能源使用合理，控制浪费，达到节能减排，节能降耗，再创造效益的目的，以降低单位能耗成本，提高企业综合竞争力。

It can be explored from both macroscopic and microscopic perspectives. From the macroscopic perspective, it focuses on providing scientific theories and methods for the government and relevant departments in planning, organizing, regulating and making decisions on the whole process of energy development, production and consumption, such as research on

competitiveness of energy industry, evaluation of energy policy, energy forecasting and early warning methods, energy pricing theories and methods. From the microscopic perspective, it focuses on providing scientific management methods for the production and operation of enterprises under the low-carbon policy background, so as to enable enterprises to rationally use energy and control waste, meeting the goals of saving energy, reducing emissions and re-creating benefits, reducing the unit energy consumption cost and enhancing the overall competitiveness of enterprises.

5.供应链管理

5. Supply Chain Management

本方向以物流与供应链系统为研究对象，研究供应链战略运筹、供应链运营与优化、物流系统控制与优化、物流运作管理等。包括采购与供应链管理、供应链金融、绿色供应链、智慧供应链、物流技术与装备、物流系统优化与仿真、物流信息系统、国际物流等领域。培养掌握解决供应链领域实际问题的先进技术与方法，能独立从事物流和供应链工程技术研发及管理的复合型高层次人才。

The direction focuses on logistics and supply chain system, and studies strategic operation of supply chain, operation and optimization of supply chain, control and optimization of logistics system, logistics operation management and so on. It includes procurement and supply chain management, supply chain finance, green supply chain, smart supply chain, logistics technology and equipment, optimization and simulation of logistics system, logistics information system, international logistics and other fields. Cultivate versatile high-level talents who master advanced technologies and methods for solving practical problems in the supply chain field, and can independently engage in R&D and management of engineering technologies of logistics and supply chain.

6.工程模型分析与决策

6. Engineering Model Analysis and Decision-making

要求学生具有现代管理和决策理论基础，掌握系统的数学、应用统计学和工程理论和方法，能够理论联系实际，通过对现实工程问题定量分析和处理，根据具体的背景情况建立适当的数量模型，进行分析、预测与决策。研究内容包括管理工程数量模型建立、求解、分析、检验与应用、工程管理优化理论和方法、工程经济计量分析、预测与决策模型分析等。

Students are required to have a theoretical foundation in modern management and decision-making, master systematic theories and methods of mathematics, applied statistics and engineering, integrate theory with practice, and establish an appropriate quantitative model for analysis, prediction and decision-making depending on the context through quantitative analysis and treatment of practical engineering problems. The research contents include the establishment, solution, analysis, verification and application of quantitative models of management engineering,

theory and method of engineering management optimization, quantitative analysis of engineering economy, prediction and decision model analysis and so on.

7. 商务智能与大数据管理

7. Business Intelligence and Big Data Management

本方向培养具有能源管理和决策理论基础，有较强的商务智能以及大数据处理、分析等方面的知识和能力。具备利用大数据、云计算、物联网、移动商务等技术，掌握商务智能分析、机器学习、深度学习、数据挖掘等相关方法，并具备在能源及经济管理领域进行数据分析并进行决策的能力。培养能独立从事商务智能分析、大数据分析管理及决策的复合型高层次人才。

The direction aims to cultivate students who have the theoretical basis of energy management and decision-making, as well as strong knowledge and ability in business intelligence and big data processing and analysis. Student should have the ability to use big data, cloud computing, Internet of things, mobile commerce and other technologies, master business intelligence analysis, machine learning, deep learning, data mining and other related methods, and have the ability to analyze data and make decisions in the fields of energy and economic management. Cultivate versatile high-level talents who can independently engage in business intelligence analysis, big data analysis, management and decision-making.

四、培养方式

IV. Training Method

1.硕士生的培养方式为导师负责制，导师是研究生培养第一责任人，要了解掌握研究生的具体状况，将专业教育与日常教育有机融合，既做学业导师，又做人生导师，严格要求学生遵守科学道德和学术规范。提倡按二级学科组成导师指导小组集体培养。对跨学科或交叉学科以及与有关研究部门、企业联合培养研究生时，应从相关学科及有关单位中聘请具有高级职称的有关人员进入导师指导小组协助指导。导师指导小组要负责审查研究生的文献综述与选题报告、论文中期检查以及论文预答辩等培养环节的工作完成情况。

1. The training implements supervisor responsibility system, the supervisor is the person of primary responsibility for postgraduate training. The supervisor shall understand and master the specific condition of postgraduates and organically integrate professional education with daily education both as academic mentors and life mentors. The supervisor shall also strictly require students to abide by scientific ethics and academic norms. Advocate composing the supervisor steering group for collective cultivation according to the second-level disciplines. For interdisciplinary or cross-disciplinary training or training in conjunction with relevant research departments and enterprises, relevant personnel with senior professional titles shall be recruited from relevant disciplines and relevant units to assist in supervisor steering groups. The supervisor

steering group is responsible to inspect the student's completion status of the literature review and thesis proposal, mid-term review and pre-defense of dissertation.

