





2024 Master of Rail Transit

(Electrification and Information Technology)



### Table of Contents

#### I. Program Introduction

- 1.1 Basic Situation
- 1.2 Introduction to University
- 1.3 Academic Program

#### **II. Application Procedures**

- 2.1 Application Requirements
- 2.2 Application steps
- 2.3 Deadline

#### III. Other important Notice

- 3.1 Contact Information
- 3.2 Other Important Note

January, 2024

#### I. Overview

#### (I) Introduction to the Program

#### 1. Profile

With the support of foreign aid funds granted by Chinese government, the Academic Education Programs sponsored by the Ministry of Commerce of the People's Republic of China was initiated in 2008. The Program is committed to training high-end, versatile and application-oriented talents in politics, economy and trade, foreign affairs, agriculture, science, education, culture, health, energy, traffic, public management, and other fields for recipient countries in a bid to boost their economic and social development through education. The programs include one-year master's degree program, two-year master's degree program and four-year doctoral degree program, and mainly sponsor in-service officials from governmental departments, researchers from academic institutions and management professionals in relevant fields from recipient countries who pursue their English-taught master and doctoral degree education in China. Owing to the short duration of schooling, a bachelor's degree and a certain period of work experience in relevant fields are a prerequisite to ensure students to closely follow the instructors and timely make full sense of the lessons; the good health is another prerequisite to gear them to fast-paced learning mode and ensure them to achieve the degree.

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

The program undertaken by Southwest Jiaotong University (SWJTU) aims to cultivate high-level, versatile and application-oriented specialists in rail transit electrification and information technology and its related fields. Through classroom teaching, students can better grasp the basic theory and professional knowledge of the subject, broaden their knowledge and improve their international perspective. The program also combines internship visits, case discussions, research practice, and other teaching methods to develop students' leadership, analytical and practical problem-solving skills, and good communication skills. Through the course, students can draw on the successful experiences and failures in the area of rail transit electrification and information technology in China, and fully grasp the modern techniques, methods, and practical skills to engage in rail transportation planning and management, thus meeting the needs of modern transportation development.

**2.** Entry Requirements: Governmental officials on or above department level, heads of academic institutions on or above director level, or administration staff with equal title from higher education institutions.

#### 3. Program Objectives:

The Academic Education Programs sponsored by the Ministry of Commerce of the People's Republic of China for developing countries is devoted to cultivating

high-end, versatile and application-oriented talents in politics, economy and trade, foreign affairs, agriculture, science, education, culture, health, energy, traffic, public management, and other fields.

The Master's Program in Rail Transit Electrification and Information Technology intends to cultivate high-level applied and versatile engineering and engineering management talents, innovative talents with broad theories in rail transit electrification and information technology, systematic expertise in this discipline, and the ability to undertake complex work. Specific objectives include:

(1) To master the basic theories and expertise systematically and thoroughly in the field of rail transit power supply, traction drive, and other rail transit equipment technology and application. To understand the current situation, development direction, and international frontier of the discipline.

(2) To understand the application of new technologies, methods, materials, and equipment in the field of rail transit electrification and information technology. To develop the ability to independently engage in engineering design, engineering practice, engineering research, engineering development, and engineering management in the specific direction of the training field. Be able to flexibly apply professional basic theories and expertise to creatively solve practical engineering problems.

(3) To develop organizational and management skills in professional engineering work.

#### 4. Enrollment Scheme

#### Major

Master of Rail Transit Electrification and Information Technology

#### **Duration of Schooling**

The duration of schooling for master students is **two** years, including one year for curriculum learning and another for thesis writing.

#### Instruction Language

The teaching language is English.

### Number of Enrollments

15

#### 5. Scholarship Coverage

(1) Students are exempt from tuition fee, teaching material fee, research and survey fee, allowance of English-taught program, dissertation guidance fee.

(2) Free on-campus accommodation.

(3) Living allowance: 36000RMB/year/person.

(4) One-time settlement fee: 3000RMB per person.

(5) Free medical insurance for international students.

(6) One-time round-trip international airfare for all students (first time fly to China after enrollment, and fly back to home country while graduation), and a maximum of "n-1" ("n" is for the length of schooling year which is set while the student was

enrolled by the program) round-trip international airfares for home visits (one time per year set at the end of an academic year).

