南京理工大学

来华留学硕士研究生

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研 究 生 院

二〇二五年六月

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Master Program in mechanical engineering

1. Introduction

Students are expected to have deep understanding of fundamental theory and experimental knowledge, to understand the frontier development status and trends. The students are also expected to have the ability to work in scientific research or deal with the special technical work and have technical insights on their subjects. The students also need to have the basic ability of engineering modeling, innovation and development. In addition, students are expected to have good ability of expression, communication skills and team work spirit.

2. Research directions

(1) Methodology of modern mechanical design
(2) Servo precision transmission and mechanism
(3) Intelligent robots and bionic technology
(4) Intelligent manufacturing system and equipment
(5) Additive Manufacturing
(6) Modern manufacturing theory, technology and equipment
(7) Intelligent machinery, detection and control technology
(8) Intelligent detection and control technology for Electromechanical systems
(9) Electromechanical-hydraulic integration technology
(10) Electromechanical system dynamics and dynamic simulation
(11) Vehicle powerplant simulation, design and optimization
(12) Vehicle safety, energy saving and Environmental technology
(13) Special vehicle safety and protection
(14) MEMS

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**

L113A010	Matrix Analysis and Computation	Fall	3
L113A003	Advanced Dynamics	Fall	3
L113A004	Elastoplasticity & its Application	Fall	3
L101B001	Theory & Application of Finite Element Method	Fall	2
III. Major Electives			**8+**
L101C009	Modern Theory & Methods of Mechanical Design	Fall	2
L101C008	Modern Theory & Methods of Manufacturing	Fall	2
S101B025	Modern Sensor and Detection Technology	Fall	3
L101C005	Guidance & Control Technology	Fall	3
S101C034	System Analysis Elements of Mechatronics	Spring	2
S101C054	Computer Aided Engineering and its Application	Spring	3
S101B009	Precision Testing Technology & Instruments	Fall	3
S101C003	MEMS & Microfabrication Technology	Spring	2
L101C006	Industrial Automation of Pneumatic Control Technology	Spring	2
L101C011	Academic Frontier of Mechanical Engineering	Spring	2
L101C015	Theory of Mechanisms and Robotics	Spring	3
L130B005	Modern Statistics Analysis	Fall	3
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation.

Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Chemical Engineering & Technology

1. Introduction

The primary discipline of Chemical Engineering and Technology includes six secondary discipline master programs in chemical engineering, chemical technology, applied chemistry, bio-chemical, industrial catalysis, and explosions chemical. We also offer doctoral and postdoctoral programs in this primary discipline. The secondary disciplines have some state-level key disciplines, national special majors, provincial brand majors, the National Chemistry Experimental Teaching Demonstration Center, and the National Chemical Engineering Practice Professional Education Center.

2. Research directions

(1) Chemical reaction engineering
(2) Fine chemical engineering
(3) Industrial catalyst study
(4) Pyrotechnic and pyrotechnics technique
(5) Biopharmaceutical
(6) Design and synthesis of energetic material
(7) Preparation process and equipment of special chemical material

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**10+**
S103C009	Organic Reactions	Spring	2
S103B053	Chemical Separation Engineering	Fall	2
B103B004	Design of Organic Moleculars	Fall	2
S103C001	Catalysis in Asymmetric Synthesis	Fall	2
S103C057	Scientific Writing for Chemistry	Spring	2
S103C031	Pyrotechnics	Spring	2

S103C030	Modern Instrumental Analysis	Fall	2
III. Major Electives			**10+**
S103C028	Chemistry & Technology of High Explosives	Fall	2
S103C029	Chemistry & Technology of Propellants	Fall	2
S103B003	Thermal Safety of Chemical Process	Fall	2
S102C040	Cell Engineering	Spring	2
S102C001	Protein Engineering	Fall	2
S103C060	Progress of Modern Biochemical Engineering	Fall	2
S102C041	Enzyme Engineering	Spring	2
L102C005	Environmental Biotechnology	Fall	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Fall	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in ***"NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree "*** and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research,

and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Environmental Science & Engineering

1. Introduction

The Environmental Science & Engineering (ESE) discipline at the Nanjing University of Science and Technology was developed from the Environmental Engineering (EE) major that was founded in 1979 and started to recruit undergraduates in 1980. We began to offer master and doctoral programs in EE in 1987 and 2000 respectively, master program in Environmental Science (ES) in 2003, and doctoral program and postdoctoral fellowship in Environmental Science & Engineering in 2010 and 2012 respectively. EE was also elected as a key discipline of Jiangsu province as well as of the Ministry of Industry and Information Technology. The ESE major was among the top 1% of the ESI international disciplines. Hundreds of graduates held senior leadership and technical positions in environmental protection bureaus and monitoring stations at or above the county level, and more than 20 provincial and ministerial-level environmental science academies served as directors or chief engineers, and many of them won youth awards. Those enhanced the social reputation of the discipline.