2.导师应根据培养方案的要求，多方面了解所指导的硕士生的知识结构、学术特长、研究兴趣、能力基础等具体情况，据此制定出研究生个人培养计划，并督促检查其实施情况。

2. The supervisor should acknowledge the knowledge structure, academic skills, research interests, and abilities of the postgraduate candidates according to the requirement of the training scheme, based on which to formulate a training plan for individual postgraduate and supervise the implementation according to the plan.

3.硕士研究生的培养采用课程学习与科学研究并重的方式。既要使硕士生掌握坚实的基础理论和系统的专业知识，又要培养研究生掌握科学研究或独立担负设计、管理等方面工作的能力。

3. The training of postgraduates adopts the way of attaching equal importance to course learning and scientific research. It is necessary to make postgraduates master solid basic theory and systematic professional knowledge and cultivate postgraduates' ability to undertake scientific research or design and management work independently.

4.导师应指导研究生学习有关课程，指导学位论文选题，检查科学研究进展情况，帮助解决科研中的困难，适时地指导研究生撰写论文，认真审阅学位论文，切实把好研究生的培养质量关。

4. The supervisor should guide postgraduates to study relevant courses, guide the topic selection of the degree thesis, check the progress of scientific research, help them solve the difficulties in scientific research, timely guide postgraduates to write the thesis, carefully review the degree thesis, and ensure the training quality of postgraduates.

五、学制与学习年限

V. Educational System and Duration of the Program

学制 3 年，学习年限 2-4 年。

The educational system is 3 years, and the duration of the program is 2-4 years.

六、课程设置与学分要求

VI. Curriculum and Credit Requirements

硕士生的课程学习实行学分制。要求各学科硕士生应修满的学分数为：总学分应不少于 32 学分，其中学位课不少于 22 学分。课程体系框架如下：

The course study of postgraduates implements credit system. The total credits should be no less than 32 credits, including no less than 22 credits for degree courses. The curriculum framework is as follows:

1．学位课（不少于 **22** 学分），其中：

1．Degree courses (no less than 22 credits), of which:

(1) 公共课：10 学分，其中：

(1) Public courses: 10 credits, including:

汉语综合(1)：4 学分(64 学时)

Chinese Comprehension (1): 4 credits (64 class hours)

汉语综合(2)：4 学分(64 学时)

Chinese Comprehension (2): 4 credits (64 class hours)

中国概况(英文)：2 学分(32 学时)

Introduction to China (English): 2 credits (32 class hours)

(2) 数学基础课或基础理论课：不少于二门课程，4 学分。

(2) Basic mathematics courses or basic theoretical courses: No less than 2 courses, 4 credits.

(3) 学科基础课：按一级学科设置，不少于 4 学分。

(3) Basic courses of disciplines: Set up according to the first-level discipline, no less than 4 credits.

(4) 学科专业课：按一级或二级学科设置，不少于 4 学分。

(4) Specialized courses of disciplines: Set up according to the first-level or second-level discipline, no less than 4 credits.

各学科可以将学科基础课与学科专业课统筹设置，要求两项之和不少于 8 学分。

Each discipline shall have an overall planning of basic courses and specialized courses, and require that the total credits of the two shall be no less than 8 credits.

2．必修课程与必修环节（6 学分），其中：

2．Compulsory courses and required links (6 credits), of which:

(1) 研究生科学道德与学术规范：1 学分。

(1) Scientific Ethics and Academic Norms for Postgraduates: 1 credit.

(2) 专题课程/seminar 课程：1 学分

(2) Program Course/Seminar Course: 1 credit

专题课程/seminar 课程结合本领域学术前沿和研究生学位论文的选题进行设置。课程可采用教师讲授与研究生研讨相结合的方法进行学习。

Program course/seminar course shall be set up in combination with the academic frontiers in this field and the topic selection of master dissertation. The courses can be conducted by the combination of professor teaching with postgraduate discussion.

