



Academic Education Programs sponsored by the Ministry of Commerce of the PRC



Xi'an Jiaotong University

Master of Electrical Engineering

2025

Catalog

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February, 2025

2025 Xi'an Jiaotong University
Master Program of Electrical Engineering

I. Program Introduction

i. Basic information

1. Brief Introduction

Academic Education Programs sponsored by the Ministry of Commerce of People's Republic of China is designed in 2008 to foster high-end business officials and managerial personnel for the recipient countries, offering one-year and two-year master programs as well as three-year doctoral programs for the purpose of educating high-end and inter-disciplinary talent working in the applied fields of government, trade, foreign affairs, agriculture, technology, education, culture and health, building intellectual capacity and facilitating the economic and social development of the recipient countries. These programs provide assistance to governmental officials, research fellows, and senior managerial personnel on their master and doctor education in China, which are fully conducted in English. Admission requirements include a bachelor's degree, relevant working experiences, and decent physical conditions, essential for the high-compact curriculum needed for the degrees.

This program is playing an increasingly important role in economic and trade cooperation between China and graduates' home countries, getting high attention from the government.

Oriented by the national strategic need and international academic frontier, School of Electrical Engineering at Xi'an Jiaotong University focuses on the 3 national key secondary disciplines, including Electric Machinery and Electric Equipment, High Voltage and Insulation Technology, and Power System and Automation. Based on these disciplines, the school established 4 additional scientific directions including Dielectrics and Electrical Insulation, Advanced Power Equipment, Pulsed Power and the Discharge Plasma, and New Energy Power System. Those directions do not only cover the construction of UHV and smart grid power and equipment manufacturing, but also extend to the fields of national defense, space, marine and so on.

As for the positive effects and good results brought by these programs in strengthening economic ties and friendship between China and the recipient countries, the Ministry of Commerce of People's Republic of China will continuously intensify its efforts in enlarging

Academic Education Programs sponsored by the Ministry of Commerce of the PRC the enrollment scale and improving the quality of education. We believe that by attending the programs and achieving the degrees, you will embrace a successful career and brighter future.

2. Prospective Students

Our prospective students are mid-to-senior level officials or managers from the government, universities and other institutes, who have demonstrated superior performance, both academically and in their work.

3. Program Objectives

Educating high-end and inter-disciplinary talent working in the applied fields of government, trade, foreign affairs, agriculture, technology, education, culture and health.

4. Enrollment Plan

Major: Master program of Electrical Engineering

Seats: 20

Teaching language: English

Length of Program: 2 years

5. Sponsorship

(1) Free of tuition fee, teaching materials, research, thesis defense and other instruction expenses.

(2) Free on-campus accommodation.

(3) Living allowance: 36,000 RMB/year for master. The university will grant the living allowance MONTHLY based on the actual stay of the student being in China.

(4) Settlement allowance: 3,000 RMB.

(5) Comprehensive medical insurance.

(6) International flight ticket: 1 round ticket for 1 year program; 1 round ticket for 2-year program with n-1 (n=study duration) home visit round ticket.

(7) All students must join the annual evaluation to get qualification for next year's scholarship.

(8) Instead of issued to students, other expenses will be organized by Ministry of Commerce or University. Scholarship will only be offered for standard study duration, extension caused by students' personal reason will not be covered by scholarship.

ii. Xi'an Jiaotong University

1. Brief Introduction to Xi'an Jiaotong University (XJTU)

Xi'an Jiaotong University (XJTU), is the national key University directly administered by the Ministry of Education of China. It is the top 10 Research University in China and member of China's Ivy League --- C9 League. It is ranked No. 95 on the list of 2024 Academic Ranking of World Universities.

XJTU is a comprehensive research university with 11 major categories of disciplines: science, engineering, medicine, economics, management, humanities, law, philosophy, art, education, and interdisciplinary, and 34 schools, 9 colleges for undergraduates and 3 affiliated teaching hospitals. There are four campuses, namely Xingqing campus, Yanta campus, Qujiang campus and China Western Science and Technology Innovation Harbour, with a total area of about 5.33 million square meters.



The University now has 59,267 full-time students, including 24,539 undergraduates, 31,194 postgraduates, and 3,929 international students. XJTU offers 76 undergraduate majors, and there are 40 first-level disciplines authorized to confer doctorate degrees, and 43 disciplines authorized to confer master's degrees.