2. Research directions

(1) Wastewater treatment and resource reuse
(2) Air pollution control engineering
(3) Environmental biotechnology
(4) Environmental monitoring technology

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A002	Applied Statistics	Spring	2
L102C005	Environmental Biotechnology	Fall	2
L102B003	Application & Theory of Water Treatment	Spring	2
L102B004	Air Pollution & its Control	Spring	2

S103C057	Scientific Writing Skills for Chemistry	Spring	2
III. Major Electives			**8+**
L102B005	Environmental Chemistry	Fall	2
L102C003	Membrane Technology for New Energy Applications	Spring	2
L102C004	Water Treatment Chemicals & Their Applications	Spring	2
L102C019	Environmental data analysis	Spring	2
S102C005	Ecomaterials	Spring	2
W102C001	Air pollution control and prevention	Spring	2
W102C002	Academic Writing	Spring	1
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition***

of Postgraduate Theses and Dissertations", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Optical Engineering

1. Introduction

The Optical Engineering discipline at the Nanjing University of Science and Technology was developed from the Artillery Command System major at the PLA Military Engineering Institute that was founded in 1953. In 1986, it was qualified as a doctoral program; in 1998, it was awarded for Post-Doctoral Mobile Station as well as "Yangtze River Scholar" Scheme by the State Education Commission; in 2002, it was established as the key discipline by both the National Defense Division and Jiangsu province; in 2005, it was approved as the national key discipline cultivation base at Jiangsu province; in 2007, it was established as a first-rate national key discipline as well as national defense characteristic discipline; in 2010, it was rated as the Jiangsu province superior discipline; in 2012, it was approved as the key discipline by the Ministry of Industry and Information Technology. In the 2013 national academic evaluation, it was rated as the 8th best national program in its category, elevated from the previous 9th finish, and it was among the top 1% of the ESI international disciplines.

2. Research directions

(1) Optoelectronic information detection and image processing
(2) Optical testing and intelligent optoelectronic instruments
(3) Laser physics and application technology
(4) Optoelectronic physics and technology
(5) Bio-medical photonics
(6) Micro- and nano-optoelectronic devices and applications
(7) Optical fiber technology and applications

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years,, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A005	Mathematic Modeling and System Simulation	Spring	2

S104B001	Advanced Physical Optics	Spring	3
S104B004	Fundamentals of Optical Engineering	Fall	3
L104B004	Laser Principle and Application	Spring	3
L104B003	Introduction to Fourier Optics	Fall	3
L104C006	Modern Optical Testing	Spring	3
L104B009	Modern Photonics	Spring	3
III. Major Electives			**8+**
S104C004	Fiber Optics and Optical Fiber Applied Technology	Spring	2
L104C004	Charge-coupled Devices Imaging Technology	Spring	3
S104C001	Digital Video Processing	Fall	2
S104B002	Optical Properties of Solids	Spring	3
S104C005	Semiconductor Optoelectronic Technology	Spring	2
L104B005	Foundations of Image Sciences	Spring	3
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

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Master Program in Information and Communication Engineering

1. Introduction

Information and Communication Engineering is to study new theory, new methodology and new technology of all kinds of electronic, communication, information systems and related signal processing aspects based on information source coding, data transmission, exchange and information networks. Based on information science and engineering, this discipline, with its goals to develop China's electronic information industries, focuses on the research, design, development and implementation of electronics and communication information systems. It includes communication and information systems, as well as theory and technology concerning signal (audio and image) and information processing.

