硕士专业课程简介 / Brief Introduction on Master Majors

**电子信息与电气工程学部 / Faculty of Electronic Information & Electrical Engineering**

**电气工程 硕士**

专业名称：电气工程

学习期限：3年

专业简介

本专业要求学生掌握电气工程领域坚实的基础理论、宽广的专门知识，掌握解决涉及工程问题的先进技术方法和现代技术手段，具有独立担负工程技术和工程管理的能力，成长为复合型高层次工程技术人才。具有独立承担解决电能生产、传输、分配、控制、检测、保护及其使用过程中的工程实际问题，解决电网运行、发电及潮流控制中的关键问题；从事智能电器的研制工作，从事各类电气新设备的开发、设计、研制，以及设备运行与维护更新的能力。

必修课：（专业核心课程）

阅读与写作、矩阵与数值分析、优化方法、复变函数与积分变换、现代控制工程、电网络理论、现代电工技术、现代电力电子电路（双语）、智能电器、高电压工程、现代电机控制技术、动态系统建模与控制、高等电力系统分析、能量管理系统概论、电力系统无功电压控制、电气工程基础及应用（双语）

**Electrical Engineering**

Name of specialty: Electrical Engineering

Credit system: 3 years

Brief Introduction

This major requires students to master the basic theory of electrical engineering and a wide range of professional knowledge.To master the advanced technology and modern technology for solving engineering problems. Students should have the ability to independently undertake engineering design and engineering management, and grow into a high level of engineering and technical talents. Besides, students should have the ability to solve power production,transmission, distribution, control, detection, protection and engineering practical problems, and to solve the key problems in the power grid operation, power generation and power flow control. Finally, students should have the abibily to undertake the design of smart apparatus, and various types of electrical equipment.

Main Course

Compulsory courses :

Critical Reading and Writing , Matrix and Numerical Analysis, optimization method, Complex, Function and Integral Transformation, Modern Control Engineering, Electric Network Theory, Modern electrical and electronic technology, Modern Power Electronic Circuit, Intelligent Apparatus, High Voltage Engineering, Modern Control Technology of Electric Machines, Modeling and Control of Dynamic System, Advanced Power System Analysis, Introduction to Energy Management System, Reactive power and voltage control of power system, Fundamentals of electrical engineering and its application

**电子科学与技术 硕士**

专业名称：电子科学与技术

学习期限：3年

专业简介

本学科专业培养能够从事电子科学技术方面的教学、科研、设计、管理或相关工程技术工作的高层次人才。学位获得者应掌握现代电子科学技术基本理论和系统专门知识；深入了解国内外集成电路与嵌入式系统、极大规模集成电路设计、制造、测试技术及微纳电子器件领域新技术和发展动向；能熟练运用仪器设备和计算机进行科学研究、具有较强的分析问题和解决问题能力。

必修课：（专业核心课程）

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、矩阵与数值分析、数理方程、有限元方法与应用、半导体材料物理基础、半导体器件物理基础、半导体制造技术及装备、高等电路理论与技术、CMOS数字集成电路设计、传感器原理及应用、CMOS模拟集成电路设计、集成电路测试

**[Electronics Science and Technology](http://www.baidu.com/link?url=2E4S69NfjOzzLK1E9U3he3N7LV_XPXBKuVZjR4eitUGiXx9y8Vg_pQK7X5kHWLUIgKXL2biZ-Jb4TrtEu30m3vPtG2D7cP5FUfP0QEd0IfQsAG0YJHWAxQ_oOkFt-lv4yZoGMx2tQxxIzhBjm082ya&wd=&eqid=8a429c4000004a810000000358eb59f9" \t "_blank)**

Name of specialty: [Electronics Science and Technology](http://www.baidu.com/link?url=2E4S69NfjOzzLK1E9U3he3N7LV_XPXBKuVZjR4eitUGiXx9y8Vg_pQK7X5kHWLUIgKXL2biZ-Jb4TrtEu30m3vPtG2D7cP5FUfP0QEd0IfQsAG0YJHWAxQ_oOkFt-lv4yZoGMx2tQxxIzhBjm082ya&wd=&eqid=8a429c4000004a810000000358eb59f9" \t "_blank)

Credit system: 3 years

Brief Introduction

The Master program in [Electronics Science and Technology](http://www.baidu.com/link?url=2E4S69NfjOzzLK1E9U3he3N7LV_XPXBKuVZjR4eitUGiXx9y8Vg_pQK7X5kHWLUIgKXL2biZ-Jb4TrtEu30m3vPtG2D7cP5FUfP0QEd0IfQsAG0YJHWAxQ_oOkFt-lv4yZoGMx2tQxxIzhBjm082ya&wd=&eqid=8a429c4000004a810000000358eb59f9" \t "_blank) educates professional persons with the high level ability of teaching, researching and developing, managing in electronics science and technology. The Master of this program should well know the modern theory and specialist knowledge of [Electronics Science and Technology](http://www.baidu.com/link?url=2E4S69NfjOzzLK1E9U3he3N7LV_XPXBKuVZjR4eitUGiXx9y8Vg_pQK7X5kHWLUIgKXL2biZ-Jb4TrtEu30m3vPtG2D7cP5FUfP0QEd0IfQsAG0YJHWAxQ_oOkFt-lv4yZoGMx2tQxxIzhBjm082ya&wd=&eqid=8a429c4000004a810000000358eb59f9" \t "_blank). They should well know the new technology and development trend in VLSI, Embedded system, nano-electronic devices. They should have ability of analysis and solving the problem using experimental equipment.

Main Course

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program) , Papers Writing and Academic Standards, Matrix and Numerical Analysis, Equations of Mathematical Physics, Finite Element Method and Its Application, Fundamentals of semiconductor material and physics, Fundamentals of Semiconductor Device Physics, Semiconductor Manufacturing Technology and Facilities, Advanced Circuit Theory and Technology, CMOS Digital Integrated Circuits Design, Fundamentals of sensors and application, CMOS Radio Frequency IC Design, Testing Technology for IC

**计算机科学与技术 硕士**

专业名称：计算机科学与技术

学习期限：3年

专业简介

大连理工大学计算机科学与技术专业创建于1974年，目前拥有计算机科学与技术一级学科硕士点、一级学科博士点、博士后流动站，是大连理工大学“985”、 “211”工程重点建设学科之一，辽宁省一级重点学科。学院由计算机软件与理论研究所、物联网技术研究所、理论计算机科学研究所、计算机系统结构研究所组成，拥有1个国家工程实验室：计算机辅助设计国家地方联合工程实验室；1个辽宁省工程（技术）研究中心： 辽宁省物联网与协同感知工程技术研究中心；1个市工程技术研究中心：大连市车联网技术与应用工程技术研究中心。拥有一支高水平师资队伍，包括国家杰出青年获得者2人，国家百千万人才国家级人选1人，教育部新（跨）世纪人才3人。拥有国家级教学团队（主持），国家自然科学基金委创新群体（第二学科）各一个。近年来先后承担了国家杰出青年基金、国家自然科学基金重点项目、国家863 项目、国家科技支撑项目、国家重大研究专项等课题。

必修课：（专业核心课程）

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、矩阵与数值分析、数理统计、信号处理与数据分析、高性能计算、高级操作系统、算法设计与分析、高级计算机网络、人工智能、分布式数据库

**Computer Science and Technology**

Name of specialty: Computer Science and Technology

Credit system: 3 years

Brief Introduction

Founded in 1974, and having the first class of master and doctoral degree studies as well as including a postdoctoral research station, the discipline of Computer Science and Technology (CST) at Dalian University of Technology (DUT) is one of the key disciplines of DUT under the “985”and “211” projects, and the first class key discipline in Liaoning Province. There are four institutes in our school, i.e., Institute of Computer Software and Theory, Institute of Internet of Things, Institute of Theoretical Computer Science, and Institute of Computer Architecture. Currently, in the School, there are a National and Local Joint Engineering Laboratory of Computer Aided Design, an Engineering Technology Research Center of Internet of Things and Cooperative Sensing of Liaoning Province and an Engineering Technology Research Center of Vehicular Networking Technology and Applications of Dalian City. CST has a high-level team of academic staff. CST currently has 2 recipients of Distinguished Young Scholars Funding by National Natural Science Foundation of China (NSFC), 1 recipient of National Key Talents Award (national level), 3 recipients of New/Cross Century Talents Award (by the Ministry of Education). CST also accommodates one national teaching team (as principal investigator), and one innovation group of NSFC (the second discipline). CST has undertaken several national competitive funding such as the Distinguished Young Scholars Funding by NSFC, the key projects of NSFC, the national 863 projects, the National Science and Technology Support Projects, and the National Major Research Projects.

Main Course

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program) , Papers Writing and Academic Standards, Matrix and Numerical Analysis

Mathematical Statistics, Signal Processing and Data Analysis, High Performance Computing, Advanced Operating Systems, Algorithmic Design & Analysis, Advanced Computer Networks, Distributed Databases

**控制理论与控制工程 硕士**

专业名称：控制理论与控制工程

学习期限：3年

专业简介

本学科点由我国著名控制理论学者王众托院士为首的学术队伍创建于1956年，同年开始招收本科生，1986年开始培养硕士研究生，2000年开始培养博士研究生，2003年建立博士后流动站。“控制科学与工程”学科目前是一级学科博士点、博士后流动站、辽宁省重点学科。在全国第三轮学科评估中排名17。

本学科点具有很好的科研环境和高水平的实验平台，现拥有国家级、省部级、市级重点实验室8个。本学科现有教师51人，其中教授17人，博士生导师17人，副教授24人，具有博士学位教师43人。在高端人才方面，本学科有国家级有突出贡献的中青年专家、国家杰出青年基金获得者、教育部长江学者特聘教授和讲座教授、科技部中青年领军人才、国家“863”领域专家、优青基金获得者、千人计划及青年千人入选者等各类人才11人。

核心课程：

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范、矩阵与数值分析、优化方法、数理方程、数理统计、复变函数与积分变换、随机过程、数据结构与算法、信号处理与数据分析、计算机控制系统理论与设计、线性系统理论与设计、智能控制系统（双语）、系统辨识、面向对象编程技术、电网络理论、分布式数据库、传感器网络技术

**Control Science and Engineering**

Name of specialty: Control Science and Engineering

Credit system: 3 years

Brief Introduction

This discipline was established is in 1956 by an academic team led by the Academician Wang Zhongtuo, a famous scholar in the field of control theory, and began to recruit undergraduate since the same year. This discipline began to recruit master graduates in 1986 and PhD graduates in 2000. The postdoctoral research station was established in 2003. "Control Science and Engineering" is a first-level discipline doctoral program, postdoctoral research station and key discipline of Liaoning province, which ranked 17th in the third round national discipline evaluation.