专题课程在研究生学位论文阶段完成。

The program course should be completed in the process of master dissertation.

(3) 实践环节：1 学分

(3) Practice Links: 1 credit.

实践环节包括实验教学、专业生产实践以及教学实践等。在第二、第三学期各院（系）及导师应安排研究生参加实践，如讲授大学本科课程的部分章节，参与指导课程设计、实习、实验、辅导答疑、课堂讨论等教学环节，或结合科研课题到生产单位参加调研或项目研发等实践工作，总工作量应达到 80 学时或 10 个工作日。

The practice links include experimental teaching, professional production practice and teaching practice, etc. In the second and third semesters, schools (departments) and supervisors shall arrange postgraduates to participate in practice. For example, teach some chapters of undergraduate courses, guide curriculum design, take an internship, do experiments, supervise and answer questions, and participate in classroom discussion and other teaching links, or participate in practical work such as research or project research and development in the production unit in combination with scientific research tasks. The total workload shall reach 80 class hours or 10 working days.

学院根据各学科特点和人才培养目标，依托本学科重点实验室、实践教学基地等开设具有特定主题的系列实验课或以实验为主的专题课；或与学科应用技术相关的硬件、软件设计或系统设计；或在本学科重点实验室、实践教学基地等进行工程设计、实验设备安装调试或协助实验室教师指导本科生完成实验教学等实验工作，以提高研究生的科研实践能力。

The school shall set up a series of experimental courses or experiment-based seminars with specific topics according to the characteristics of each discipline and the goal of personnel training and relying on the key laboratories and practical teaching bases of the discipline; or set up hardware and software design or system design related to the applied technologies of the discipline; or carry out engineering design, installation and debugging of experimental equipment in key laboratories and practical teaching bases of this discipline, or assist laboratory teachers to guide undergraduates to complete experimental teaching, so as to improve the practical ability of postgraduates in scientific research.

(4) 学术活动：1 学分，要求硕士生至少参加 6 次学术报告。

(4) Academic Activities: 1 credit, postgraduates are required to participate in at least 6 academic reports.

(5) 文献综述与开题报告：1 学分。

(5) Literature Review and Thesis Proposal: 1 credit.

(6) 论文中期检查：1 学分。

(6) Mid-term Review of the Thesis: 1 credit.

3．非学位选修课：

3．Non-degree optional courses:

学生根据本人情况，可选修其他学科专业课和研究生课程目录上的课程，使总学分不少于 32 学分。

Postgraduates can take specialized courses of other disciplines and courses in the catalogue of postgraduate courses according to their own situation, and the total credits shall not be less than 32 credits.

学士阶段非本学科的硕士生应补修由导师指定的若干本学科学士阶段主干课程。补修课程不计入总学分。

Postgraduates who are not in their own disciplines at the bachelor stage should take several major courses of bachelor stage of the disciplines designated by their supervisors. Supplementary courses are not included in the total credit.

具体课程设置见附表。

For the specific curriculum, please refer to the Schedule.

七、科学研究与学位论文要求

VII. Requirements for Scientific Research and Degree Thesis

科学研究与学位论文工作是研究生培养的重要组成部分，是培养硕士研究生独立思考、勇于创新的精神和从事科学研究或担负专门技术工作能力的重要手段。硕士研究生应在导师指导下独立完成硕士学位论文工作。

Scientific research and degree thesis are important parts of postgraduate training, and important ways to cultivate postgraduates' independent thinking, innovative spirit and the ability to undertake scientific research or specialized technical work. Postgraduates should independently complete the master dissertation under the guidance of their supervisors.

1.文献综述与开题报告

1. Literature review and thesis proposal

硕士生入学后应在导师指导下，查阅文献资料，了解学科现状和动态，尽早确定课题方向，完成论文选题。学位论文的选题一般应结合本学科的研究方向和科研项目，鼓励面向国民经济和社会发展的需要选择应用型课题。确定学位论文工作的内容和工作量时应全面考虑硕士研究生的知识结构、工作能力和培养年限等方面的特点。

After the enrollment, postgraduates should consult the literature, understand the current situation and trends of the discipline, determine the research direction as soon as possible, and complete the topic selection of the thesis under the guidance of their supervisors. The topic selection of degree thesis should generally be combined with the research direction and scientific research projects of this discipline, and the selection of applied topics meeting the needs of national economic and social development is encouraged. When determining the content and workload of the degree thesis work, the supervisor should fully consider the knowledge structure, work abilities and training duration of postgraduates.