According to the data released by Essential Science Indicators (ESI), Engineering programs of XJTU are ranked top 1‰ on the ESI list, other 18 disciplines of XJTU are ranked top 1% and 6 disciplines of XJTU are ranked top 1‰ on the ESI list in 2024. Its Management School and Law School are accredited for the QS FIVE STARS. Electrical Engineering and Power Engineering and Engineering Thermophysics are accredited the BEST SUBJECT of its kind in China by SHANGHAI RANKING. XJTU offers undergraduate, master's, doctoral, and visiting scholar programs in its advantageous disciplines and enrolled international students from all over the world.

XJTU established extensive international communication ties with about 300 universities and research institutions from 44 countries and regions. It initiated the University Alliance of the Silk Road and built an international platform of educational cooperation and communication for more than 180 universities of 40 countries and regions.

Adhering to the principle of Chinese characteristics and striving to be the world-class, XJTU is committed to cultivating outstanding talents who advocate science, seek for innovation, and have a strong sense of responsibility and global vision. As of 2024, there were a total of 3,929

Academic Education Programs sponsored by the Ministry of Commerce of the PRC international students from 135 countries studying in XJTU. Due to its outstanding education quality, the University was awarded by the Ministry of Education of China as the “Demonstration Base for International Education”. In 2024, XJTU was awarded the A+ of Higher General Education Accreditation for International Students in China which will last for 8 years.

The University is located in Xi'an—the geographical center of China, the starting city of Silk Road as well as the capitals of 13 dynasties in Chinese history. It is not only home to Terra Cotta Warriors and Horses and Huashan Mountain but also home to more than 100 world top 500 companies' branches. It is a hub of AI, aerospace, biotechnology, photoelectric chip, information technology, new materials, new energy, intelligent manufacturing etc. Its brilliant History, glorious culture, high-end technology, and friendly environment for realizing the dreams bring Xi'an into one of the most selected destinations for study in China.

2. School of Electrical Engineering

The predecessor of the School of Electrical Engineering is the Department of Electrical Machinery in Nanyang College, which was founded in 1908 and is the earliest and most complete electrical engineering college in China.

Under the guidance of the “Three Orientations”, the school adheres to the principle of “Educating People with Virtue”, actively connects with the national major energy strategic needs, and implements the development strategy of “Electrical Plus”. The main discipline of the school is electrical engineering, which covers Control Science and Engineering, Instrument Science and Technology. The electrical engineering is evaluated as A+ discipline by MOE in 2016 and was selected for the nation's “Double World-Class Project”. The school consists of first-class faculty and a number of world-class research teams which gathers 5 academicians and more than 27 national talent plan selected scholars. There are about 1,600 undergraduates and 2,400 postgraduates. The school has the State Key Laboratory of Electrical and Power Equipment, the National Electricity and Electronics Teaching Base for Basic Engineering Courses, and 11 provincial talent training and scientific research bases. The school establishes joint research institutes with the State Grid Corporation of China, Northwest Institute of Nuclear Technology, Chint Group, etc., building a large platform for cutting-edge scientific research and creating a new mechanism for the integration of science and education. The school concentrates on the research and development in the areas of new electrical materials, advanced electrical equipment, new-generation electric energy systems, pulsed power and plasma, and actively promote cross-disciplinary research on materials and life, as well as their



Academic Education Programs sponsored by the Ministry of Commerce of the PRC applications in energy storage and medicine. In the past 15 years, the school has won 10 second prizes of National Scientific and Technology Achievement Award and participated in 2 special prizes of national Science and Technology Progress Award. The school cultivated many high-quality and leading talents with solid basic theories, strong practical engineering ability, a sense of social responsibility, innovative spirit and international competence. The graduates from the school have become the backbone of China's power and energy development, among them, 34 are academicians of the two academies and 24 are selected into the national talents' plans.

3. Introduction to the Living Environment and Conditions for Students

Xi'an, the capital of Shaanxi Province, is an important city in the western region of China and a significant national base for scientific research, education and industry. Moreover, Xi'an was designated as a "World Historical City" by UNESCO in 1981 and is the starting point of the Silk Road. Throughout history, 13 dynasties have established their capitals here.

Xi'an has a semi-humid continental monsoon climate with distinct four seasons of cold and warm, dry and wet. The annual average temperature is 13.0°C to 13.7°C, with the coldest month of January averaging -1.2°C to 0.0°C and the hottest month of July averaging 26.3°C to 26.6°C.

The cost of living in Xi'an is not high, and it is economical and affordable, with good quality and low prices. It is especially famous for its various kinds of local snacks.