This discipline has a good research environment and advanced experimental platform, and possesses 8 national, provincial and municipal key laboratories. Among the 51 staff members, there are 17 professors, 17 doctoral supervisors, 24 associate professors and 43 awarded with doctoral degrees. Among them, there are the national young and middle-aged experts with outstanding contributions, the winners of National Natural Science Funds for Distinguished Young Scholars, the Ministry of Education Yangtze River Scholars as distinguished professors and visiting professors, the MOST (Ministry of Science and Technology ) young and middle-aged leading talents, the national "863" field experts, the winners of National Natural Science Funds for Excellent Young Scholars, the National Thousand Talents Grogram Scholars, and so on.

Main Course:

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program) , Papers Writing and Academic Standards, Matrix and Numerical Analysis, optimization method, Equations of Mathematical Physics, Mathematical Statistics, Complex, Function and Integral Transformation, Stochastic Process, Data Structures and Algorithms, Signal Processing and Data Analysis, Computer Control System Theory and Design, Linear System Theory and Design, Intelligent Control Systems, System Identification, Object-Oriented Programming Technology, Electric Network Theory, Distributed Databases, Sensor Networks Technology

**生物医学工程 （硕士）**

专业名称：生物医学工程

学习期限：3年

专业简介

本学科是校内信息、力学、机械、化工、材料、生命、制药等相关力量交叉融合而发展起来的新兴学科。本学科在“985”工程和一流学科建设支持下，形成了较高水平的学科队伍和学科平台。本学科的定位与目标是：面向学科前沿、国家重大战略和地方经济需求，围绕人体健康信息监测与移动医疗、脑科学与脑疾病、生物材料与组织工程、药物工程等领域，融合信息、电子、力学、材料、医学、生物等学科的前沿技术，形成新型医学信息检测与仪器技术、新型医用材料与组织工程技术、新型制药工程技术，并促成新型重大疾病诊断与干预技术的实现。结合各类高层次创新型人才的培养，本学科力争建成我国、特别是东北地区生物医学工程领域的高水平科研创新与人才培养基地。

本学科致力于培养在生物、医学、工程交叉领域中能进行教学、科研、设计、管理等相关工程技术工作的复合型高层次人才。本学科培养的人才，将在生物医学工程领域掌握坚实的基础理论和系统的专业知识，具有较宽的知识面，具备从事本领域新技术的研究与开发能力；熟悉所从事研究方向的科学技术现状和动向，具有突出的实践和创新能力；较为熟练地掌握一门外语；具有一定理论分析、实验研究及计算机技术方面的能力。

必修课：（专业核心课程）

生物医学工程原理Ⅰ、生物医学信息技术、解剖生理学、高级脑功能成像技术、医学影像学、生物医学仪器原理与应用、生理流动与传质、细胞信息与调控、纳米技术与生物光学传感器

机器学习、生物医学工程行业前沿课、科技论文写作

**Biomedical Engineering**

Name of specialty: Biomedical Engineering

Credit system: 3 years

Brief Introduction

Biomedical Engineering (BME) at Dalian University of Technology is an emerging discipline, drawing on several relevant disciplines, such as information engineering, mechanical and chemical engineering, materials science, life sciences, and pharmaceutical engineering. With the guidance and financial support of the “211 project” and the “985 project, BME attracted highly skilled faculty from all over the world. Our main focus in the past few years has been pioneering high-impact research to serve the local economy in terms of the country's global strategy. While our research potential spans the full spectrum of biomedical engineering, the Department has been concentrating on human health information monitoring, portable medical devices, studies of the human brain and its diseases, biomaterials and tissue engineering, as well as pharmacological and pharmaceutical engineering. We intend to maintain that focus and strive for excellence in all these research areas as the Department grows. In the coming years, we expect to translate basic science into clinical and technological applications, particularly 1) the latest medical information detection and instrumentation technology; 2) new medical materials and tissue engineering; 3) new concept pharmaceutical engineering to help diagnosis of major diseases and effective intervention.

We offer rigorous BSc, MSc, and PhD programs that have long prepared our graduates for a wide range of career paths and leadership roles in academia, industry, and medicine. We would try our utmost to build a top-ranking discipline within our field for the benefit of our country, as a training and research center.

The educational program integrates biology, medicine and engineering and emphasizes the combined skills of teaching, research, design, management, and engineering. With a biomedical engineering degree, the students would 1) have solid knowledges of the basic theories and interdisciplinary skills, be able to pioneer at new technologies and capable of interdisciplinary research and development; 2) have extensive hands-on industrial/translational research experiences and creative problem-solving skills; 3) be proficient of a foreign language; 4) have independent analysis and research abilities and excellent computing skills.

Main Course

Compulsory courses :

Principles of Biomedical Engineering, Biomedical Information Technology, Anatomy and Physiology, Advanced Brain Functional Imaging Technique, Medical Imageology, Principle and Application of Biomedical Instrument, Physiological Flow and Mass Transfer, Cell Information and Regulation, Nanotechnology and Bio-Optical Sensor, Machine Learning, Industry Frontier Course in Biomedical Engineering, Scientific Paper Writing

**信息与通信工程 硕士**

专业名称：信息与通信工程

学习期限：3年

专业简介

本学科培养掌握通信与信息系统专业的坚实基础理论和系统的专门知识，具有从事通信与信息系统专业科学研究、教学和独立承担专门技术工作的高级专门人才。学位获得者应具备坚实的基础理论和较宽广的专业知识；了解本学科理论研究和工程技术的前沿动态；具有一定的理论研究及科学计算能力，能结合与本学科有关的实际问题从事工程研究。

必修课：（专业核心课程

矩阵与数值分析、数理统计、优化方法、数字图像处理、随机过程、面向对象编程技术、应用信息论基础、数字通信理论、数字信号处理

**Information and Communication Engineering**

Name of specialty: Information and Communication Engineering

Credit system: 3 years

Brief Introduction

The discipline aims to foster highly professional talented persons who master the basic theory and system expertise of communication and information system, engage in high-level professional scientific research, teaching and independent technical work of communication and information system. Degree holders should have a solid basic theory and a wide range of professional knowledge; understand the theoretical research and frontier engineering technologies; has a certain theoretical research and scientific computing ability, can engage engineering research on practical engineering problems.

Main Course

Compulsory courses :

Matrix and Numerical Analyses, Mathematical Statistics, Optimization Method, Digital Image Processing, Stochastic Process, Object-Oriented Programming Technology, Fundamentals of Applied Information Theory, Digital Communication Theory, Digital Signal Processing

**管理与经济学部 / Faculty of Management & Economics**

**工商管理 硕士 （英文授课）**

专业名称：工商管理

学习期限：3年

专业简介

工商管理学科目前用有创新与创业、运营管理、环境管理、会计学、战略管理、营销管理、人力资源、投资管理、项目管理、旅游管理等多个学科方向，是国家“211工程”、“985工程”和辽宁省重点建设学科的支持学科。

学科具有跨世纪人才、教育部优秀青年等中青年教师队伍，学术队伍近70人。拥有省部级研究中心、省部级研究基地和省部级重点实验室。

必修课：（专业核心课程）

中国文化概论、汉语言基础、论文写作与学术规范、统计分析方法、管理思想发展史、实证与定量研究方法、工商管理质性研究方法、管理学、财务管理、技术管理、人力资源管理、市场营销学、企业资源与管理信息化、工商管理诊断分析

**Business Administration (English-medium)**

Name of specialty: Business Administration

Credit System: 3 years

Brief Introduction

The discipline of Master of Business Administration is designed to offer the following study major areas: Innovation and entrepreneurship, Operations management, Environment management, Accounting, Strategy Management, Marketing management, Human resource management, Investment management, Project management, and Tourism Management, which are all received direct support from the national “Project 211” and “Project 985,” as well as Liaoning provincial key study discipline construction program.

The study discipline area consists of a top-notch of teaching and research team which includes about 70 faculty member and some of them are the cross-century talents, the best young scholars selected and nominated by the Ministry of Education. The program also has the provincial and ministerial research centers, modern research facilities and key research laboratories.