(7) The annual review is compulsory for all students. Those who pass the review may continue to enjoy full scholarship next year.

(8) Other expenses shall be managed and used by the Ministry of Commerce or the university as a whole, and shall not be distributed to students. The Ministry of Commerce only provides students with financial assistance within their enrolled academic duration. Students who postpone their graduation will not receive the continuing sponsorship.

#### (II) Introduction to SWJTU

### 1. Profile

Southwest Jiaotong University (SWJTU) is a national key university with graduate school directly under the State Ministry of Education, and also a research-oriented university listed among the "Double First-Class Initiative" "211 Project", "985 Innovative Platforms for Key Disciplines Project" and "2011 Plan", and equipped with the Graduate School. It is located in Chengdu, which is both a historical city and a national center city, and the core city of the "Chengdu-Chongqing Twin Cities Economic Circle".

Founded in 1896 as the "Imperial Chinese Railway College", SWJTU is the first institution of higher engineering education in China. It has become known as "the cradle of railway engineers in China". At present, the university has four campuses -- Xipu Campus (the main campuses), Jiuli Campus and, Eastern (International) Campus and Emei Campus, covering an area of over 5,000 mu (824 acres) in total.

The university is expert in engineering, and has built a fully-fledged training system throughout engineering, science, liberal art and biology. It has established the most complete discipline and professional system, talent training system and scientific research and innovation system in the field of rail transit in the world. Now there are 27 schools (centers), with 2 national key disciplines of transport engineering and mechanical engineering, 10 national key disciplines of vehicle engineering and bridge and tunnel engineering, 18 Doctoral Degree Programs for first-level disciplines, 41 Master Degree Programs for first-level disciplines, and 11 centers for post-doctoral studies. Its Traffic and Transportation Engineering ranks the first (A+) throughout China, and is listed into the "Double First-Class Initiative" projects. Its Civil Engineering ranks A throughout China, and Civil Engineering. Mechanical Engineering, Electrical Engineering enter the world's top 50 (Soft Sciences World Class Discipline Ranking and US NEWS Discipline Ranking). Engineering, Computer Science, Materials Science, Chemistry, Social Science, Geosciences, Environmental Engineering, etc. rank the ESI world top 1%, Engineering ranks the ESI world top 1‰.

There are more than 2,700 full-time faculty, including 2 academicians of the Chinese Academy of Sciences, 3 academicians of the Chinese Academy of Engineering, 1 foreign academician of the American Academy of Engineering. There are 28,914 full-time undergraduates, 15,053 master's degree students, 2,630 doctoral students

and 536 international students.

The university has established cooperative relationships with more than 200 universities and research institutes in 60 countries and regions. The study abroad, overseas study tour, and academic visit programs such as "2+2", "Bachelor and Master 4+1" and "Sino-France 4+4" cover all grades. It has cooperated with the University of Leeds to set up the "SWJTU-Leeds Joint School", and has taken the lead in setting up the "One Belt, One Road" Railway International Education Alliance.

#### 2. Introduction to the Undertaking School

The School of Electrical Engineering has a strong school running strength, the school consists of five departments including electrical electronics, power engineering, power electronics and power transmission, electronic information engineering, urban rail electrical, with the National Railway Electrification and Automation Engineering and Technology Research Centre, railway electrification and automation disciplines of the Intellectual Base ("111" intellectual base). It has the State-level Experimental Teaching Demonstration Centre for Electrical Engineering Fundamentals, the State-level Experimental Teaching Centre for Virtual Simulation of Railway Electrification and Automation, the Key Laboratory of the Ministry of Education for Magnetic Levitation (METL), the Key Laboratory of the Ministry of Railway for Railway Electrification and Automation, the Key Laboratory of Sichuan Province for Magnetic Levitation Train and Magnetic Application Engineering, the Sichuan Provincial Laboratory of Engineering for Energy Conversion and Control of Urban Railway Transportation (co-founded), and the Fuel Cell Engineering and Technology Research Centre (co-founded). Fuel Cell Engineering and Technology Research Centre (co-built), Professional Experiment Centre of Electrical Engineering and Traction Power Supply Function Laboratory of Railway Transportation Laboratory, which is also an important part of State Key Laboratory of Traction Power. A national engineering practice education center has been jointly established with Zhuzhou Electric Locomotive Research Institute and Sichuan Changhong Electric Appliance Co. Ltd. to join hands in promoting the teaching, scientific research, talent cultivation as well as industrial development of the college.