2. Research directions

(1) Wireless networks and communications
(2) Modern signal processing

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A010	Matrix Analysis and Computation	Fall	3
L113A007	Numerical Analysis	Spring	2
L104B001	Software Defined Radio Technology	Spring	2
S104B023	Digital Communications	Fall	3
L104B010	Speech Signal Digital Processing	Spring	2
S104C034	Radio Frequency Circuits Theory and Technology	Fall	3
III. Major Electives			**8+**
L104C019	Internet of Things Technology	Spring	2
L104C002	Principles of Wireless Communications	Spring	2

L104C001	Multi-Sensor Data Fusion Technology	Spring	2
L104C018	Digital Image Processing	Fall	2
S104C054	Introduction to Modern Wireless System	Fall	2
L106C002	Digital Signal Processing	Fall	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Electromagnetic Field and Microwave Technology/Circuit and System

1. Introduction

The secondary disciplines of "electromagnetic field and microwave technology" and "circuit and system" belong to national first-level disciplines of "Electronic Science and Technology", they were approved to establish master programs in 1980. The discipline of "electromagnetic field and microwave technology" was approved as a national key discipline. The first-level discipline "Electronic Science and technology" was approved as the key discipline of Jiangsu Province in 2011, 2016 and 2021, and the key discipline of integration of informatization and industrialization of the Ministry of Industry and Information Technology (MIIT) in 2012. These discipline has teachers and talents such as winners of The National Science Fund for Distinguished Young Scholars, winners of the National Science Fund for Excellent Young Scholars, winners of Leading Talent of Technological Innovation of Ten-Thousands Talents Program, young scholars of the Chang Jiang Scholars Program of the Ministry of Education, and scholars selected for the 1000 Talents Plan for Young Talents. The main employment destinations of graduates include research institutes, large companies in the IT industry, colleges and universities.

2. Research directions

(1) Computational Electromagnetics
(2) Circuits and System of RF/Microwave/Millimeter Wave
(3) Antenna and Metamaterials
(4) Reliability of Circuits and System

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**

L113A005	Mathematic Modeling and System Simulation	Spring	2
L113A007	Numerical Analysis	Spring	2
L113A010	Matrix Analysis and Computation	Fall	3
L104B001	Software Radio Technology	Spring	3
S104B016	Advanced Theory of Electromagnetic Field	Fall	3
S104C034	Radio Frequency Circuits Theory and Technology	Fall	3
S104C042	Antenna Theory and Technology	Fall	2
S104B020	Computational Electromagnetics	Spring	3
III. Major Electives			**8+**
S104C054	Introduction to Modern Wireless System	Fall	2
S104B005	Physical and Numerical Analysis of Semiconductor Devices	Spring	3
S104B026	Nanoelectronics and Devices	Spring	3
S104B023	Digital Communications	Fall	3
L104C008	Advanced Signal Processing	Spring	2
S104C019	Theory and Technology of Electromagnetic Compalicity	Fall	2
L106C002	Digital Signal Processing	Spring	2
L104C018	Digital Image Processing	Fall	2
L113A014	Wavelet Analysis	Fall	3
L113A006	Applied Partial Differential Equations	Spring	3
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

8. Degree thesis requirement

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Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Computer Science and Technology

1.Introduction

The School of Computer Science and Engineering consists of several teaching and research departments and laboratories, namely the Department of Computer Science and Technology, the Department of Software Engineering, the Department of Intelligent Science and Technology, the Department of Digital Media Theory and Engineering, the Department of Computer Network and Communication Technology, the Computer Science and Engineering Experimental Center, the Computer Application Institute, the Information Processing and Security Technology Institute, and the Intelligent Robotics Institute. The school also boasts the national Key Laboratory of Intelligent Perception and Systems for High-Dimensional Information founded by the Ministry of Education, and the provincial Key Laboratory of Image and Video Understanding for Public Safety of Jiangsu.

The school has one national key discipline in Pattern Recognition and Intelligent Systems, two Jiangsu provincial key disciplines in Computer Science and Technology, and Software Engineering. We offer primary discipline doctoral programs in Computer Science and Technology and Software Engineering, and secondary discipline doctoral program in Pattern Recognition and Intelligent Systems and the corresponding post-doctoral workstations. We also provide master programs in Computer Science and Technology, Pattern Recognition and Intelligent Systems, Software Engineering, and Biomedical Engineering. The school's programs are supported by the National"985" Project Innovation Platform.

