

Master's Degree Programme in Mechanical Engineering for Overseas Students

First-grade Discipline Code: 0802

Admission Requirements

This programme, which mainly covers the research areas in Mechanical Manufacturing and Automation, Mechatronic Engineering, Mechanical Design and Theory, and Vehicle Engineering, etc., is designed and carried out by the School of Mechanical Engineering (Jiangsu University), primarily aiming to improve the international master students' innovative and creative abilities for their scientific researches.

- Must meet the basic admission requirements of colleges and universities in China
- A Bachelor's degree in mechanical engineering

Objectives

The overseas master students will benefit their future research and career through successfully completing this programme, and they are expected to:

- pursue this programme at a multinational environment to strengthen their ability for international academic and social communications;
- strengthen their professional knowledge and research ability in the area of mechanical engineering;
- know the latest advances and future trend/development in the field of mechanical engineering;
- carry out high-quality research work under the supervision of the knowledgeable master supervisors in mechanical engineering;
- have the ability to individually carry out their research work;
- have a certain innovation ability for science and technology;
- have the ability to read professional literatures and write research papers;
- be physically and mentally healthy;
- have good personalities, rigorous style of study, strong creative aspiration, and strong ability for collaboration and career development, etc.

Research Areas

- Photonic Manufacturing Science and Technology
- Research on Advance Automotive Technology

- Laser, Precision Machining and Forming Technology
- Micro-nano Manufacturing and Electromechanical System Integration Technology
- Modern Mechanical Design and Theory

Programme Duration and Academic Credit Requirements

- Prospective students enrolled in this program are normally expected to spend 3 academic years in completing their master study at Jiangsu University. During the first academic year for this programme, the master students are required to complete master course study, investigation, and topic selection. No less than one academic year is required to carry out research work and master degree thesis writing.
- The duration for master course study is around one academic year. All the students enrolled in this programme must get at least 26 academic credits (at least 14 credits for degree subjects) to obtain their master degrees.
- Students who have meet paper publishing requirements will be granted mater’s degree.

Programme Courses

Course Type		Course Name	Credit	Term	Department	Remark
Degree Courses	Compulsory Courses	Chinese (I)	4	1,2	OEC	Required
		Overview of China (I)	3	1	OEC	
	Basic Theoretical Courses	Mathematical equations	2.5	1	FS	Minimum 2 Courses Needed
		Theory of matrices	2	1	FS	
		Numerical analysis	3	1	FS	
		Mathematical statistics	2	1	SM	
	Specialized Courses	Advanced manufacturing technology (Naifei REN, Shutao LI, Xinzhou ZHANG)	2	2	SME	Minimum 2 Courses Needed
		Morden control theory (Guanggui CHENG)	2	2	SME	
		Finite Element Method: Theory and Applications in Mechanical Engineering (Wei CHEN, Yuqin GUO, Zhixian YANG)	2	2	SME	
		MEMS design and manufacturing (Quan WANG)	2	2	SME	

		Introduction to material science (Xiaojing XU, Xiaohui Yu)	2	2	SME	
		Vehicle System Dynamics (Changgao XIANG, Zhongxing LI)	2	2	SATE	
		Vibration Analysis (Yanyan ZUO, Falin ZENG)	2	2	SATE	
		Fundamentals of Automotive Control Theory (Haobin JIANG, Xing XU)	2	2	SATE	
Elective Courses		The frontier of mechanical engineering (Xudong REN)	2	1	SME	Required
		Material Strengthening & Quality Evaluation (Xudong REN)	2	2	SME	
		Laser processing technology (Jianzhong ZHOU、Jinzhong LU, Xudong REN, Yunxia YE)	2	2	SME	Minimum 2 Courses Needed
		Rapid prototyping technology and its application (Naifei REN, Houxiao WANG)	2	2	SME	
		Theory and Mechanics for Sheet Forming (Wei CHEN)	2	2	SME	
		Mordern functional material and forming technology (Xiaojing XU, Xuelian WU)	2	2	SME	
		Flexible manufacturing technology and systems (Jiangzhong ZHOU, Shu HUANG)	2	2	SME	
		Precision machining technology (Shulin WANG, Zhi WANG)	2	2	SME	
		Plastics Rheology and Its Application in Structure Design of Plastic Mould (Yuqin GUO)	2	2	SME	
		Digital design and manufacturing (Yun WANG)	2	2	SME	
		Mechanical and electrical enineering innovation(Ping YANG)	2	2	SME	