Main Course

Compulsory courses :

Overview of Chinese Culture, Basic Chinese, Papers Writing and Academic Standards, Introduction of Statistics, The History of Management Theory, Empirical Method and Quantitative Method, Qualitative Method, Advanced Management, Financial Management, Management of Technology, Human Resource Management, Marketing, Enterprise Resources Management and Information System, Business Consulting and Case Analysis

**管理科学与工程 硕士**

专业名称：管理科学与工程

学习期限：3年

专业简介

本学科点是管理学门类的一级学科硕士点，是由中国工程院院士、国务院学位委员会学科评议组成员、长江学者、国家杰出青年基金获得者等教授们和优秀中青年教师组成的综合性学术队伍培养研究生。具有良好的国际学术交流与合作基础。研究课题包括国际合作重大项目、自然科学基金重大项目、自然科学基金重点项目以及“863计划”、国家“攻关计划”项目等。

管理科学与工程一级学科在管理与经济学部下设2个专业：管理科学与工程、信息管理与电子政务；在盘锦校区商学院下设1个专业：工程管理。

必修课：（专业核心课程）

中国文化概论、汉语言基础、论文写作与学术规范、优化方法、系统工程、管理学（高级课程）、风险分析与控制、系统科学、决策支持系统与知识工程、系统数学、运筹学（双语）、多元统计分析、演化博弈论

**Management science and engineering**

Name of specialty: Management science and engineering

Credit System: 3 years

Brief Introduction

Management Science and Engineering is the national “Level-I” master degree program in management category . The comprehensive teaching and research team consists of academician, member of China Engineering Academy, Cheung Kong Scholars of Ministry of Education, judge members of the academic Degree Committee of the State Council and the Winners of the “National Outstanding Youth Foundation”, which provides a solid foundation for international cooperation and communication. The research subjects include major international cooperation projects, Natural Science Foundation major projects，Natural Science Foundation main projects,” 863 Plan”, as well as national “Tackling Key Problems Programs”.

The Disciplines of Management Science and Engineering consist of Management Science and Engineering, Information Management and E-government in the main campus under the Faculty of Management and Economics. The Engineering Management is under the School of Business in Panjin campus.

Main Course

Compulsory courses :

Overview of Chinese Culture, Basic Chinese (For Chinese-taught master program), Papers Writing and Academic Standards, Optimization Method, Introduction to Systems Engineering, Advanced Management, Risk Analysis and Control, System Science, Decision Support System and Knowledge Engineering, System Mathematics, Operational Research (Bilingual Teaching), Multivariate Statistical Analysis, Evolutionary Game Theory

**应用经济学 硕士**

专业名称：应用经济学

学习期限：3年

专业简介

本学科旨在为企业、金融机构、咨询公司和政府部门培养高级产业经济、金融及国际贸易人才，为大学和研究机构培养相关专业的硕士研究生，为高等学校培养经济管理类专业的教学与研究人员。下设有辽宁省工业企业自主创新研究中心和辽宁现代服务业发展研究基地。目前招生的硕士专业包括产业经济学、金融学和国际贸易学，有以获国务院政府津贴为代头人的教授领导的中青年学术队伍30余人。

必修课：（专业核心课程）

中国文化概论、汉语言基础、论文写作与学术规范、统计分析方法、高级宏观经济学、高级微观经济学、高级计量经济学、经济学研究方法、高级国际经济学、产业组织理论、货币金融学、制度经济学

**Applied Economics**

Name of specialty: Applied Economics

Credit System: 3 years

Brief Introduction

 Applied Economics is aimed at provide senior talents for the advanced industry, finance and international trade to the enterprises, financial institutes, consultant firms and the government. To turn out distinguish graduate students, teachers and researchers is also the goal of Applied Economics. It has the liaoning industrial enterprise independent innovation research center and liaoning modern service industry development research base. Until now, it has the master degree program in industrial economics, finance, international trade. The young teaching and research team headed by the professor with special government allowance is the solid foundation to the development of the subject.

Main Course

Compulsory courses :

Overview of Chinese Culture, Basic Chinese (For Chinese-taught master program), Papers Writing and Academic Standards, Introduction to Statistics, Advanced Macroeconomics, Advanced Microeconomics, Advanced Econometrics, Methods for Economic Research, Advance International Economics, Theory of Industrial Organization, Economics of Money & Finance, Institutional Economics

**化工与环境生命学部 / Faculty of Chemical, Environmental & Biological Science & Technology**

**化学（英文授课）硕士**

专业名称：化学

学习期限：3年

专业简介

大连理工大学化学学科为省重点学科，拥有化学一级学科博士点，涵盖无机化学、分析化学、有机化学、物理化学和高分子化学与物理、化学生物学六个二级学科，并建有化学博士后科研流动站。化学学科师资力量雄厚，承担了众多国家基金项目，研究领域涵盖了现代化学的各主要领域，并注重与化工、环境、生命等学科的交叉，彰显工科化学的研究特色。

必修课：

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、数理方程、数理统计、生物化学 A II（双语）、物理有机化学（双语） 、化学品安全与法规（双语）、有机合成策略（双语）、先进功能材料（双语）、合成化学（双语）、催化科学与技术（双语）

选修课：

有机结构分析 II（双语）、绿色化学与化工（全英文）、计算化学导论（双语）、生物有机化学（双语）、超分子化学与传感（双语）、金属酶与生物模拟（双语）、污染控制化学（双语） 、界面化学与应用（双语）

**Master of Chemistry in English**

Name of specialty: Chemistry

Credit system: 3 years

Brief Introduction

The chemistry program at DUT is a provincially key discipline. While it has PhD programs in six secondary [discipline](http://www.baidu.com/link?url=DRVmXLwnTBttDAQZQsqAMGVswFfHLloXX1ptFeFvAgxdfoc6vH0AJwCcmvgiAX5gna8AMRh4dt-0eunfLSklm1G7HXjfZ3iGhsTfe9gusCi0Tvs5bSsA43Go4bEMp8qF" \t "_blank)s, i.e., inorganic chemistry, analytical chemistry, organic chemistry, physical chemistry, polymer chemistry and physics, and chemical biology, it also has a chemical research station for postdoctoral researchers. The internationally leading faculty and staffs have been in charge of many nationally-funded projects. Their research interests cover core fields of modern chemistry and emphasize the interdisciplinary research programs involving these fields and chemical engineering, environmental science and engineering, and life science, highlighting the characteristics of engineering chemistry.

Main Course

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program), Papers Writing and Academic Standards, Equations of Mathematical Physics, Mathematical Statistics, Biochemistry A II, Physical Organic Chemistry, Chemical Safety and Regulations, Organic Synthesis Strategy, Advanced Functional Materials, Synthesis Chemistry, Catalysis Science and Technology

Selective courses:

Organic Structure Analysis II, Green Chemistry and Technology, Introduction to Computational Chemistry, Bioorganic Chemistry, Supramolecular Chemistry and Molecular Sensing, Metalloenzymes and Biomimetic Models, Chemistry on Pollution Control, Interface Chemistry and Applications, Laser Photochemistry

**药学 硕士**

专业名称：药学

学习期限：3年

专业简介

药学硕士学位点于2010年批准设立，研究方向涉及药物合成化学、天然药物化学、药物分子设计、药物输送系统、生物制药和药理毒理学等。研究内容包括小分子药物先导化合物的设计、合成及天然活性成分的发现；探索药物合成的反应机理、药物评价新方法及药物分子作用机制。本学科师资力量雄厚，现有双聘院士1人，教师队伍具有广阔的国际视野。近五年来参与和完成与学科相关的国家和省部级科研项目20余项，多项国家重大新药创制专项、国家支撑计划、国际合作和校企联合研究项目，申请国际和国家发明专利30余项。本学科重点培养学生掌握新药研发的基本原理和方法，包括天然活性化合物的发现、药物分子设计、药物合成、药理和毒理学评价、药物输送和质量控制等。毕业生具备新药研发的知识和技能，能在教学、科研及药物生产企业从事药品研发、生产、管理等工作。

必修课：（专业核心课程）

物理有机化学、药物化学原理、现代分析化学、天然药物研究与开发、物理药学与药物输送

**Pharmaceutical Engineering**

Name of specialty: Pharmacy

Credit system: 3 years

Brief Introduction

In 2010, Dalian University of Technology has received the first level master’s degree in pharmacy discipline. This field includes drug synthesis chemistry, natural medicinal chemistry, drug design, drug delivery systems, biopharmaceuticals and pharma-toxicology. The research focuses on the design and synthesis of small-molecule lead compounds, discovery of natural active ingredients, and development of drug-related new theories, new technologies, and new reactions. Furthermore, this research also encompasses both the reaction mechanism elucidation and a quest for new active targets. Our faculties are well qualified, trained and dedicated and also have a broad international perspective. One of them is an academician of both Chinese Academy of Sciences and Chinese Academy of Engineering. During the last five years, more than 20 drug-related research projects have been conducted and completed by our faculties. These projects are national major new research projects, national supported programs, and international cooperation and university-enterprise joint research projects. It is also worth mentioning that more than 30 international and national invention patents have also been applied. We focus on students’ training about the basic principles and methods for drug R&D, including the discovery of natural active compounds, drug design, drug synthesis, pharmacological and toxicological evaluation, drug delivery and quality control. Our graduates are expected to have basic knowledge and skills for the R&D of new drugs and are capable of teaching and conducting research as well. The graduates would be skillful candidates for rendering their services in pharmaceutical companies and also can engage in drug-related R&D, production, and management.

Main Course

Compulsory courses :

Physical Organic Chemistry, Principle of Medicinal Chemistry, Advanced Analytical Chemistry, Research and Development of Natural Medicine, Physical Pharmaceutics and Drug Delivery System

**机械工程学院 / School of Mechanical Engineering**

**机械工程（英文授课）硕士**

专业名称：机械工程

学习期限：3年

专业简介

经过多年的发展，本学科形成了一支由两院院士领衔的高层次领军人才团队，建立起知识结构新、学术思想活跃的中青年学术梯队。拥有1个国家创新群体、1个科技部重点发展团队、1个教育部创新团队和1个国家级教学团队。拥有“辽宁重大装备制造”国家级协同创新中心、教育部首批重点建设的工程训练中心（教育部国家级实验教学示范中心学科组组长单位）、精密/特种加工教育部重点实验室和教育部国防重点实验室、微纳米技术及系统辽宁省重点实验室、模塑制品教育部工程研究中心、辽宁省起重机械工程技术研究中心、车辆先进设计制造研究中心等国家级、省部级教学科研基地。

必修课：

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、矩阵与数值分析、数理统计、数理方程、统计分析方法、高等流体力学、有限元方法与应用、数据结构与算法、微纳米制造技术、工程设计优化、机械强度、先进制造技术

**Master of Mechanical Engineering in English**

Name of specialty: Mechanical Engineering

Credit system: 3 years

Brief Introduction

After years of effort, this subject has become a leading academic team leaded by two academicians of Chinese Academy of Science and Chinese Academy of Engineering and formed a young and mid-career academic echelon with new knowledge structure and active academic thinking. There are one national innovation group, one key group awarded by the Ministry of Science and Technology, one innovation group awarded by the Ministry of Education (MOE) and one national teaching group, the National Collaborative Innovation Center of Major Machine Manufacturing in Liaoning, the engineering training center which is one of the first group of key construction of Ministry of Education, the Key Laboratory for Precision and Non-traditional Machining of Ministry of Education, the National Defence Key Laboratory of the Ministry of Education, and Liaoning Provincial Key Laboratory for Micro/Nano Technology and System, and Engineering Research Center for Mould & Plastics of Ministry of Education, Engineering Research Center for Hoisting Machinery of Liaoning Province and Research Center of Advanced Design and Manufacturing of Vehicle.