2. Research Directions

(1) Pattern recognition and intelligent system
(2) Computer architecture
(3) Computer software and theory
(4) Computer application technology
(5) Intelligent computing and system
(6) Intelligent robot
(7) Biomedical engineering
(8) Software engineering and methodology
(9) Service science and software architecture
(10) Applied software engineering

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section

5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A010	Matrix Analysis and Computation	Spring	3
L113A002	Applied Statistics	Spring	2
L113A008	Stochastic Mathematics	Fall	3
S106C004	Fundamentals of Image Analysis	Fall	2
S106C037	Distributed Systems and Parallel Computing	Spring	2
L106B001	Principles and Methods of Artificial Intelligence	Fall	2
III. Major Electives			**8+**
L106C004	Pattern Recognition Technology	Spring	2
S106C005	Services Computing and Business Process Management(I)	Spring	2
L106C003	Formal Specification and Testing of Software	Spring	2
L106C006	The Architectures and Protocols of the Next-Generation Internet	Spring	2
L106C001	Data Mining & Big Data Analysis	Fall	2
S106C007	Trusted Computing Technologies	Spring	2
L106C008	Information Security and Applied Cryptography	Fall	2
S106C001	Bioinformatics	Spring	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	**2**
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6.Thesis Topic and Proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year

of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

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Master Program in Mechanics

1. Introduction

Mechanics and Ballistics, founded in 1960, is a national key discipline. It offers bachelor, master and doctoral degrees, and post-doctoral program as well. The mechanics discipline, based on the mechanics theory and its applications, focuses on the fundamental theory, numerical simulations and test techniques for systems of civil use and military use. As a project technical chief or technology topics chief, our school presided over and completed a lot of key projects, including 6 items of the State 973 Projects, 5 items of the 863 Projects, 4 items of the National Security Specials, more than 100 items of the National Natural Science Foundations, national & ministerial key projects, and 3 items of international cooperation projects, with a total research funding of more than RMB300 million. Among them, 2 items won the National Technology Invention Second Prizes (ranking 1st) and 2 items won the National Science & Technology Progress Second Prizes (ranking 3rd). Our school has more than 90 invention patents authorized, and over 10 monographs and 500 SCI and EI papers published. Among the faculty members are more than 20 national leading talents and national young talents. The school has the Transient Physics State Key Laboratory, Advanced Science Center of Complex Equipment System Dynamics, and the Mechanical Experiment Demonstration Center of Jiangsu Province, the total value of the experimental equipment exceeding one hundred million. The laboratories cover an area of more than 20,000 square meters, and have a collection of more than 20 million books.

2. Research Directions

(1) Launch dynamics
(2) Theory of multibody system dynamics & its applications
(3) Theory of elastic-plastic mechanics & its applications
(4) Fluid control & high-speed air dynamics
(5) Detonation propulsion & noise control
(6) Explosion mechanics & security, ballistics
(7) Vibration control
(8) Ballistics, flight dynamics & control

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113B008	Elasticity Theory	Spring	3
L113A003	Advanced Dynamics	Spring	3
L108B002	Multiphase Reaction Fluid Dynamics	Fall	3
L113A015	Elastic Mechanics	Spring	3
III. Major Electives			**8+**
L108C001	Computational Explosion Mechanics	Fall	3
S108C049	Reduced Multibody System Transfer Matrix Method	Spring	3
L113A004	Elastoplasticity & its Application	Spring	3
L108C004	Vibration & Control	Spring	3
L113A016	Continuum Mechanics	Spring	2
IV. Thesis Credits			2
L0000001	Thesis Proposal	Fall	**2**
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis Topic and Proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should have at least one academic paper published. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for***

Degree" and specific standards for each discipline.

8. Degree Thesis Requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Control Science and Engineering

1. Introduction

Control science and engineering is a discipline that studies the theory, method, technology and their engineering application. It is one of the most important scientific theories and achievements in the 20th century, and its theoretical development and technological progress at all stages are closely related to the needs of production and social practice. This discipline was authorized in 2000 as the second batch of first-level discipline to offer doctoral degree in China. It consists of "Control Theory and Control Engineering", "Detection Technology and Automation Device", "System Engineering", "Pattern Recognition and Intelligent System", "Navigation, Guidance and Control" and other five second-level discipline doctoral programs Among them "Control Science and Engineering" is a key first-level discipline in Jiangsu Province, a national key first-level discipline (under cultivation), and a key construction discipline of the national "211 Project"; "Pattern Recognition and Intelligent System" is a key national discipline. Over the years, the discipline has made remarkable achievements in postgraduate cultivation and academic research. It has undertaken a number of high-level projects represented by national key R&D projects, key projects of the National Natural Science Foundation of China, and key projects of national defense basic scientific research. The scientific research achievements have reached the domestic leading and international advanced level, and won the first prize of the National Science and Technology Progress Award, the second prize of the National Natural Science Award and the first prize of the Provincial and Ministerial Science and Technology Progress Award.