MEMS device analysis and design principles (Quan WANG)	2	2	SME
Intelligent machines and robots (Qizhi YANG, John.Shen, Jun XIE)	2	2	SME
Introduction to Tribology (Zhuru YANG)	2	2	SME
Mechanics of composite structures (Chao ZHANG)	2	2	SME
Non-linear Vibration (John.Shen, Qizhi YANG)	2	2	SME
Automotive Electronic Control Technology (Shi LUO)	2	2	SATE
Alternative Power Sources (Hybrid Propulsion Systems) (Chaofeng PAN)	2	2	SATE
Vehicle Acoustics (NVH) (Yanyan ZUO)	2	2	SATE
Computer Method of Automotive Body Curve and Surface Modeling (Xiang GAO, Hua DING)	2	2	SATE
The Technology of Automotive Structure Optimization (Gongyu PAN, Gaogao SHANG)	2	2	SATE
Vehicle Structure Elastoplastic Analysis (Maotao ZHU, Hua DING)	2	2	SATE
Vehicle Automatic Transmission Theory (Jinyue Tian, Jiangyi HAN)	2	2	SATE
CFD in fluid machinery (Franco Magagnato, Jinfeng ZHANG)	2	2	RCFMET
Flow in pumps (Gérard BOIS, Qiaorui SI)	2	2	RCFMET

	Computational Fluid Mechanics II(Siva Parameswaran, Ruijie ZHAO)	2	2	RCFMET	
	Design and optimization of pumps(Prof. Giorgio Pavesi, Dr. Ji PEI)	2	2	RCFMET	
	Advanced Fluid Engineering Theory and Measuring Technology(Xikun WANG, Yin LUO)	2	2	RCFMET	
Auxiliary Courses					Minimum 2 Courses Needed for the Student from other Specialty or with an Equivalent Education Level

Note: 1. Minimum 2 corresponding specialized courses are firstly required for each overseas master student, and then the other courses can be selected according to Appendix (v) by each student.

2. The capital letters in the Department column in this Form are the abbreviations for their corresponding Colleges or Schools, i.e., Overseas Education College (OEC), Faculty of Science (FS), School of Management (SM), School of Mechanical Engineering (SME), School of energy and power engineering (SEPE), Institute of aricultural engineering (IAE), School of Automotive and Traffic Engineering (SATE), and Research Center of Fluid Machinery Engineering and Technology(RCFMET).

Course Contents

General Objective....

Period Objective....

Content Summary....

Assessment Method....

Practice Requirements

The master students must attend the teaching and producing practice in the related area under the supervision of the master supervisors, including undergraduate experiment guidance, undergraduate course guidance, answering and correcting, practice in relative inernship, etc. The master students are also required to attend symposiums and academic forums in the area of mechanical engineering, as well as the social investigations and

technology extensions.

Supervision Panel and Supervision Method

The master students should be supervised by the supervision panel which consists of his/her supervisor and the corresponding experts in the area. The supervision panel will supervise the whole process for the master student's study, including the course selection to meet the requirements for academic credits, the thesis proposal for qualification examination to confirm his/her master candidature, the reading report regarding the related references, the periodical reports for the thesis, thesis writing, teaching or practice and thesis examination, etc.

Requirements for Publications

Before thesis submission, the master students must have a few published or accepted publications in their corresponding fields to demonstrate their good academic/research performance for their graduation and master's degree conferment, and their publications must meet the following requirements:

As the first author, or the second author (his/her supervisor is the first author), the master student have at least one publication related to his/her thesis work in a Chinese core journal or higher-quality journal with Jiangsu University as the 1st affiliation,.