硕士开题由学院统一组织。全日制学术型硕士研究生的开题时间一般安排在硕士生入学后第 2 学期的期末前进行。

The thesis proposal is uniformly organized by the school. For full-time academic postgraduates, the time for submitting thesis proposal is generally arranged before the end of the second semester after admission.

选题报告应不少于 5000 字（不含图表），其内容主要包括：课题的意义，国内外关于该课题的研究现状及发展趋势，论文的基本构思，研究方法，计划进度，预期目标及成果，主要参考文献等，选题报告中引用的外文文献应不少于十五篇。

The thesis proposal shall be no less than 5,000 words (excluding charts), with the main contents including: the significance of the topic, the current research status and development trend of the topic at home and abroad, the basic conception of the thesis, the research methods, the schedule, the expected objectives and achievements, and the main references, etc. No less than fifteen foreign documents shall be cited in the thesis proposal.

选题报告会由以硕士生导师为主体组成的审查小组（3 至 5 人组成）评审。选题报告会应吸收有关导师和研究生参加，跨学科的论文选题应聘请相关学科的导师参加。

The thesis proposals shall be reviewed by a review team (3-5 members) dominated by master supervisors. The topic selection meeting should be attended by relevant supervisors and postgraduates, and supervisors of relevant disciplines should be invited to participate in the meeting for topic selection of interdisciplinary theses.

若学位论文选题有重大变动，应重做选题报告。评审通过后的选题报告，应以书面形式交研究生院备案。

If there is a major change in the topic of the degree thesis, the thesis proposal should be carried out once again. The thesis proposal after passing the review shall be submitted in writing to the Graduate School for the record.

文献综述与开题报告通过者给予 1 学分。

Those who pass the literature review and thesis proposal review shall be given 1 credit.

对文献综述与开题报告工作的具体要求见《华北电力大学学术学位硕士研究生必修环节实施细则》。

For the specific requirements of literature review and thesis proposal, please refer to the Detailed Rules for the Implementation of Required Links for Postgraduates with Academic Degrees in North China Electric Power University.

2.论文中期检查

2. Mid-term review of the thesis

全日制学术型硕士研究生的学位论文中期检查一般在第四学期末完成，申请提前毕业的全日制学术型研究生要求在第三学期末完成。中期检查的主要内容为：论文工作是否按开题报告预定的内容及进度进行；已完成的研究内容及结果；目前存在的或预期可能会出现的问题；论文按时完成的可能性等。

The mid-term review of full-time academic master dissertation is usually completed at the end of the fourth semester, and full-time academic postgraduates applying for early graduation are required to complete it at the end of the third semester. The main contents of the mid-term review include whether the thesis work is consistent with the contents and schedule of the thesis proposal; the completed research contents and results; the existing or expected problems; and the possibility of completing the dissertation on time.

论文中期检查通过者给予 1 学分。

Those who pass the mid-term review of the dissertation shall be given 1 credit.

对中期检查的具体要求见《华北电力大学学术型硕士研究生必修环节实施细则》。

For the specific requirements of mid-term review, please refer to the Detailed Rules for the Implementation of Required Links for Postgraduates with Academic Degrees in North China Electric Power University.

3．学术论文发表与科研成果要求

3．Requirements of academic papers and research achievements

硕士生在学期间应积极参加本学科的国内外学术交流活动、撰写和发表学术论文，硕士研究生在论文答辩前必须达到以下条件之一，方可参加学位论文答辩：

During their school period, postgraduates shall actively participate in the academic exchange activities at home and abroad of their disciplines, write and publish academic papers. A postgraduate with master's degree candidate can only participate in the thesis defense after meeting one of the following conditions:

(1) 以第一作者身份（如果是第二作者，其导师必须是第一作者）撰写一篇及以上本专业学术论文，在正式刊物上公开发表或在国内外学术会议上进行交流。

(1) Write one or more academic papers of his/her major in the name of the first author (or the supervisor as the first author and the graduate student as the second author), and publish such papers in official publications or exchange which in international and domestic academic conferences.

(2) 硕士生的学位论文工作成果（华北电力大学作为署名单位之一）获得省部级二等及以上奖励（发明奖励、自然科学奖励、科学技术进步奖励，硕士生持有奖励证书）1 项，相当于国内权威期刊论文 1 篇。

(2) One of the work results of the postgraduate student' thesis (with North China Electric Power University being one of the author affiliations) has been awarded the second prize or above at the provincial and ministerial level (with certificates of invention award, natural science award, science and technology progress award for the postgraduate student), which is equivalent to 1 domestic authoritative journal paper.