Accommodation standards: The school provides single rooms in on-campus apartments for students, equipped with air conditioning, heating, and independent bathrooms. Each campus has 2 to 6 student canteens, including 1 to 2 Muslim restaurants.



iii. Program Arrangement

1. Teaching Arrangement

(1) Course Schedule

| Course Modules | Course Code | Course Name | Credit | Credit Required |
|----------------|-------------|--|--------|-----------------|
| Public Course | 272003 | The Outline of China I | 2 | 4 |
| | 272004 | Comprehensive Chinese I | 2 | |
| Degree Course | 042093 | Modern Control Engineering | 3 | 16 |
| | 042063 | Power Semiconductor Devices and Application Criteria | 2 | |

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| | | | | |
|-----------------------|--|---|---|---|
| | 042038 | Modeling and Control of High-Frequency Power Electronic Circuits | 3 | |
| | 042102 | Analysis and Simulation for Power System Transients | 3 | |
| | 042097 | Design of Power Electronic Equipment | 2 | |
| | 042100 | Renewable Energy and Smart Grid | 2 | |
| | 042105 | Electromagnetic Compatibility | 2 | |
| | 042110 | Power System Communications | 3 | |
| | 042112 | Optimization Methods and Its Applications in Power Systems | 2 | |
| | 042113 | Electric Power System Reliability Evaluation | 2 | |
| | 043007 | Smart High Voltage Dielectrics Engineering- Fusion of Dielectric Materials Science with Physics and Chemistry | 2 | |
| | 042109 | Scientific Writing | 1 | |
| | 043076 | Advanced Progress In High Voltage And High Current | 2 | |
| | 043105 | Low-Frequency EMC: Measurement Techniques and Prediction Models | 1 | |
| Elective Course | Any graduate course(s) offered in the university | | | 4 |
| Compulsory Activities | 001997 | Lecture | 1 | 4 |
| | 001983 | Mid-term assessment | 3 | |

Note: Students should get permission from academic instructor and course teacher before choosing courses from other schools, annual course list will be updated after university authorization every year.

(2) Teaching Staff

There are 237 faculty and staff members in School of Electrical Engineering including 2 academicians, 4 winners of “National Science Foundation for Distinguished Young Scholars”, 3 winners of “National Science Foundation for Outstanding Young Scholars”, 3 Shaanxi Province outstanding teachers, 23 New Century Talents, 52 professors, 2 researchers, 55 associate professors, 16 senior engineers, 3 Double hired academicians, and 5 overseas part-time professors. The school also has an innovation research group of National Natural Science Foundation, a national teaching team, a innovation team of Ministry of Education, a Shaanxi Province innovation team, a Shaanxi Province outstanding teaching team.

2. Teaching Methods

All of the courses for foreign students are given in English. The training mode adopts supervisor responsibility system. According to the students’ Specific situations and personal interests, their supervisors will make a training plan for them in the first semester.



3. Term Arrangement

Students will study at the school for 2 years, consists of 4 semesters. The courses are given in the first 3 semesters, and student start to write dissertations from the first semester.

4. Graduation Thesis

(1) Requirements on Thesis Writing

a. After the completion of dissertation and meeting the requirements of the program, the postgraduate student can submit his or her academic dissertation for review.

b. The dissertation should be finished by the student him/herself under the guidance of the academic supervisor. The work duration for a Master's dissertation is around one academic year.

c. Student's dissertation can be written either in Chinese or in English. Students who write their dissertation in Chinese, must follow the rules and regulations specified in *Graduate Student Dissertation Standard of Xi'an Jiaotong University*; while students who write their dissertation in English, must meet the international conventions and have a Chinese abstract.

d. The dissertation used for applying for the degree must be first authored or second authored by the student (when the student is the second author, the first author must be his or her academic supervisor) and Xi'an Jiaotong University should be the first authored institution.

(2) Requirements on Thesis Defense

International postgraduates are required to submit the dissertation review applications to the academic school and the Graduate School. Upon the approvals of the two, routine reviews can be conducted. The student can file an application for dissertation defense only after the reviewers confirm that the dissertation satisfied the requirements. After the student defends his/her dissertation successfully, he/she can apply for conferring a degree.

5. Degree Awarding

The Subcommittee for Academic Degrees Conferring of the academic school will review the degree application materials to decide whether to confer a Master's degree to the student. The decision of the subcommittee's will be reported to the University Committee for Academic Degrees

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Conferring where the final decision will be made. The School of International Education issues the graduation diploma to those who are conferred upon the degree. Certificate of course completion will be issued to those who are not qualified to get the degree.