Main Course

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program), Papers Writing and Academic Standards, Matrix and Numerical Analysis, Mathematical Statistics, Equations of Mathematical Physics, Introduction to Statistics, Advanced Fluid Mechanics, Finite Element Method and Its Application, Data Structures and Algorithms, Micro and Nanomanufacturing Technology, Design Optimization in Engineering, Mechanical Strength, Advanced Manufacturing Technology

**仪器科学与技术（英文授课）硕士**

专业名称：仪器科学与技术

学习期限：3年

专业简介

经过多年的发展，本学科建立一支由中国科学院院士领衔的师资队伍。设有1个教育部重点实验室、1个教育部国防重点实验室、1个辽宁省重点实验室、1个省部级工程研究中心。近五年，完成和承担各类科研项目80余项。获国家技术发明奖1项、省部级奖8项；授权国家发明专利58项；发表学术论文400余篇，其中SCI收录108篇。

必修课：

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、矩阵与数值分析、数理统计、数理方程、统计分析方法、高等流体力学、有限元方法与应用、数据结构与算法、纳米技术基础、仿生学与功能表面制造技术、精密机械误差分析与控制、液压控制系统分析与设计

**Master of Instrument Science and Technology in English**

Name of specialty: Instrument Science and Technology

Credit system: 3 years

Brief Introduction

After years of effort, this subject has a high-level teaching staff leaded by one academician of Chinese Academy of Science. This subject has one key laboratory of the Ministry of Education, one National Defence Key Laboratory of the Ministry of Education, one Liaoning Provincial key laboratory and one engineering research center of Liaoning province. Over the 5 years, 80 research projects have been completed and undertaken. One state technological invention award and 8 provincial or ministerial science & technology awards and 58 national patents were obtained. 400 academic papers were published, 108 of which are indexed by SCI.

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program), Papers Writing and Academic Standards, Matrix and Numerical Analysis, Mathematical Statistics, Equations of Mathematical Physics, Introduction to Statistics, Advanced Fluid Mechanics, Finite Element Method and Its Application, Data Structures and Algorithms, Introduction on Nanotechnology, Bionics and the Manufacturing Technology of Functional Surfaces, Precision Mechanical Error Analysis and Control, Hydraulic Servo System Analyzing and Design

**材料科学与工程学院 / School of Materials Science & Engineering**

**材料科学与工程 硕士**

专业名称：材料科学与工程

学习期限：3年

专业简介

本学科点创建于1958年，全国第一批获准设立的硕士点，并分别于1984年和1993年被批准为博士点。1992年材料科学与工程获准设立博士后科研流动站，2001年获批材料科学与工程一级学科博士点。设有材料加工工程、材料学、材料物理与化学3个二级学科博士点，自主设置材料表面工程、材料连接技术和高分子材料3个二级学科博士点及材料无损检测与评价1个二级学科硕士点。2008年材料科学与工程成为辽宁省一级重点学科。

拥有1个教育部科研创新团队，1个教育部重点实验室，3个辽宁省重点实验室、1个辽宁省高校重点实验室及2个辽宁省技术研究中心。下设大连理工大学材料测试分析中心，现有高分辨透射电镜、扫描电镜、电子探针、DSC差热分析仪、X射线衍射仪、荧光X射线光谱仪、超导强磁场等高端检测分析设备。2006年获批为“辽宁省高等学校重点学科领域研究生培养基地”。

本学科形成了等离子体与载能束材料改性、绿色连接技术与装备、有色合金电磁铸造、太阳能光伏材料、材料设计及应用、材料加工过程计算机应用等重点研究方向。近五年获得发明专利89项，成果转化40项，科研成果获得国家技术发明二等奖2项，省部级奖一、二等奖16项，省部级鉴定成果16项。“高导电铝合金材料”被列为“西气东输”和“三峡工程”指定产品。“材料电磁加工技术”成果鉴定为国内首创，达到国际领先水平，参与研制的新型高导高强接触线已应用于京-沪高铁。“低铬奥氏体不锈钢焊接材料”产品列入国家行业标准，并在国内石化企业推广应用。激光－氩弧镁合金焊接技术在国内建立多家产业化基地。开发的冶金法多晶硅制备技术，被国内多家企业应用，冶金法多晶硅产品被列为国家新材料产业“十二五”重点产品，并拥有太阳能光伏系统示范基地。作为首席单位承担的973项目“核主泵的制造关键科学问题”为核电产品制造提供关键技术。

必修课：

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、矩阵与数值分析、数理统计、数理方程、复变函数与积分变换、材料微结构分析方法、材料强度学、材料成形理论、计算材料学、纳米材料学、材料工程计算机应用、电子显微学实验

**Master of Materials Science and Engineering**

Name of specialty: Materials Science and Engineering

Credit system: 3years

Brief Introduction

This discipline was established in 1958. It was one of the first batch of master degree sections in China, and was approved of granting doctoral degree in 1984. The discipline of materials science and engineering was approved of establishing post-doctoral research station in 1992 and doctoral degree site of the first level discipline of materials science and engineering in 2001. It owns three doctoral degree sites with second level discipline, including material processing engineering, materials science, material physics and chemistry, and four independently set up doctoral degree sites with second level discipline, including material surface engineering, material joining technology, polymer materials, and nondestructive testing and evaluation of materials. The discipline of materials science and engineering became the first level key discipline of Liaoning province in 2008.

The discipline site owns one research innovation team of the ministry of education, one key laboratory of the ministry of education, three key laboratories of Liaoning province, one key laboratory of colleges and universities in Liaoning province, and two technology research center of Liaoning province. Materials Test and Analysis Center of Dalian University of Technology has high-ranking analysis equipments, including high resolution transmission electron microscope, scanning electron microscope, electron probe microanalyzer, differential thermal analyzer, X-ray diffractometer, fluorescence X-ray spectrometer, and superconducting high magnetic field. In 2006, the center was granted “Postgraduate Cultivating Base of the Key Discipline Area in Liaoning Province”.

Several key research directions have been established in this discipline, including Materials Modification by Plasma and Energetic Beams, Green Joining Technology and Equipments, Electromagnetic Casting of Non-Ferrous Alloys, Solar Energy Photovoltaic Materials, Materials Design and Application, and Computer Application for Material Processing. In recent five years, the discipline has obtained 89 invention patents, 40 achievement transformations, 2 second prizes of national technological invention, 16 first or second prizes of provincial and ministerial level, and 16 appraised achievements. “High Conductive Aluminum Alloy Material” was listed as designated products for “West-East Pipeline Project” and “Three Gorges Project”. “Material Electromagnetic Processing Technology” with international leading level was appraised as national initiative. This technology has been involved in developing a new type of high conductive, high strength contact line, which has been applied in the high-speed rail from Beijing to Shanghai. The product of “Low Chromium Austenitic Stainless Steel Welding Material” was identified as national industry standard, and widely applied in domestic petrochemical enterprises. A number of industrialization bases in domestic have been established using Laser-argon arc welding technology of Magnesium alloys. Polycrystalline silicon prepared from the metallurgical technology has been applied in a number of domestic enterprises. The poly-Si was listed as key product of national new material industrial during the 12th 5-years-plan. Meanwhile, it has established a demonstration base of solar energy photovoltaic system. As chief executive unit, the discipline site is undertaking a 973 project of “Key scientific problems of nuclear main pump manufacture”.

Main Courses

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program) , Papers Writing and Academic Standards , Matrix and Numerical Analysis

Mathematical Statistics, Equations of Mathematical Physics, Complex Function and Integral Transformation, Materials Microstructure Analysis, Principles of Materials Strength, Essentials of Materials Processing, Computational Materials Science, Nanomaterials, Computer Applications on Materials Processing Engineering, Practical Electron Microscopy

**建设工程学部 / Faculty of Infrastructure Engineering**

**土木工程（英文授课）硕士**

专业名称：土木工程

学习期限：3年

专业简介

大连理工大学土木工程专业在国内外的科研界和教育界享有较高声誉，在全国的土木工程专业排名中名列第8。近年来，本专业的科研人员每年获得4000多万的科研经费。该专业主要有以下八个研究方向：岩土工程，结构工程，防灾减灾工程及防护工程，桥梁与隧道工程，市政工程，供热、供燃气、通风及空调工程，建筑材料、工程管理。

主要课程

必修课：

矩阵与数值分析、数理统计、数理方程、非线性分析、数据结构与算法、连续介质力学、结构动力学、高等流体力学、有限元方法与应用、土动力学、随机振动、地震工程、弹塑性力学、结构可靠度、高等工程热力学、高等传热学、建设项目风险管理、智能材料与结构、建筑功能材料

选修课：

超高层建筑结构、钢结构稳定设计、大型结构分析CAE软件应用、工程结构振动控制、结构健康监测与损伤诊断、高等钢筋混凝土结构、近代抗震技术、岩土工程建模与分析

**Master of Civil Engineering in English**

Name of specialty: Civil Engineering

Credit system: 3 years

Brief Introduction

Civil Engineering in Dalian University of Technology (DUT) enjoys a high reputation both at home and abroad for its excellent performance in both research and education; it is the 8th ranking of civil engineering in China. In recent years, more than 40 million CNY worth of research grants each year has been won by the academic staff of civil engineering. The DUT civil engineering focuses its research effort mainly on eight fields, geotechnical engineering, structural engineering, disaster prevention mitigation and protection engineering, bridge and tunnel engineering, municipal engineering, heating, gas supply, ventilating and air conditioning engineering, construction materials, and engineering management.