所有申请学位人员，在学期间所发表的与学位论文相关的学术论文，其署名单位必须是华北电力大学。在职培养硕士研究生在读期间，如有与华北电力大学合作的科研项目，并且

该项目的主要内容将作为其学位论文的组成部分，对硕士生本人，在获奖、鉴定或发明专利成果的署名单位上不作硬性要求，但华北电力大学作为合作方必须在科研成果中有所体现，也应当作为署名单位之一。

All academic papers related to degree theses published by degree applicants during their school period must be affiliated with North China Electric Power University. If an on-the-job postgraduate student has a scientific research project in collaboration with the North China Electric Power University, and the main contents of the project will be part of his or her dissertation, there's no mandatory requirement for the author affiliation in the award, appraisal and invention patent achievements of the postgraduate student, but North China Electric Power University, as a collaborator, must be reflected in the scientific research achievements, and shall also be one of the author affiliations.

4．学位论文要求

4．Degree thesis requirements

硕士学位论文是硕士生科学研究工作的全面总结，是描述其研究成果、反映其研究水平的重要学术文献资料，是申请和授予硕士学位的基本依据。学位论文撰写是硕士生培养过程的基本训练之一， 必须按照规范认真执行，具体要求见《华北电力大学研究生学位论文撰写规范》。

Master dissertation is a comprehensive summary of postgraduates' scientific research work, is an important academic literature that describes their research results and reflects their research level, and is the basis for applying for and awarding master's degrees. Dissertation writing is one of the basic trainings in the training process of postgraduates, which must be carried out conscientiously in accordance with the norms. For specific requirements, please refer to Norms and Examples for the Master Dissertation Writing of North China Electric Power University.

5．学位论文评审与答辩

5．Review and defense of degree thesis

学校集中进行硕士研究生论文的评审与答辩工作。研究生在论文工作完成后，须向所在院系提交论文答辩申请，相关部门要对研究生的答辩资格进行审查，审查通过方可进入论文评审与答辩程序。未通过答辩资格审查的硕士生不得进行论文答辩。

The review and defense of postgraduate thesis shall be conducted in an intensive manner. Postgraduates should submit the application for thesis defense to their departments after the completion of the thesis work, and the relevant departments shall examine the postgraduates' defense qualification and they are allowed to enter the thesis review and defense procedure only after they pass the examination. Postgraduates who fail to pass the examination of their qualification for defense shall not defense to their theses.

硕士学位论文的评审与答辩按照《华北电力大学研究生学位论文评审和答辩的有关规

定》、《华北电力大学学位授予工作细则》等相关规定进行。毕业生的答辩时间一般安排在 6 月，延期毕业的研究生答辩时间一般安排在 6 月或 12 月。

The review and defense of master dissertation shall be carried out in accordance with the Relevant Provisions on the Review and Defense of Master Dissertation of North China Electric Power University and the Detailed Rules of Degree Awarding of North China Electric Power University. The defense time for postgraduates is generally arranged in June, while that for postgraduates of postponed graduation is generally arranged in June or December.

八、提前毕业条件

VIII. Conditions for Early Graduation

硕士研究生学业优秀者可以申请 2 年毕业，必须符合以下条件：

Particularly outstanding postgraduates can apply for graduation after 2 years of study on the basis of meeting the following conditions:

1.硕士生提前完成培养计划中规定的课程学习、论文工作及其它培养环节，可提出进行学位论文答辩的申请，经经济与管理学院批准后，可提前答辩和申请学位。学习年限不得少于 2 年。

1. Postgraduates who have completed the course study, dissertation work and other training links stipulated in the training plan in advance may apply for thesis defense. After being approved by the School of Economics and Management, they can defend and apply for a degree in advance. The duration of program shall not be less than 2 years.

2.至少发表 1 篇论文，应满足如下要求：在本学科国内权威期刊（依据论文发表时基金委管理学部认可的 A 类期刊）或被 SCI（发表时一区）检索的本领域国际重要期刊（会议转期刊的、开源期刊和摘要检索除外）。

2. Publish 1 or more academic papers in domestic authoritative journals (based on the Class A journals recognized by NSFC Management Science Department at the time of paper publication) or important international journal searched in SCI (zone 1 at the time of paper publication) (excluding journals of conference articles, open access journals and journals included in abstract search) of this discipline.