The college has the right to confer doctoral and master's degrees in two first-level disciplines of electrical engineering and control science and engineering, among which, power system and its automation is a national key discipline, power electronics and power transmission is a national key (cultivation) discipline, electrical engineering and control science and engineering are two key first-level disciplines in Sichuan Province; the right to confer master's degrees of professional type (Master of Engineering) in the fields of energy power and electronic information; electrical engineering and its automation, electronic information engineering, electrical engineering and its automation for the national key majors, national characteristics of the professional and training of outstanding engineers, through the national engineering education professional certification, electronic information

engineering for the national characteristics of the professional and training of outstanding engineers; electrical engineering postdoctoral research station, the establishment of a complete bachelor's - master's - doctoral degree program. There is a postdoctoral research station of electrical engineering, and a complete training system of bachelor's degree, master's degree and doctor's degree has been established.

There are 2,371 undergraduates, 1,053 master's degree students and 235 doctoral degree students in the college. There are 1 national-level high-quality online open course, 2 national-level high-quality shared courses, 4 national-level high-quality courses, 1 national-level open video course, 4 provincial-level high-quality online open courses and 6 provincial-level high-quality courses.

#### **3** Introduction to Living Conditions

Chengdu, where SWJTU is located, has a subtropical monsoon climate. The main climatic characteristics are four distinct seasons (early spring, hot summer, cool autumn, warm winter), with the average annual temperature of  $16^{\circ}$ C. The price level in Chengdu is medium, with an average monthly consumption of 1500-2000 RMB. The university currently has four campuses, of which the main campus is located in Pidu District, Chengdu, with a beautiful campus environment. The international student flats built around the lake houses students from all over the world. Apart from the individual bedroom, a living room, a kitchen, and a bathroom, each suite is fitted with an air condition, an induction cooker, and so on.

Course Category	Course Name	Credits	Semester	College	Require d Credits	Introductio n
	Chinese 1 & 2	4	Ι			Through the study, students will be equipped
Public	Chinese 3	4	I & II	8 School of Foreign Languages	8	with certain Chinese communicati
Courses	Chinese 4	4	П			on ability, and understand China's
	China Overview	2	Ι		2	history, geography, society, economy and

#### III. Teaching Schedule 1. Course Arrangement

			le i copie s	s Republic (		
Professional Courses	Advanced Analysis of Power System Theory and Technolog y of	3		School of Electrical Engineering	9	other basicknowledgeof China'snationalconditionsand culture.Students willsystematically learn thecontent andmethods ofadvancedanalysis ofpowersystem,understandthe problemsand solutionsof existinganalysismethods, sothat studentscan masterand have theknowledgeand ability toengage inpowersystemanalysis,EMS systemresearch,design andmanagementaftergraduation.Studentslearn tomaster thebasic theory
	Technolog	3	Π			learn to master the

	c i copic s	Republic	
			power
			supply
			system,
			master the
			traction
			power
			supply
			theory and
			power
			quality
			analysis
			methods,
			understand
			the current
			situation of
			electric
			railway
			power
			quality,
			familiar with
			the
			measurement
			and analysis
			methods
			combined
			with power
			quality test
			examples,
			master a
			variety of
			integrated
			control
			schemes of
			power
			quality,
			which can be
			used to solve
			problems in
			practical
			engineering
			application
			of traction
			power
			supply

of Commerce of the People's Republic of China					
					system.
-					
					This course mainly
					teaches the
					topology, modeling,
					modulation
	Modern Power				and control methods of
	Electronics	3	II		power
	and	5			electronics
	Electrical Drives				conversion circuit,
					theory, new
					methods and
					cutting-edge
					technology
					of motor
					control.