Main Course

Compulsory courses :

Matrix and Numerical Analysis, Mathematical Statistics, Equations of Mathematical Physics, Nonlinear Analysis, Data Structures and Algorithms, Continuum Mechanics, Structural Dynamics, Advanced Fluid Mechanics, Finite Element Method and Its Application, Soil Dynamics, Random Vibration, Earthquake Engineering, Elasticity and Plasticity, Structural Reliability, Advanced Engineering Thermodynamics, Advanced Heat Transfer, Construction Project Risk Management, Smart Materials and Structures, Functional Materials of Construction

Selective courses:

Ultra High-rise Building Structures, Stability Design of Steel Structures, CAE Software Applications for Structural Analysis of Large Structures, Vibration Control in Engineering Structures, Structural Health Monitoring and Damage Diagnosis, Advanced Topics on Reinforced Concrete Structures, Advanced Aseismic Technique, Geotechnical Engineering Modeling and Analysis

**水利工程（英文授课）硕士**

专业名称：水利工程

学习期限：3年

专业简介

大连理工大学水利工程专业是国家一级重点学科，目前已发展成为具有广泛影响力的国际知名学科。水利工程一级学科下包含五个二级学科，即港口、海岸及近海工程，水工结构工程，水文学及水资源，水力学及河流动力学和水利水电工程。经过半个多世纪的发展，本学科形成了海洋环境动力学、水工和核电结构抗震、水利水电资源高效利用等特色研究团队，取得了多项达到国际顶尖水平的研究成果，在工程实践中取得显著的经济与社会效益。

研究方向：

水文学及水资源、水力学及河流动力、水工结构工程、水利水电工程、港口、海岸与近海工程

主要课程

必修课：

中国文化概况（英文授课）、汉语听说基础（英文授课的国际博士选课）、论文写作与学术规范、矩阵与数值分析、数理统计、数理方程、非线性分析、数据结构与算法、连续介质力学

结构动力学、高等流体力学、有限元方法与应用、结构健康监测与损伤诊断、土动力学、道路材料非连续计算理论、高等工程热力学、高等传热学、建设项目风险管理、建筑功能材料

选修课：

随机振动、现代混凝土与纤维复合材料、近代抗震技术、岩土工程建模与分析、路面结构行为理论、可再生能源与海上风力发电、中国科学技术史（英文授课）

**Master of Hydraulic Engineering in English**

Name of specialty: Hydraulic Engineering

Credit system: 3 years

Brief Introduction

Hydraulic Engineering in Dalian University of Technology (DUT) enjoys a high prestige both nationally and internationally for its excellent performance in both research and education. It comprises 5 secondary disciplines, namely Harbor, Coastal and Offshore Engineering, Hydraulic Structure Engineering, Hydrology and Water Resources, Hydraulics and River Dynamics and Hydraulic and Hydropower Engineering. After more than 50 years of effort, Hydraulic Engineering has established its unique and distinct strengths in Marine environmental dynamics, Seismic fortification of hydraulic and nuclear power structures, and Efficient utilization of water and hydropower resources, and has gain a series of internationally leading achievements in scientific research. And substantial economic and social benefits have been achieved in the engineering practice, making notable contributions to the world.

Research directions:

Hydrology and Water Resources

Hydraulics and Fluvial Dynamics

Hydraulic Structure Engineering

Water Resources and Hydraulic Engineering

Harbor, Coastal and Offshore Engineering

Main Course

Compulsory courses:

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program), Papers Writing and Academic Standards, Matrix and Numerical Analysis, Mathematical Statistics, Equations of Mathematical Physics, Nonlinear Analysis, Data Structures and Algorithms, Continuum Mechanics, Structural Dynamics, Advanced Fluid Mechanics, Finite Element Method and Its Application, Structural Health Monitoring and Damage Diagnosis, Soil Dynamics, Discontinuous Computing Theory of Road Materials, Advanced Engineering Thermodynamics, Advanced Heat Transfer, Construction Project Risk Management, Functional Materials of Construction

Selective courses:

Random Vibration, Modern Concrete and Fiber Composite Materials, Advanced Aseismic Technique, Geotechnical Engineering Modeling and Analysis, Behavior theory of Pavement Structures, Renewable energy and the technology of offshore wind energy, History of Science and Technology in China (English-taught)

**建筑与艺术学院 / School of Architecture & Fine Arts**

**设计学 硕士**

专业名称：设计学

学习期限：3年

专业简介

设计学硕士学位点下设3个研究方向：

 1、环境设计及其理论

 本方向分为物质形态和意识形态研究两个方面。物质形态主要是指构成环境景观的物质要素；意识形态主要是指影响指导人们行为的精神因素。研究的任务在于创作出优化的“人类——环境系统”，展现人类与环境的共存，人类与环境在新的高层次的平衡和发展。

 2、工业设计及其理论

 本方向以艺术的表现力和科学技术的支持为基础，在考虑到人类生理和心理的同时，通过对文化、社会、经济等因素的解析，满足人类多样化需求的一种具体的表现形式。培养学生把具有吸引力的构想和高度的科学技术要素结合，为人类生活提供具体的产品和服务。

 3、视觉传达设计及其理论

 本方向体现视觉思维、视觉语言在多媒介中的具体应用。研究领域主要包括：视觉语言研究、平面设计及其理论研究、设计文化与数字符号研究、策划及设计管理研究等，是集艺术学、社会学、管理学、经济学、文化人类学、民俗学、计算机技术等多学科交叉的研究领域。

必修课：

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、设计史、设计学理论、设计美学、设计方法论、环境设计研究（一）、环境设计研究（二）、产品设计研究（一）、产品设计研究（二）、视觉传达设计研究（一）、视觉传达设计研究（二）

**Design**

Name of specialty: Design

Credit system: 3 years

Brief Introduction

There are three research directions in the master degree of design:

    1, environmental design and theory

    This direction is divided into two aspects: material form and ideology. The material form mainly refers to the material elements that make up the interior environment and landscape; the ideology mainly refers to the spiritual factors that influence the behavior of humanity. The task of research is to create an optimized "human-environment system" that shows the coexistence of mankind and the environment, the new high-level balance and development of mankind and the environment.

    2, industrial design and theory

    This direction is based on the expression of art and the support of science and technology, taking into account the human physiology and psychology at the same time, through the cultural, social, economic and other factors to meet the needs of human diversity needs of a specific form of expression. Train students to combine attractive ideas and a high degree of scientific and technical elements to provide concrete products and services for human life.

    3, visual communication design and theory

    This direction reflects the visual thinking, visual language in the specific application of multimedia. The research areas include: visual language research, graphic design and its theoretical research, design culture and digital symbol research, planning and design management research, is a set of art, sociology, management, economics, cultural anthropology, folklore , computer technology and other interdisciplinary research areas.

Main Course

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program), Papers Writing and Academic Standards, History of Design, Design Theory, Aesthetics in Design, Methods for Design, Environmental Design I, Environmental Design Ⅱ, Product design I, Product design Ⅱ, Visual Communication I, Visual Communication Ⅱ

**外国语学院 / School of Foreign Languages**

**日语语言文学 硕士**

专业名称：日语语言文学

学习期限：3年

专业简介

本学科经过多年的建设与发展,形成了相对稳定的研究方向。本学科研究方向包括日语语言学、日本文学、日本文化、翻译。日语语言学方向包括中日语言对比研究、日语语法学研究、二语习得研究、社会语言学研究。日本文学方向包括日本韵文学、中日诗歌比较研究、日本近现代文学研究。日本文化方向包括跨文化言语行为研究、跨文化交际能力研究、文化习得与文化教学研究。翻译方向包括基于语料库的翻译教学研究、行政领域涉外翻译研究。

必修课：（专业核心课程）

日本思想与文化（日）Japanese Thought and Culture（Japanese）

翻译研究（日）Translation Studies（Japanese）

日本近代文学（日）Modern Japanese Literature（Japanese）

日语语言学（日）Japanese Linguistics（Japanese）

语言习得（日）Language Acquisition（Japanese）

日本语言文化（日）Japanese Language and Culture（Japanese）

学术研究方法（日）Research Methods（Japanese）

经典文献导读（日）Selected Academic Readings（Japanese）

**Postgraduate Program: Japanese Linguistics and Literature**

Discipline: Japanese Linguisctics and Literature

Credit System: 3 years

Brief Introduction

After years of effort, this discipline has set up a steady system of 4 research orientations: Japanese Linguistics, Japanese Literature, Japanese Culture and Translation Studies. Japanese Linguistics includes the comparative studies of Chinese and Japanese language, Japanese grammar studies, second language acquisition and social linguistics. Japanese Literature focuses on the study of Japanese verse, the comparative study of Chinese and Japanese poetry and modern and contemporary Japanese literature. Japanese Culture covers intercultural speech act studies, intercultural communication studies, culture acquisition and culture teaching studies. Translation Studies includes translation teaching studies based on corpus and the study of foreign affairs translation in the administrative field.