2. Research directions

(1) Automatic control theory and application
(2) Measurement technology and automatic equipment
(3) Complex engineering system modeling, control and optimization
(4) Pattern recognition and intelligent system
(5) Navigation, guidance and control

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A010	Matrix Analysis and Computation	Spring	3
L113A008	Stochastic Mathematics	Spring	3
L110B001	Linear System Theory	Fall	2
L110B002	Introduction to Optimal Control	Fall	2
L110B003	System Modeling & Identification	Fall	2
B110B005	Stability & Robustness Theory	Spring	2
III. Major Electives			**12+**
L110B004	Introduction to Nonlinear System Theory	Fall	2
L110C005	Modern Digital Servo System	Fall	2
L110C011	Intelligent Control & Application	Fall	2
L110C001	Embedded Control System Design & Applications	Spring	2
L110C003	Hybrid Systems Modeling, Control, & Applications to Complex Systems	Spring	2
L110C006	Modern Simulation Technology & Application	Spring	2
L110C007	Navigation Principle	Spring	2
L110C018	Filtering, Estimation Theory and Application	Spring	2
S110C067	Process Control	Spring	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree***" and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Mathematics

1. Introduction

Mathematics is a scientific system to study quantitative relation, space form and the deduction system, etc. It is a subject with rigor, logicality, abstract, accuracy, creativity and imagination. Mathematics plays an important role in science research, technology, engineering, economics, finance and management.

We own primary discipline doctoral and master programs in Mathematics including five secondary discipline programs "Pure Mathematics", "Numerical Mathematics", "Applied Mathematics", "Probability and Statistics", "Operations Research and Control Theory".

2. Research directions

(1) Partial Differential Equations
(2) Image Processing
(3) Optimization
(4) Information Security
(5) Geometrical Analysis
(6) Financial mathematics
(7) Stochastic Analysis and Statistics
(8) Dynamical System
(9) Control Theory for Uncertain Systems

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A009	Functional Analysis	Fall	3
L130B010	Algebra	Fall	3
L130B004	Modern Differential Geometry	Fall	3

L130B005	Modern Statistics Analysis	Fall	3
L130B006	Modern Theory of Partial Differential Equations	Spring	3
S130C010	Progress on Modern Statistics	Spring	2
S130B005	Scientific Computing	Fall	3
S130C002	Stochastic Differential Equations and Applications	Spring	2
III. Major Electives			**9+**
S130C011	Elliptic Partial Differential Equations	Spring	3
L113C007	Numerical Computing for Inverse Problems	Fall	3
L130C006	Nonlinear Optimization	Fall	3
L130C008	Stochastic Processes	Fall	3
L130C005	Modern Cryptography	Fall	3
L130C004	Mathematical Finance	Spring	3
L130C009	Uncertainty Theory and Applications	Fall	3
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and be defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree***" and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Materials Science and Engineering

1. Introduction

Materials Science is a subject field researching on the relationship among the formation, structure, processing, property and performance of materials. It is committed to the performance optimization, processing optimization, and development & application of materials.

2. Research Directions

(1) Advanced metals and intermetallic compounds
(2) Additive and intelligent manufacturing
(3) New display materials and devices
(4) Nano and heterogeneous metal materials
(5) Material connection and control
(6) Advanced materials processing technology and surface engineering
(7) Materials calculation and characterization
(8) New energy materials
(9) Information functional material

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A002	Applied Statistics	Spring	2
S116B003	Phase Transformation and Kinetics in Materials	Fall	3
S116B007	Quantum Mechanics and Solid State Physics	Fall	3
S116B009	Advanced Characterization Techniques For Materials	Spring	2
S116B004	Physical Foundation for Crystal Growth	Fall	3
III. Major Electives:			**8+**

L116C003	Modern Detection of Materials and Structures	Spring	2
L116C009	Photoelectric Functional Materials Experiment	Spring	2
L116C012	Solidification theory	Spring	2
L116C013	Synthesis and Preparation Method of Materials	Spring	2
S116B010	Mechanics of Composite Materials	Fall	2
L116C005	Materials for Renewable Energy and Sustainable Environment	Spring	2
L116C011	Tissue Engineering	Spring	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis Topic and Proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

8. Degree Thesis Requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition***

of Postgraduate Theses and Dissertations", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Power Engineering & Engineering Thermophysics

1. Introduction

Power Engineering and Engineering Thermophysics of Nanjing University of Science and Technology (NUST) is the first class discipline for doctoral degree, the key discipline of Jiangsu province, and also a key construction brand discipline of NUST. MIIT Key Laboratory of Thermal Control of Electronic Equipment, National Key Laboratory of Transient Physics and Nanjing Efficient Heat Transfer Engineering Technology Center are affiliated to this discipline.