II.Application

i. Eligibility

1. Non-Chinese citizen from developing countries with good health condition and under the age of 45 (born after September 1st, 1980).
2. Be in good physical and mental health and provide a health certificate or medical examination report issued by a local public hospital, and have no diseases that are prohibited from entry and long-term residence in China according to Chinese laws and regulations. No severe hypertension, cardiovascular diseases, diabetes, cancer, or other serious chronic diseases, mental illnesses, or infectious diseases that may pose a significant threat to public health. Not in the recovery period from major surgeries and acute illness seizure. No severe physical disabilities, and pregnant. Female students who become pregnant during their studies in China will be withdrawn from their studies.
3. Having a bachelor degree or above, with 3 years or more job experience.
4. Having academic or job background related to Electrical Engineering will get prior consideration.
5. Being government officials with rank of division chief, department directors, or senior level-managers or equivalent or higher rank; and academic member in university or scientific research institute.
6. Having a new TOEFL score higher than 80, or IELTS higher than 6.0, to proficiently study the program in English.
7. Having career potential and willingness to promote cooperation between China and student's home country.

ii. Application Procedure

1. Application Procedure

- 1) Applicants need to log in <http://isso.xjtu.edu.cn/recruit/login> and register an account;
- 2) After registration, applicant should enter the system and select “Programs Selection”;
- 3) Select “Degree Program”, “Master Program”, and “MOFCOM”;

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- 4) Click “Apply”;
- 5) Fill in basic information, choose “School of Electrical Engineering” in the Study Plan, and upload all the scanned copies of required documents;
- 6) Click “Submit” to complete the online application.

2. Application Documents

Please prepare the following documents before submitting application:

- (1) Highest diploma. If the highest diploma is not bachelor, please attach the bachelor diploma at the same time.
- (2) Transcripts of study for highest diploma. If the highest diploma is not bachelor, please attach the transcript for bachelor diploma at the same time.
- (3) Institute recommendation letter. Issued by the applicant’s institute, introducing basic information of the applicant and its’ willingness of recommending the applicant to study in China.
- (4) Academic recommendation letter. Issued by individual who is associate professor or above, introducing applicant’s academic background, research area, past achievements and research ability.
- (5) Personal Statement. Personal statement must be written in English and be some 1000 words in length. It shall cover such essential elements as applicant’s academic background, work experience, achievements, and future career plans, including a research plan at Xi’an Jiaotong University.
- (6) Photocopy of ordinary passport: should be the personal information page with applicant’s photo, information including name and passport number should be clear. Please do not submit diplomatic passport or public affairs passport for application.
- (7) English language ability certificate: not necessary for native English speakers, should be the transcript of applicant’s recent TOFEL, IELTS test.
- (8) Two 2-inch bareheaded photo taken within 3 months.
- (9) Physical Examination Record: examination should be taken within 1 month, proving applicant is not affected by severe infectious disease or other disability that may affect study in China. Other diseases that are prevented by Chinese government from entrance should also be checked.

3. Submission

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- (1) Student can apply the program only after getting permission and recommendation from corresponding department in home government, prepare documents according to the department's requirement.
- (2) Submit all the application materials listed in part 1, 2, 3 in both hard copy and soft copy to the Economic and Commercial Counsellor's Office of Chinese Embassy. Each Office's address and contact of can be found at <http://www.china-aibo.cn/>.
- (3) Submit a written request to the Economic and Commercial Counsellor Office of Chinese Embassy for an official recommendation letter and clearly state: whether the applicant is willing to be considered for a similar program at other universities if the program at XJTU is already full. Other special requests should also be raised if any.

Reminders:

- a) All the documents to be submitted should be in Chinese or English. Otherwise, a notarized copy in Chinese or English is required.
- b) An original copy of degrees, transcripts and language certificates must be presented for on-site verification at Economic and Commercial Counsellor's Office of Chinese Embassy. After verification, students should send scanned copies to university contact person.
- c) Applicants will get back all the hard-copy materials, both original copies and photocopies from the Economic and Commercial Counsellor's Office. If admitted, they must take the documents to China and submit them to the School of International Education during registration in early September.

iii. Application Deadline

June 6, 2025

III. Useful Information

i. Contact

Contact person: Ms. ZHANG Xiaojing

Telephone: 0086-29-82668812

E-mail: zxj0508@xjtu.edu.com

Website: <http://sie.xjtu.edu.cn>

Address: Admission Office of International Students, School of International Education, Xi'an Jiaotong University, No.28 Xianning West Road, Xi'an, Shaanxi 710049, P.R.China

ii. Other Notices

1. None of the materials submitted will be returned.
2. Regardless of the admission result, no explanation will be provided by Chinese government.
3. Spouse and children are not allowed to come to China as study companion. If a student expects to have his/her spouse, children, relatives or friends to visit him/her during the stay in Beijing, the visitor will have to bear all the expenses by him/herself.
4. Visa Application and other requirements will be stated in admission letters.