Compulsory courses (core courses) :

Japanese Thought and Culture（Japanese）

Translation Studies（Japanese）

Modern Japanese Literature（Japanese）

Japanese Linguistics（Japanese）

Language Acquisition（Japanese）

Japanese Language and Culture（Japanese）

Research Methods（Japanese）

Selected Academic Readings（Japanese）

**英语语言文学 硕士**

专业名称：英语语言文学

学习期限：3年

专业简介

经过多年发展，本学科在科学研究、人才培养等方面，形成了自己的鲜明特色。本学科包括文学哲学、西方文论、英美文学、英语语言学、国别研究5个学科方向。文学哲学方向包括文学哲学理论研究、文学诠释学研究、诗学研究、小说哲学研究。西方文论方向包括西方文论研究、后现代主义文论研究和马克思主义文论研究。英美文学方向包括英国现当代文学研究、美国现当代文学研究、英美诗歌研究。英语语言学方向包括语用语篇分析、语用语法化研究、医患语篇、法庭会话语篇交际模式研究、形态学、语义学研究。国别研究包括文化外交研究、区域安全研究和国别研究3个研究方向。

必修课：（专业核心课程）

西方思想史（英）（History of Western Thought）

普通语言学（英日俄）（General Linguistics）

语义学（英）（Semantics）

心理语言学（英）（Psycholinguistics）

语篇分析（英）（Discourse Analysis）

语用学（英）（Pragmatics）

教学论（英）（Pedagogy）

语言学研究方法（英）（Research Method in Linguistic Studies）

语言哲学（英）（Philosophy of Language）

翻译研究（英）（Translation Studies）

口译研究（英）（Interpreting Studies）

文学翻译（英）（Literary Translation）

翻译研究方法（英）（Research Methods in Translation Studies（English）

**Postgraduate Program: English Linguistics and Literature**

Discipline: English Linguistics and Literature

Credit System: 3 years

Brief Introduction

After years of effort, this discipline has taken on its own characteristics in academic research, talent cultivation, etc. It covers five disciplinary orientations, namely, Literature and Philosophy, Western Literary Criticism, British and American Literature, English Linguistics and Cross-nation Studies. Literature and Philosophy focuses on theoretical literary philosophy studies, literary hermeneutics studies, poetics studies and novel philosophy studies. Western Literary Criticism focuses on western literary criticism studies, post-modern literary criticism studies and Marxist literary theory studies. British and American Literature focuses on modern and contemporary British literature, modern and contemporary American literature and British and American Poetry. English Linguisticsfocuses on pragmatic discourse analysis, pragmatic grammar studies, communicative patterns studies of doctor-patient discourse and courtroom discourse as well as morphology and semantics studies. Cross-nation Studies focuses on cultural diplomacy, regional security and cross-nation studies.

Compulsory courses (core courses):

History of Western Thought (English)

General Linguistics (English, Japanese, Russian)

Semantics (English)

Psycholinguistics (English)

Discourse Analysis (English)

Pragmatics (English)

Pedagogy (English)

Research Method in Linguistic Studies (English)

Philosophy of Language (English)

Translation Studies (English)

Interpreting Studies (English)

Literary Translation (English)

Research Methods in Translation Studies (English)

**外国语言学及应用语言学 硕士**

专业名称：外国语言学及应用语言学

学习期限：3年

专业简介

经过多年的发展，本学科建立起学术方向多元、专业门类齐全的学科体系。本学科涵盖英语、日语和俄语三个语种的语言学、应用语言学和翻译学3个研究领域。英语语言学领域包括语义学、语用学、认知语言学、句法学、当代话语和翻译学6个研究方向；英语应用语言学方包括应用语言学理论、跨文化交际、二语习得、心理语言学、认知神经语言学、英语教学法、英语教学大纲设计、教材编纂和语言测试9研究方向。翻译学领域包括典籍英译、典籍英译的理论与实践研究、中国典籍汉英双语、多语语料库的构建与应用研究3个研究方向。日语语言学方向包括为中日语言对比研究、日语语法学、二语习得、社会语言学、跨文化言语行为研究和跨文化交际能力研究6个研究方向。俄语语言学方向包括应用语言学理论、语用学、词汇学、修辞学、跨文化言语行为理论和跨文化交际沟通6个研究方向。

必修课：（专业核心课程）

西方思想史（英）（History of Western Thought）

普通语言学（英日俄）（General Linguistics）

语义学（英）（Semantics）

心理语言学（英）（Psycholinguistics）

语篇分析（英）（Discourse Analysis）

语用学（英）（Pragmatics）

教学论（英）（Pedagogy）

语言学研究方法（英）（Research Method in Linguistic Studies）

语言哲学（英）（Philosophy of Language）

翻译研究（英）（Translation Studies）

口译研究（英）（Interpreting Studies）

文学翻译（英）（Literary Translation）

翻译研究方法（英）（Research Methods in Translation Studies（English）

日本思想与文化（日）Japanese Thought and Culture（Japanese）

翻译研究（日）Translation Studies（Japanese）

日本近代文学（日）Modern Japanese Literature（Japanese）

日语语言学（日）Japanese Linguistics（Japanese）

语言习得（日）Language Acquisition（Japanese）

日本语言文化（日）Japanese Language and Culture（Japanese）

学术研究方法（日）Research Methods（Japanese）

经典文献导读（日）Selected Academic Readings（Japanese）

语言国情学（俄）Linguistic Culturology in Russian（Russian）

现代俄语通论（俄）Introduction to Modern Russian（Russian）

俄语与言语修养（俄）Russian Language and Culture（Russian）

翻译研究（俄）Translation Studies（Russian）

俄汉语言对比研究（俄）Comparative Studies of Russian and Chinese（Russian）

语用学（俄）Pragmatics（Russian）

学术研究方法（俄）Research Method（Russian）

**Postgraduate Program: Foreign Linguistics and Applied Linguistics**

Discipline: Foreign Linguistics and Applied Linguistics

Credit System: 3 years

Brief Introduction

After years of efforts, this discipline has set up a system with various academic orientations and complete subjects. It encompasses three research fields from English, Japanese and Russian, namely, Linguistics, Applied Linguistics and Translation Studies. Linguistics includes six research orientations: semantics, pragmatics, cognitive linguistics, syntax, contemporary discourse and translation; Applied Linguistics includes nine research orientations: linguistic theory, intercultural communication, second language acquisition, psycholinguistics, cognitive neurolinguistics, English pedagogy, syllabus design, textbook compilation and language testing. Translation Studies includes 3 research orientations: English translation of Chinese classics, theory and practice of English translation of Chinese classics and the construction and application of Chinese-English and multilingual corpus of Chinese classics translation. Japanese Linguistics includes six research orientations: the comparative studies of Chinese and Japanese languages, Japanese grammar, second language acquisition, sociolinguistics, intercultural speech act studies and intercultural communication competence studies. Russian Linguistics includes six research orientations: linguistic theories, pragmatics, lexicology, rhetoric, intercultural speech act theory and intercultural communication.

Compulsory courses (core courses):

History of Western Thought (English)

General Linguistics (English, Japanese, Russian)

Semantics (English)

Psycholinguistics (English)

Discourse Analysis (English)

Pragmatics (English)

Pedagogy (English)

Research Method in Linguistic Studies (English)

Philosophy of Language (English)

Translation Studies (English)

Interpreting Studies (English)

Literary Translation (English)

Research Methods in Translation Studies（English）

Japanese Thought and Culture（Japanese）

Translation Studies（Japanese）

Modern Japanese Literature（Japanese）

Japanese Linguistics（Japanese）

Language Acquisition（Japanese）

Japanese Language and Culture（Japanese）

Research Methods（Japanese）

Selected Academic Readings（Japanese）

Linguistic Culturology in Russian（Russian）

Introduction to Modern Russian（Russian）

Russian Language and Culture（Russian）

Translation Studies（Russian）

Comparative Studies of Russian and Chinese（Russian）

Pragmatics（Russian）

Research Method（Russian）

**翻译 硕士**

专业名称：翻译

学习期限：2年

专业简介

翻译硕士专业开设英语口译、英语笔译、日语口译、日语笔译和俄语笔译五个方向，主要培养科技翻译、典籍翻译、中国文化翻译、商务翻译、历史文献翻译等领域的高层次、应用型、专业性的口笔译人才。

必修课

翻译研究/ 口译研究

翻译研究方法

基础笔译/ 基础口译

科技翻译/ 科技口译

中国文化翻译/ 中国文化专题口译

商务翻译/ 商务口译

外交/外事翻译/ 外交/外事口译

典籍翻译

文学翻译

交替传译

**Master of Translation and Interpreting**

Name of specialty: Translation and Interpreting

Credit system: 2 years

Brief Introduction

The Master of Translation and Interpreting (MTI) Program includes English Interpreting Stream, English Translation Stream, Japanese Interpreting Stream, Japanese Translation Stream and Russian Translation Stream, which aims to cultivate high-level, applied and professional talents of translation and interpretation in the fields of science and technology, Chinese classics, Chinese culture, business, and historical literature.