2. Research directions

(1) Heat and mass transfer and its enhancement
(2) Clean combustion and pollutants control
(3) Detonation propulsion technology
(4) Renewable energy technology
(5) Refrigeration and Cryogenic Engineering

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**12+**
L113A010	Matrix Analysis and Computation	Fall	3
L113A008	Stochastic Mathematics	Spring	3
L113A006	Applied Partial Differential Equations	Spring	3
S108B001	Advanced Engineering Thermodynamics	Fall	3
L108B003	Advanced Combustion Theory	Spring	3
S108B003	Advanced Heat Transfer	Fall	3
III. Major Electives			**8**
L108C009	Computational Heat Transfer	Fall	2

L108C008	New Progress in Thermal Science	Fall	2
S108C055	Modern Refrigeration Technology	Fall	2
L108C012	Low Carbon Utilization of Energy	Fall	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree***" and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Biochemical engineering

1. Introduction

The Biochemical Engineering program at the Nanjing University of Science and Technology (NUST) belongs to the primary discipline of Chemical Engineering and Technology that is authorized by the State Council to offer master's (M.S.) and doctoral (Ph.D.) degrees. This program started to recruit undergraduate students in 1997, and was authorized to establish a research center for postdoctoral fellows a year later, resulting in a complete training system covering B.S., M.S., Ph.D. and postdoctoral research. We have a highly qualified and distinguished group of faculty, some of whom are recipients of a number of awards including the Plan for One Thousand Talents, the National Science Fund for Outstanding Young Scholars, the New Century Excellent Talents funded by the Ministry of Education, and Distinguished Professors funded by Jiangsu Provincial Department of Education. The faculty members have excellent expertise in the areas of biological resources utilization, molecular metabolism/function, and biosensors design/characterization.

2. Research directions

(1) Biological resource engineering
(2) Microbial fermentation and metabolic engineering
(3) Biosensors

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A007	Numerical Analysis	Spring	2
L102B006	Biotechnology Fundamentals	Spring	3
S103C057	Scientific Writing Skills for Chemistry	Spring	2
S102C040	Cell Engineering	Spring	2

S102C001	Protein Engineering	Fall	2
III. Major Electives			**8+**
L102C008	Biotechnology Advances	Spring	2
S102C041	Enzyme Engineering	Spring	2
S106C001	Bioinformatics	Spring	2
W102C002	Academic Writing	Fall	1
L102C005	Environmental Biotechnology	Fall	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** "and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and***

Dissertations". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in International Trade

1. Introduction

The Department of International Trade launched the master's program in 2000 and now has more than 10 supervisors. The department has undertaken many social science research projects funded by the Ministry of Education and Jiangsu provincial government, and numerous other projects of significant academic and practical value.

The department has been sufficiently funded for graduate research activities. Graduates of the department have pursued careers at government departments, institutions of higher education, research institutes, and business organizations of various types. Graduates are qualified for research positions involving areas of economic theories and policies and for important management positions covering specific economic and business issues.

2. Research directions

(1) International trade
(2) International finance
(3) International investment

3. Duration of studies

Full-time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 31 credits from courses in Section 5 with a minimum of 29 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**15**
L107B002	Intermediate Macroeconomics	Spring	2
L107B003	Intermediate Microeconomics	Fall	2
L107B004	International Economics	Spring	2
L107B007	International Business Negotiation	Fall	2
L107B012	International Financial Management	Spring	2

L107C003	International Economic Relations	Fall	2
L107C022	Intermediate International Trade: Theories & Practices	Fall	3
III. Major Electives			**8**
L107C002	International Marketing	Fall	2
L107C004	International Brand Management	Spring	2
L107C012	International Business Research Topics	Spring	2
L107C013	Current Issues in International Trade	Spring	2
L107C020	International Logistics and Supply Chain Management	Spring	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**31+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research,

and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Physics

1. Introduction

The Applied Physics Department of Nanjing University of Science is authorized by the State Council to grant doctorate and master degrees in the first-level physics discipline. The research directions include semiconductor materials physics, atomic molecular and ultrafast physics, theoretical physics, and laser physics.