3.由学院安排论文盲审，三份盲审论文的评阅意见均为“同意”，并且所有评阅成绩在 80 分以上。

3. 3 papers have passed the blind review arranged by the school, with all marks scored above 80.

附表：管理科学与工程一级学科学术学位硕士研究生培养方案（留学生）课程设置表（英语授课）

Schedule:Curriculum (Taught in English) of Training Program for Postgraduates (International Student) in First-level Discipline of Management Science and Engineering

类别 **Category**		课程名称 **Course name**	学时 **Class hour**	学分 **Credit**	考核方式 **Assessment mode**	学期 **Semester**	备注 **Remarks**
学位课 不少于22学分 Degree courses (no less than 22 credits)	10学分 (10 credits) 公共课 Public courses	汉语综合(1) Chinese Comprehension (1)	64	4	考试 Exam	1	
		中国概况(英文) Introduction to China (English)	32	2	考试 Exam	1	
		汉语综合(2) Chinese Comprehension (2)	64	4	考试 Exam	2	
	不少于4学分 No less than 4 credits 基础理论课 Basic theoretical courses	数值分析 Numerical Analysis	32	2	考试 Exam	1	
		模糊数学 Fuzzy Mathematics	32	2	考试 Exam	1	
		矩阵论 Matrix Theory	32	2	考试 Exam	1	
		应用统计学 Applied Statistics	32	2	考试 Exam	1	
	不少于4学分 No less than 4 credits 学科基础课 Basic courses of disciplines	中级微观经济学 Intermediate Microeconomics	48	3	考试 Exam	1	
		现代管理理论 Modern Management Theory	32	2	考试 Exam	1	
		工程项目管理理论与应用 Theory and Application of Engineering Project Management	32	2	考试 Exam	1	
		工程经济学 Engineering Economics	32	2	考试 Exam	2	
		运营管理 Operation Management	32	2	考试 Exam	2	
	不少于4学分 No less than 4 credits 学科专业课 Specialized courses of disciplines	供应链管理 Supply Chain Management	32	2	考试 Exam	1	
		项目管理软件应用 Application of Project Management Software	24	1.5	考试 Exam	1	
		数学建模与MATLAB应用 Mathematical Modeling and MATLAB Application	24	1.5	考试 Exam	2	
		大数据挖掘与应用 Big Data Mining and Application	48	3	考试 Exam	2	
非学位课 Non-degree courses	6学分 (6 credits) 必修课程与必修环节 Compulsory courses and required links	研究生科学道德与学术规范 Scientific Ethics and Academic Norms for Postgraduates		1	考查 Review of performance	1	
		专题课程/seminar课程 Program Course/Seminar Course		1	考查 Review of performance	2	
		实践环节（实验、实践）		1	考查		

类别 **Category**		课程名称 **Course name**	学时 **Class hour**	学分 **Credit**	考核方式 **Assessment mode**	学期 **Semester**	备注 **Remarks**
		Practice Links (Experiment, Practice)			Review of performance		
		学术活动 Academic Activities		1	考查 Review of performance		
		文献综述与选题报告 Literature Review and Thesis Proposal		1	考查 Review of performance		
		论文中期检查 Mid-term Review of the Thesis		1	考查 Review of performance		
	选修课 Optional courses	科技信息检索与论文写作专题讲座 Symposium on Sci-tech Information Search and Thesis Writing	16	1	考查 Review of performance	1	
		物流系统规划与设计 Planning and Design of Logistics System	32	2	考试 Exam	1	
		会计学 Accounting	32	2	考试 Exam	2	
		国际商务 International Business	32	2	考查 Review of performance	1	
		消费者行为分析 Consumer Behavior Analysis	32	2	考查 Review of performance	2	
		计量经济学 Econometrics	48	3	考试 Exam	2	
		成本管理 Cost Management	40	2.5	考试 Exam	1	
		组织行为学 Organizational Behavior	24	1.5	考查 Review of performance	2	
		公司财务 Corporate Finance	40	2.5	考试 Exam	1	
		人力资源管理 Human Resource Management	24	1.5	考查 Review of performance	2	
		除所列课程外，可选修其他学科专业课和研究生课程目录课程。要求总学分不低于 35 学分。 In addition to the courses listed above, students can take specialized courses of other disciplines and courses in the catalogue of postgraduate courses. The total credits shall be no less than 35 credits.					