Main Course

Compulsory courses:

Translation Studies/ Interpreting Studies

Research Methods in Translation Studies

Basics to Translation/ Basics to Interpreting

Scientific and Technical Translation/ Scientific and Technical Interpreting

Chinese Culture Translation/ Chinese Culture Interpreting

Business Translation/ Business Interpreting

Diplomatic Translation/ Diplomatic Interpreting

Translation Studies of Chinese Classics

Literary Translation

Consecutive Interpreting

**物理与光电工程学院 / School of Physics & Optoelectronic Engineering**

**物理学 硕士**

专业名称：物理学

学习期限：3年

专业简介

 本学科设有等离子体物理、理论物理、凝聚态物理、原子与分子物理、光学5个二级学科，其中等离子体物理是国家重点学科，理论物理是辽宁省重点学科。本学科拥有三束材料改性教育部重点实验室、等离子体科学研究中心、有理论物理研究所等，拥有先进大型研究设备近百台。近五年共承担了各类课题100多项，包括国家重大科技专项课题、国家磁约束聚变能专项、国家“973”重点基础研究计划课题、国家自然科学基金、 国际重大合作项目、国防 “863”项目等；获省部委级科技奖励多项，在SCI期刊上发表论文500余篇。

必修课

近代物理计算机模拟、高等量子力学、广义相对论、量子场论、等离子体物理基础、低温等离子体技术与应用、等离子体电磁诊断源、原子分子光谱、高等原子分子物理、群论、非线性光学、近场光学与纳米技术、计算凝聚态物理学、固体物性、固体结构

**Physics**

Credit system: 3 years

Brief Introduction

This field of study includes plasma physics, theoretical physics, condensed matter physics, atomic and molecular physics, optics. Plasma physics is the national key disciplines; theoretical physics is the key discipline in Liaoning province. This subject has Three Beam Material Modification Lab, which is a Key Laboratory of Ministry of Education; Plasma Science Research Center, as well as Theoretical Physics Research Center, equipped with more than 100 advanced large-scale research equipment. Within five years we have undertaken projects more than 100 projects, including major national science and technology projects, including national Tokamak projects, national "973" key basic research program, the National Natural Science Foundation, major international cooperation projects, national "863" project. We have won a number of provincial level and state level science and technology awards, and published more than 500 papers in SCI journals.

Compulsory courses:

Computer Simulation on Modern Physics, Advanced Quantum Mechanics, General Relativity, Quantum Field Theory, Fundamentals of Plasma Physics, Low Temperature Plasma Technology and Applications, Electro-magnetic Principles for Plasma Diagnostics, Spectroscopy of Atoms and Molecules, Advanced Atomic and Molecular Physics, Group Theory, Nonlinear Optics, Near-field Optics and Nanotechnology, Computation Physics for Condensed Matter, Physical Properties of Solid States, Solid Structures and Analysis

**微电子学与固体电子学**

专业名称：微电子学与固体电子学

学习期限：3年

专业简介

本专业有一支高素质的师资队伍，拥有大连光电技术研发中心、大连市太阳能电池技术创新和检测分析中心及大连市半导体光电工程技术研究中心等教学科研基地。本专业的研究方向主要包括：1、宽带隙发光与探测材料及器件，宽带隙功率电子材料与器件；2、Si基光伏材料与器件，Ⅲ-Ⅴ族化合物光伏材料与器件；3、新型存储材料与器件，微纳材料与器件，有机光电材料与器件。

主要课程：

半导体理论、高等半导体器件物理、现代半导体材料、半导体测试与分析、半导体器件的可靠性与失效分析、半导体光电器件、宽带隙半导体、有机半导体材料与器件

**Microelectronics and Solid State Electronics**

Name of specialty: Microelectronics and Solid State Electronics

Credit system: 3 years

Brief Introduction

This specialty has a high-quality teacher team. There are Dalian Optoelectronic Technology Research and Development Center, Dalian Solar Cell Technology Innovation and Testing Analysis Center and Dalian Semiconductor Optoelectronic Engineering Technology Research Center. The main research directions include: 1. wide band gap optical emission and detection materials and devices, wide band gap power electronic materials and devices; 2. Si based photovoltaic materials and devices, Ⅲ-Ⅴcompound photovoltaic materials and devices; 3. novel storage materials and devices, Micro/nano materials and devices, organic optoelectronic materials and devices.

Main Courses

Semiconductor Theory, Advanced Physics of Semiconductor Devices, Advanced Semiconductor Materials, Measurement and analysis of semiconductor, Reliability and failure analysis of semiconductor devices, Semiconductor Optoelectronic Devices, Wide Bandgap Semiconductor, Organic semiconductor materials and devices

**运载工程与力学学部 / Faculty of Vehicle Engineering & Mechanics**

**工程力学 硕士**

专业名称：工程力学

学习期限：3年

专业简介

工程力学系于1957年由钱令希院士和唐立民教授领导创建，1981年首批获得博士学位授予权，1985年设立力学博士后科研流动站。1987年计算力学被确定为国家重点学科。1996年首批获得力学一级学科博士学位授予权。2001年工程力学被确定为国家重点学科，2007年被确定为力学一级学科国家重点学科。目前本学科包含一般力学和力学基础、固体力学、流体力学、工程力学、计算力学、岩土与环境力学、动力学与控制、应用实验力学、生物与纳米力学、航空航天力学与工程、生物医学工程、制造工艺力学，共12个二级学科，拥有上述12个二级学科的博士学位和硕士学位授予权。

工程力学系拥有一支高水平的科研教学队伍，有教授41人，其中中科院院士3位，6名长江学者特聘教授（含2名讲座教授），4名国家杰出青年科学基金和海外青年学者合作研究基金获得者。2004年获得国家自然科学基金创新研究群体。

工程力学系在国内外都具有很高的学生声誉，在许多领域的研究工作都处于国内前沿位置。目前每年约有170名研究生进入我系攻读硕士或博士学位。

必修课：（专业核心课程）

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、连续介质力学、高等流体力学、有限元方法与应用、力学中的泛函分析与变分原理、结构优化理论和方法、计算动力学、有限元及数值方法、弹塑性力学、现代实验力学、固体力学、非线性动力学、计算流体力学、高等土力学

**Engineering Mechanics**

Name of specialty: Engineering Mechanics

Credit system: 3 years

Brief Introduction

Department of Engineering Mechanics was founded by Prof. Lingxi Qian, the academician of Chinese Academy of Science, and Prof. Limin Tang, at Dalian University of Technology (DUT) in 1957. In 1981, it was firstly authorized to offer doctoral degree. In 1985, a postdoctoral research station on mechanics was found. In 1987, the discipline of Computational Mechanics was authorized as a National Key Discipline. In 1996, the discipline of Mechanics, as a first-level discipline, was authorized to confer the doctoral degree. In 2001, the discipline of Engineering Mechanics was authorized as the National Key Discipline. In 2007, Mechanics was authorized as the first level National Key Discipline. Now, there are 12 sub-disciplines under this first-level National Key Discipline, including General Mechanics and Mechanics Fundamentals, Solid Mechanics, Fluid Mechanics, Engineering Mechanics, Applied and Experimental Mechanics, Computational Mechanics, Geotechnical and Environmental Mechanics, Dynamics and Control, Applied and Experimental Mechanics, Biomechanics and Nanomechanics, Aerospace Engineering Mechanics, Manufacture Processing Mechanics, Biomedical Engineering.

The high-level academic staff consists of 41 professors, of whom 3 are academicians of Chinese Academy of Science, 6 are Chair Professors of “Cheung Kong Scholars Programme”, 4 gained the National Science Fund for Distinguished Young Scholars and the Joint Research Fund for Overseas Natural Science of China. The department was the first to be awarded the University Science Fund for Innovative Research Group of National Natural Science Foundation in 2004.

The research in mechanics at Dalian University of Technology is highly recognized. It is locating the leading edge in the nation and has international reputation. Each year there are about 170 postgraduates joining the department for master degree and doctoral degree.

Main Course

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program), Papers Writing and Academic Standards, Continuum Mechanics, Fluid Mechanics, Finite Element Method and its Application, Functional Analysis and Variational Principles in Mechanics, Theory and Method for Structural Optimization, Computational Dynamics, Finite Element and Numerical Methods, Elasticity and Plasticity, Modern Experimental Mechanics, Solid Mechanics, Nonlinear Dynamics, Computational Fluid Dynamics, Advanced Soil Mechanics

**航空宇航科学与技术 硕士**

专业名称：航空宇航科学与技术

学习期限：3年

专业简介

航空宇航科学与技术是以数学、物理、现代科学和技术为基础发展起来的综合性较强的专业。自2012年起，航空航天学院开始招收研究生，在校研究生数70余名。这里为教育、科研、管理及高层次工程领域培养了大量创新型人才。学生修满规定学分并完成学位论文，可以获得硕士学位。截至目前，学院教职工38人，其中包括教授10名、副教授13名、讲师13名及实验工程师2名。一些国外学生已经或正在这里攻读硕士学位。

必修课：

中国文化概况（英文授课）、汉语听说基础 （英文授课的国际硕士选课）、论文写作与学术规范（英文授课）、矩阵与数值分析、数理方程、泛函分析、有限元方法与应用、高等流体力学、现代控制工程

**Master of Aerospace Science and Technology**

Name of specialty:

Aerospace Science and Technology

Credit system:

3 years

Brief Introduction

Aerospace Science and Technology is the highly comprehensive subject system which is based on mathematics, physics and modern science and technology. Since 2012, School of Aeronautics and Astronautics was starting to recruit the postgraduate students for the first time. Currently, there are more than 100 master course students. The subject is aiming to innovatively train students for professions of teaching, research, design, management or high-end engineering practices. A student who successfully passes the required courses and thesis defense is to be granted master degree. Till now, there are 38 faculty members in this subject, including 10 professors, 13 associate professors and 13 lectures as well as some lab technicians. There are several international students who have studied or been studying in this subject for master’s degrees.