The discipline has a strong and professional faculty, with 78 full-time teachers, including 27 professors, 33 associate professors, 1 winner of the National Science Fund for Distinguished Young Scholars, 6 National/Overseas High-level Young Talents, 2 New Century Talents of the Ministry of Education/Cross-century Talents, 2 Specially-appointed Professors in Jiangsu Province, and 3 winners of Jiangsu Province Distinguished Young Scholars. The discipline supports 1 state key laboratory for national defense, 2 key laboratories of the Ministry of Industry and Information Technology, 1 provincial and ministerial key experimental center and 7 professional laboratories. In the past 5 years, the discipline has undertaken various scientific research projects, including 50 National Natural Science Foundation (NNSF) projects, of which funding exceeds 70 million Yuan; hosted 6 large domestic and international academic conferences; published more than 400 SCI papers in internationally renowned journals such as Physical Review series, Nature Communications, Science Advances, and Applied Physics Letters.

2. Research directions

(1) Semiconductor Materials Physics
(2) Laser Physics: propagation and imaging of light
(3) Atomic Molecular and Ultrafast Physics
(4) Theoretical Physics

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2

II. Core Courses			**8+**
L130B005	Modern Statistics Analysis	Fall	3
S116B007	Quantum Mechanics and Solid State Physics	Fall	3
S113B008	Computational Physics	Spring	3
L113A014	Wavelet Analysis	Spring	3
III. Major Electives			**10+**
L113C012	Laser Physics	Spring	2
S113C104	Scientific Writing Skills	Fall	2
S113C010	Advanced Solid State Physics	Fall	3
S116B002	Materials Physics	Fall	3
S101B004	Modern Sensor Technique and Applications	Spring	3
L113C021	Quantum Many-body Theory	Spring	2
L113C022	Quantum Field Theory	Spring	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation.

Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Civil Engineering

1. Introduction

The Department of Civil Engineering has a master's degree in a first-class discipline, involving the field of disaster prevention and reduction engineering and protection engineering, structural engineering, municipal engineering, geotechnical engineering, bridge and tunnel engineering. The department pays close attention to the international frontier and major national needs of civil engineering discipline, and has carried out in-depth research mainly in the aspects of explosion resistance and protection of concrete structure, earthquake resistance and vibration control of engineering structure, long-span space structure, structural health monitoring and safety assessment, intelligent material structure, underground building structure, foundation treatment and foundation engineering, rock mechanics and engineering, modern civil engineering testing technology, etc. At present, the department has six professional laboratories for structure, geotechnical engineering, civil engineering materials, engineering measurement, hydrodynamics and structural simulation, and all kinds of laboratories cover an area of 2,500 square meters.

In teaching activities, the department imparts an in-depth knowledge of mathematical and scientific principles, as well as of engineering-specific skills; particular attention is paid to the capacity for interdisciplinary discourse, management skills and critical thinking. The department has well-qualified faculty and experienced staff supported by well-equipped laboratories, computing facilities and skilled technical staff.

2. Research directions

(1) Structural engineering
(2) Geotechnical engineering
(3) Bridge and tunnel engineering
(4) Disaster prevention and reduction engineering

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
L113A010	Matrix Analysis and Computation	Spring	3
L113A002	Applied Statistics	Spring	2
S113B022	Dynamics of Structures	Spring	3
L113B001	Advanced Soil Mechanics	Spring	3
L113B002	Advanced Theory of Concrete Structures	Fall	3
L113B003	Finite Element Method in Civil Engineering	Spring	3
III. Major Electives			**8+**
L113C001	Advanced Seismic Theory	Spring	2
S113C026	Reliability Analysis Theory & its Engineering Application	Spring	2
S113C029	Vibration of Bridges	Spring	2
L113C002	Experiment of Modern Civil Engineering Test	Fall	2
L113C003	Modern Civil Engineering Materials	Spring	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	2
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective courses in III. Major Electives.			

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should obtain a certain number of innovative achievements closely related to the research content of the dissertation. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree ***""and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.

Master Program in Foreign Languages and Literature

1. Introduction

Foreign Languages and Literature is under the division of the discipline of Humanities and Social Science. It includes Foreign Linguistics and Applied Linguistics, Foreign Languages and Literature, Translation Studies, Comparative Literature and Cross-culture Studies, and International and Regional Studies. The discipline includes three directions: Foreign Linguistics and Applied Linguistics, Foreign Languages and Literature, and Translation Studies. The discipline aims to train innovative talented graduates for the society. After graduation, many graduate students work in universities, scientific research institutions, publishing houses and foreign enterprises.