#### **Training Links**

Training Sessions	Credits	Requirements	No tes
Academic Activity	2	Students should attend at least 10 academic reports including 2 reports given by students as speakers. Students should write a summary of not less than 500 words for every report.	
Research Group Seminars	3	Students should attend at least 10 times of research group seminars and fill in recording forms.	
Literature Reading and Review	2	Students should read at least 10 high-level literatures related to the discipline and write a summary for each literature.	
Thesis Proposal	2	Thesis proposal should generally be completed in the third semester.	
Interim Assessment of Thesis	2		

School Faculty:

There are 278 faculty members (231 full-time teachers) in the school, including: 51 professors (researchers), 95 associate professors (associate researchers, senior engineers, etc.); there are 57 doctoral supervisors and 145 master's supervisors. Among them: 2 Chinese Academy of Engineering Fellows (1 dual appointment), 1

IEEE Fellow, 7 IET Fellows, 2 national teaching masters and 15 people enjoying the special allowance of the State Council. The school has 2,371 undergraduates, 1,053 master's degree students and 235 doctoral students.

#### 2. Teaching Methods

The school adopts flexible and diverse teaching methods, such as classroom teaching, experiential learning, case discussion and simulation training.

J. Semest	er Scheune	
Date of Starting	Every early September	Please refer to the Letter of Admission for scheduled
School	Every early september	dates.
Enrollment Every late August		Please refer to the <i>Letter of Admission</i> for scheduled
Emonnent	Every late August	dates.
Vacations	Every July and January	Summer vacation: every mid-July to late August
vacations		Winter vacation: every mid-January to late February
Graduation	Evory Juno	Specific dates subjected to the schedule of the
Graduation	Every June	school.

### 3. Semester Schedule

#### 4. Graduation Dissertation

#### (1) Topics

Topics should have critical application value or theoretical significance in the development of national economy and be related to the scientific research projects of supervisors as much as possible. Topics shall be selected after the approval of supervisors and demonstration.

#### (2) Dissertation Proposal

Master students generally shall accomplish dissertation proposal during the third semester. Opinions should be widely solicited in the dissertation proposal meeting and topics will be determined after the approval of experts in relative subjects.

Dissertation proposal should include the development and trend of intended topics at home and abroad, the purpose and significance of the topics, the research contents and methodology, hypothesis, dissertation schedule, and the requisite conditions for the research.

#### (3) Dissertation Working Plan

Dissertation working plan shall be formulated under the guidance of supervisors. The arrangement and demonstration of research methodology, experiment scheme and methods, expenditure and equipment, paper writing, deadline for completion and expected results should be elaborated in the working plan.

# (4) The publication, evaluation and defense of dissertation and the degree awarding is subject to the relevant provisions of Southwest Jiaotong University.

#### 5. Degree Awarding

Students who have obtained required credits, passed all the examinations, and successfully accomplished dissertation and defense will be awarded master's degree after the review by the Academic Degree Evaluation Committee of Southwest Jiaotong University.

### **II. Application**

#### (I) Application Requirements

1. Applicants must be non-Chinese citizens from developing countries, in good physical conditions. Normally, applicants are expected to be aged under 45 (applicants must be born after Sep. 1st, 1979).

2. Applicants shall obey the laws and regulations of the People's Republic of China and the rules and regulations of Southwest Jiaotong University and respecting the tradition and habits of China.

3. The applicant shall be in good health, without diseases with which entry to China and long-term residence are not allowed by China's laws and regulations, without severe chronic diseases such as serious high blood pressure. cardiovascular/cerebrovascular diseases and diabetes, mental diseases or epidemic diseases that are likely to cause serious threat to public health; the applicant shall not be in the process of recovering after a major operation or in the process of acute diseases or seriously disabled or pregnant. Those who get pregnant during the study in China will be dropped out of school.

4. Applicants must have obtained a bachelor degree or above, and at least 3 years of working experience are required.

5. Applicants with related professional study or working background are preferred.

6. Applicants must be public officials in the government departments at director's level and above (or corresponding levels), senior directors of various institutions or enterprises, and key professional figures of the universities or research institutions

7. The applicant shall have good command of English and can use English for professional courses. Non-native English speakers must hold excellent English skills of listening, speaking, reading and writing and are able to smoothly communicate specialized research with the supervisors and finish the study in English. Please provide the copy of TOFEL, IELTS or other English skill certificate if the applicant has.