Main Course

Compulsory courses :

Overview of Chinese Culture (English-taught), Chinese Listening and Speaking (For English-taught master program), Papers Writing and Academic Standards, Matrix and Numerical Analysis, Equations of Mathematical Physics, [Functional Analysis](http://www.baidu.com/link?url=c1nbw120_n7qJsxAA90r-Z_zQu_B_6DQuvaA_g386eGfjkOYWIbWQRaMP_vtnbuNMYYff4D_Pf9cPcFfO5afqa" \t "_blank), Finite Element Method and Its Application, Advanced Fluid Mechanics, Modern Control Engineering

**车辆工程 硕士**

专业名称：车辆工程

学习期限：2-3年

专业简介

大连理工大学汽车工程学院成立于2007年5月，是辽宁省第一所汽车工程学院。根据目前国内外汽车领域的市场需求以及未来国际汽车工业的发展趋势，该院现设有：车辆工程、汽车车身工程、汽车电子工程、汽车材料工程、汽车工业装备及自动化、汽车服务工程以及智能车辆等七个科研和产业化研究方向。现学院共有6个研究所、4个实验室、1个实验中心以及1个培训中心。

汽车学院在编教师总人数为41人，其中教学科研岗位36人，专职实验岗位5人；正高级职称10人，副高级职称17人，中级职称14人；博士生导师10人。在整个师资队伍中，有教育部千人计划学者1人、国家杰出青年科学基金获得者1人；中国汽车工程学会车身专业委员会委员2人；中国汽车工业优秀青年科技人才2人。辽宁省百千万人才工程计划之千人层次2人。

汽车学院具有车辆工程专业硕士学位和博士学位的授予权，目前每年约有130名研究生进入我院攻读硕士或博士学位。

必修课：（专业核心课程）

矩阵与数值分析、优化方法、有限元方法与应用、现代控制工程、高等流体力学、现代汽车前沿技术、现代汽车设计方法【双语】、结构优化理论和方法、车身零部件现代成型/形技术

汽车电子学、汽车高分子材料、车身结构力学与实验、智能车辆环境感知技术、NVH分析基础【双语】、数值计算方法及工程应用、柔性结构动力学与控制、近代物理基础、工程结构振动控制、工程流体力学计算与分析、拓扑优化与材料设计、专业英语、汽车轻量化材料与工艺、力学中的泛函分析与变分原理、非线性动力学、车身覆盖件成形模拟技术

**Automotive Engineering (Master’s degree)**

Name of specialty：Automotive Engineering

Credit term: 2-3 years

Brief Introduction

 The School of Automotive Engineering (SAE) in Dalian University of Technology, was established in May 2007. It is the first automotive engineering school in Liaoning Province. Focusing on the current domestic and international automotive market demand and the future development trends of the world auto industry, SAE has the following research fields: automotive engineering, automotive body engineering, automotive electronics engineering, automotive materials engineering, automotive industry equipment and automation, automotive service engineering and intelligent vehicles. At present, SAE has 6 research institutes, 4 laboratories, 1 laboratory and 1 training center.

 SAE has 41 total staffs including 36 teaching and research positions and 5 laboratory technicians. The faculty consists of 10 professors, 17 assistant professors and other 14 teachers with intermediate title. Among the whole faculty exist 10 Ph.D. supervisors, 1 thousand talents program scholar provided by Ministry of Education, and 1 national outstanding young science fund winner, 2 China Automotive Engineering Society auto body professional committee, 2 China's auto industry outstanding young scientific and technological personnel, and 2 people in one thousand people level of Liaoning province talents project plan.

 Students could be granted master's and doctor's degree here, also a post-doctoral mobile station is available. At present, there are about 130 graduate students admitted here for master's or doctoral degree each year.

Compulsory Courses (major core courses)

Matrix and Numerical Analytics, Methods of Optimization, Finite Element Method and Applications, Modern Control Engineering, Advanced Fluid Mechanics, Advanced technology of modern automotive, Designing Methods of Modern Cars (Bilingual), Structural Optimization----Theory and Methods, Modern Mode Techniques of Automobile Structural Components, Automotive electronics, Automotive polymer materials, Body structure mechanics and experiment, Environmental Perception Technology of Intelligent Vehicles, Fundamentals of NVH Analytics (Bilingual), Numerical Methods and Engineering Applications, Dynamics and Control of Flexible Structure, Modern Physics: Fundamental, Vibration Control in Engineering Structures, Computation and Analysis of Engineering Fluid Dynamics, Topology Optimization and Material Design, English in Vehicle Engineering, Lightweight materials and technology of automobile, Functional Analytics and Variational Principles in Mechanics, Nonlinear Dynamics, Forming Simulation Techniques of Auto-body Panels

**软件学院 / School of Software**

**软件工程 硕士**

专业名称：软件工程

学习期限：3年

专业简介

大连理工大学软件工程一级学科坚持“新思想、新领域、新方法”的发展思路。秉承“软件+X”的基本理念，制定了“软件+海洋”的特色方向，形成了以“软件工程理论与技术”、“数据科学与机器智能”、“泛在网络与可信技术”3个二级学科为依托，重点建设“海洋信息处理与计算”二级学科的“3+1”特色发展模式。

本学科拥有专职教师108人，其中正高级16人，副高级38人，博士生导师16人，国家杰出青年基金获得者1人（尹宝才），教育部新世纪优秀人才5人，海外学术大师1人，海天学者13人，兼职教授6人（含中国工程院院士、国家基金委副主任、学院名誉院长高文教授），2014年“中国高被引学者”1人，2015年“中国高被引学者”1人，国家香江学者计划1人，星海优青2人，企业兼职教师90余人，50%以上的教师具有海外学术背景。拥有一支以高端人才为引领、中青年教师为骨干、专兼职相结合的高水平师资队伍。

近5年来，本学科教师累计发表论文540余篇，其中含SCI检索200余篇，在计算机学会认定的A类、B类期刊及A类会议上发表高水平文章50余篇。学院2015年科研经费进款额达到1110万元。累计承担各类国家自然科学基金60余项，其中主持和参与重点项目3项、重大研究计划培育项目1项。主持国防项目3项，参与973课题1项、863课题3项。获得省部级项目25项、大连市各级科技资助项目20余项。获得国家发明专利20余项、软件著作权70余项。近3年获批辽宁省精品资源共享课和教育部-IBM精品课程共5项、软件学院联盟慕课共享共建课程8项。

大连理工大学软件工程学科以打造高水平软件服务与应用平台和海洋信息处理与计算平台为目标，建有数据科学与数字信息服务研究所、泛在网络与计算研究所、高性能计算研究所、软件安全与系统研究所，以及软件工程理论与技术研究所。建有数字家庭综合实验室、PCB制版实验室&物联网节点研制实验室、实时三维几何及多视角图像同步采集实验室、三维打印研究实验室、三维扫描与精密测量实验室，并于2014年10月获批组建泛在网络与服务软件辽宁省重点实验室。

必修课：

中国文化概况（中文授课）、汉语言基础（中文授课的国际硕士选课）、论文写作与学术规范、矩阵与数值分析、统计分析方法、算法分析与设计 II、软件体系结构、网络科学、数据分析理论与方法

**Software Engineering**

Name of specialty: Software Engineering

Credit system: 3 years

Brief Introduction

Software Engineering First-leveled Discipline of Dalian University of Technology adheres to the guideline of “new ideas, new areas and new methods” to boost academic development. Following the basic concept of “Software + X”, a unique academic orientation of “Software + Ocean” has been formulated. Presently, Software Engineering First-leveled Discipline of Dalian University of Technology is operating on a “3 + 1” mode of development, which means 3 second-leveled disciplines (Software Engineering Theory and Technology, Data Science & Machine Intelligence, Ubiquitous Network & Trusted Technology) to support the top prioritized 1 second-leveled discipline, namely, Marine Information Processing and Computing.

Currently, this discipline is staffed with 108 full-time teachers, including 16 professors, 38 associate professors, 16 Ph.D. supervisors, 1 winner (Yin Baocai) of National Science Fund for Distinguished Young Scholars, 5 “New Century Excellent Talents” granted by the Ministry of Education, 1 Overseas Academic Master, and 13 “Haitian Scholars”, 6 part-time professors (including Professor Gao Wen, member of Chinese Academy of Engineering, vice Deputy Director of the National Fund, honorary Dean of our school), 1 winner of “Highly Cited Chinese Researchers” in 2014 and 2015 respectively, 1 earners of “National Xiangjiang Scholar Project”, 2 earners of “Xing Hai Excellent Youth”, as well as more than 90 part time teachers from business and companies. More than 50% of the teachers have overseas academic background. The faculty is made up of high level teachers, featuring high-end talents as the lead, young teachers as the backbone, and a combination of part time and full time teachers.

 Teachers in this discipline have published more than 540 academic papers totally, including more than 200 SCI papers, more than 50 academic papers published in high-level journals that are recognized as top A(-tier) journals, top B journals and top A-conference journals by China Computer Federation. The scientific fund reached RMB11.1mil. in 2015 and more than 60 funds have been approved by National Natural Science Funds, including 3 key programs (as Principal Investigators or Chief Collaborator) and 1 Training Program of the Major Research Plan of the National Natural Science Foundation of China. The faculty undertake 3 national defense programs, participate in 1 “973 Project”, 3 “863 Projects” and lead over 25 provincial projects and more than 20 municipal scientific projects. Our faculty has patented more than 20 National Inventions and more than 70 Software Copyrights. In the past three years, five courses have been approved as Liaoning Provincial "Excellent Resource & Sharing Course" and the Ministry of Education-IBM "Excellent Courses", and eight courses have been approved as co-constructed MOOCs with Software Schools Alliance.

Software Engineering Discipline of Dalian University of Technology sticks to its goal of building high-level Software Service & Application Platform and Marine Information Processing & Computing Platform. It has set up the Institute of Data Science & Digital Information Processing, Institute of Ubiquitous Networks & Computing, Institute of High Performance Computing, Institute of Software Security & Information Security, and Institute of Software Engineering Theory & Technology. Meanwhile, PCB Plate Lab, IOT (Internet of Things) Node Research Lab, Real-time 3D Geometric & Synchronous multi-view Image Acquisition Lab

Main Course

Compulsory courses :

Overview of Chinese Culture (Chinese-taught), Basic Chinese (For Chinese-taught master program) , Papers Writing and Academic Standards, Matrix and Numerical Analysis, Introduction to Statistics, Algorithm Design and AnalyticsII, Software Architecture, NetworkScience, Theory and Method for Statistical Data Analysis