2. Research directions

(1) Theoretical Linguistics
(2) Applied Linguistics
(3) Translation Studies
(4) Foreign Literature and Culture Studies
(5) Regional and Country Studies
(6) Comparative Literature and Cross-cultural Studies

3. Duration of studies

Full time master students are expected to complete their studies and earn their degrees in 3 to 5 years, and they will be disqualified from the program after 5 years.

4. Credits requirements

Students are required to complete at least 28 degree credits from courses in Section 5 with a minimum of 26 coursework credits and 2 obligatory courses.

5. Curriculum

Course No.	Course Name	Semester	Credits
I. Fundamental Courses			**6**
L371A001	Chinese I	Fall	4
L371A003	Introduction to Chinese Classics	Fall	2
II. Core Courses			**8+**
S114B002	Exploration on Modern Linguistic Theories	Fall	2
S114B003	Twentieth Century Western Critical Theories	Fall	2
S114B004	Introduction to Translation Studies	Fall	2
S114B007	Academic Paper Writing	Spring	2
III. Major Electives: Foreign Linguistics and Applied Linguistics			**8+**
S114B008	Applied Linguistics	Spring	2

S114C002	Second Language Acquisition	Spring	2
S114C054	Morpho-syntax	Fall	2
S114C021	Semantics and Pragmatics	Fall	2
S114C009	Intercultural Communication	Fall	2
S114C060	Discourse Analysis	Fall	2
S114C059	Educational Administration: Theory, Research, and Practice	Fall	2
S114C014	Seminars on Western Culture	Fall	2
S114C029	Empirical Methods in Linguistic Research	Spring	2
S114C061	Experimental Phonetics	Fall	2
III. Major Electives: Foreign Languages and Literature			**8+**
S114C057	English Literature Studies	Fall	2
S114C055	American Literature Studies	Fall	2
S114C004	Translation Criticism	Spring	2
S114C059	Educational Administration: Theory, Research, and Practice	Fall	2
S114C014	Seminars on Western Culture	Fall	2
S114C056	Modern & Contemporary English and American Poetry	Fall	2
S114C088	British and American Drama	Spring	2
S114C013	Literature Translation	Fall	2
S114C031	Comparative Literature and World Literature: An Introduction	Spring	2
III. Major Electives: Translation Studies			**8+**
S114C022	A Brief History of Translation in China and in West	Fall	2
S114C006	Contrastive Analysis of English and Chinese	Fall	2
S114C007	Computer-Assisted Translation	Fall	2
S114C004	Translation Criticism	Spring	2
S114C011	Business English Translation	Spring	2
S114C013	Literature Translation	Fall	2
S114C013	Media Translation	Spring	2
S114C033	English Translation of Chinese Classics	Fall	2
IV. Thesis Credits			
L0000001	Thesis Proposal	Fall	**2**
L0000002	Academic Activities	Spring	
Total Credits Required			**28+**
NOTE: Graduate students are usually expected to meet the course requirements in the first academic year, including: I. Fundamental Courses, II. Core Courses, and sufficient elective			

courses in III. Major Electives.

6. Thesis topic and proposal

A master student is supposed to choose his/her research direction under an advisor's guidance. The student should actively study, research and survey in the chosen research direction. The student is expected to choose a research topic for the postgraduate thesis and confirm the significance of the topic in a thesis proposal. The thesis proposal should be submitted and defended at the beginning of the second year of study.

Detailed regulations and requirements on master's thesis can be found in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***".

7. Requirements for innovation achievements

Before graduation, each master student should have at least one academic paper published or accepted for publication. Detailed requirements are documented in "***NJUST Regulations on the Basic Requirements for Innovation Achievements for Graduate Students Applying for Degree*** " and specific standards for each discipline.

8. Degree thesis requirement

MA Degree thesis is one of the most important parts for graduate education, which provides students with training on academic research or specific technology application, enhances students' abilities to innovate and to apply the knowledge to their research, and encourages them to discover, analyze and solve problems in their fields.

Detailed regulations and requirements on master's thesis are documented in the "***NJUST Regulations about the Topic Selection, Research Proposal and Composition of Postgraduate Theses and Dissertations***", and "***NUST Style Sheet for Theses and Dissertations***". For a joint effort with others, or a follow-up of previous work, the student should clearly specify his/her contribution to the thesis.