Scholarships and Financial Support

The overseas master students can apply for all the scholarships sponsored by the Chinese Government or Jiangsu University (e.g., Chinese Government Scholarship, and CSC Scholarship, etc.), which can completely or partially support their master programme at the Jiangsu University. The detailed info for these scholarships can be found through the website of the Overseas Education College (OEC) of the Jiangsu University (<http://oec.ujs.edu.cn/pub/eng/Scholarship/GS/>).

Except the above-mentioned scholarships, each overseas master student enrolled in the School of Mechanical Engineering (Jiangsu University) will get his/her living allowance from his/her supervisor's supervision funding. Besides, as the encouragement and reward, the supervisor can also provide the research allowance for the excellent overseas master student who demonstrates excellent academic and research performance for his/her research work, which is subject to the supervisor's assessment and judgment.

Appendix

(i) Format for Thesis and Research Plan

- The thesis title, which summarizes the main research work of the thesis, must be brief, clear, and specific.
- The objectives should be clear, specific, integrated, logically rigorous, and closely coherent.

- The theoretical and academic significance for the research work should be given in the Background of the thesis.
- The literature review should critically review/comment the previous research work and indicate the latest research progress in the area, where the expected research achievements/outcomes should be given or listed.
- The corresponding research plans/proposals with periodically proposed objectives and expected outcomes are required for the PhD students, which should be closely related to the whole objectives of the thesis.
- The institutions/organizations with their corresponding responsibilities or contributions related to or involved in the research work of the thesis should be listed or given in the dissertation.
- The important and latest literatures in the relevant area should be cited using a numbered reference list in the corresponding dissertation.

(ii) International Journals for Master Students' Reference

- 1、 Journal of Materials Processing
- 2、 Tribology letter
- 3、 Hand book of micro nanotribology
- 4、 CRC Handbook of Chemistry and Physics
- 5、 The science and engineering of microelectronic fabrication
- 6、 Mechanical behavior of material
- 7、 Springer Handbook of Nanotechnology
- 8、 Journal of Applied Physics Electronic Engineering
- 9、 Journal of Microelectromechanical Systems
- 10、 Journal of Micromechanics and Microengineering
- 11、 Mechanical Systems and Signal Processing
- 12、 Mechanim and Machine Theory
- 13、 Form; Zeitschrift fuer Gestaltung 482E0054 0015-7678 4 Springer-Verlag, GERMANY
- 14、 The International Design Magazine
- 15、 Advances in Structural Engineering
- 16、 Automotive News International
- 17、 Journal of Engineering Design
- 18、 Active vehicle
- 19、 Accident Analysis and Prevention
- 20、 Advanced Powder Technology
- 21、 Automotive Design & Production
- 22、 Automotive Engineer
- 23、 Journal of Computational Acoustics

- 24、 Journal of Mechanical Design
- 25、 Journal of Sound and Vibration
- 26、 Journal of Safety Research
- 27、 Journal of Vibration and Acoustics
- 28、 Mechanical Engineering 29、 Safety Scienc
- 30、 Applied Physics Letters
- 31、 Journal of Applied Physics
- 32、 Nano Letters
- 33、 Physical Review B
- 34、 Physical Review Letters
- 35、 Physical Review E
- 36、 Journal of Physics D: Applied Physics
- 37、 Acta Mechanica Sinica
- 38、 European Journal of Transport and Infrastructure Research
- 39、 IEEE Transactions on Intelligent Transportation Systems
- 40、 IEEE-ASME Transactions on Mechatronics
- 41、 IET Intelligent Transport Systems
- 42、 International Journal of Automotive Technology
- 43、 International Journal of Crashworthiness
- 44、 International Journal of Impact Engineering
- 45、 International Journal of Shipping And Transport Logistics
- 46、 International Journal of Sustainable Transportation