8. Applicants shall be equipped with a strong career development capacity and intend to promote the communication and cooperation between host countries and China.

9. Applicants shall be qualified for the major requirements of the enrollment information of intended university.

10. Students who are already studying in China or have been admitted to other

Chinese government scholarship programs are not allowed to apply.

11. Spouse or relatives of the applicant shall not be taken to China.

12. The applicant must be introduced by the Embassy of the PRC in the host country.

### (II) Application Procedure

#### 1. Application for Admission

#### (1) Procedures

- Applicants need to fill out the electronic edition of the "2024 Application Form of Master Program in Rail Transit Electrification and Information Technology in Southwest Jiaotong University for Developing Countries", print out the entirely completed form and sign your name and date.
- Electronic editions of all the application materials should be submitted through the application system of Southwest Jiaotong University: http://swjtu.17gz.org/.

Note: The print version of all the application materials should be submitted to the School of International Education, Southwest Jiaotong University for

### registration after enrollment.

### (2) Notes

A. The electronic form filled online should be printed out and manually signed with name and date.

B. Appropriately sized bareheaded photo (or passport photo) should be affixed to the specified location of the printed form.

C. The fund source should be the Scholarship of the Ministry of Commerce of PRC.

#### 2. Material Preparation

A whole set of application materials is required. Please read carefully and prepare the application materials as required. Incomplete materials will not be accepted.

Apr	olication materials	Requirements	Original	Сору
1	Application Form	All the information must be filled out in the electronic edition of the "2024 Application Form of Master Program in Rail Transit Electrification and Information Technology in Southwest Jiaotong University for Developing Countries". Name and date must be manually signed on the printed form.	1	1
2	Graduation Certificate Degree Certificate	<ol> <li>Graduation Certificate and Degree Certificate must be original or the notarized Chinese or English copy.</li> <li>For current students, the certificate with expected date of graduation issued by the school is required.</li> </ol>	1	1
3	Official Transcripts	<ol> <li>The transcripts must be the Chinese or English original or notarized Chinese or English copy.</li> <li>The transcripts must cover all the studied courses and the final results.</li> </ol>	1	1
4	Personal Statement	The word limit of personal statement is 1500 words. The statement should include the academic background, the working experience and achievements related to the applied major, the study and research plan for the master's degree and the development objectives after graduation.	1	1
5	Resume	The resume shall be written in English, including personal information and education background.	1	1
6	Recommendation Letter	<ol> <li>Two recommendation letters from the government, regional education administrative departments, universities, or senior officials of the country which the applicant is from are required.</li> <li>The recommendation letters shall be Chinese or English original.</li> <li>The recommendation letters shall be issued in 2023 or 2024.</li> </ol>	2	2
7	English Proficiency Certificate	The applicant who is not native English speaker or taught in English in undergraduate courses shall submit English proficiency certificate.	1	1
8	Valid Passport Copy	The passport must be general passport and valid at least for 6 months. <b>Note:</b> The passport held by all the enrolled candidates for entering China and registration must be identical with the	0	1

App	lication materials	Requirements	Original	Сору
		original of the copy.		
9	Recent Passport Photo	One photo attached to the application form.	2	0
10	Foreigner Physical Examination Form	<ol> <li>The original copy should be kept by the applicant. The form is uniformly printed by Chinese healthy quarantine departments. It must be written in English. The physical examinations must cover all items listed in the form. Incomplete forms or forms without the signature of the attending physician, or the official stamp of the hospital, or a sealed photograph of the applicant are considered as invalid.</li> <li>Please carefully plan your physical examination schedule as the result is valid for only 6 months.</li> </ol>	1	1
11	Non-Criminal Record Report	The applicant shall submit a valid certificate of Non-Criminal Record issued by the local public security authority, usually issued within 6 months prior to the submission date of the application.	1	1

#### 3. Application Submission

(1) Applicants can submit the application for this scholarship program only after getting the approval and recommendation from relevant government authorities. Applicants shall submit all the application materials according to the specific requirement of relevant authority in their countries.

(2) If the government in applicants' country allows applicants to submit the application materials directly to the Chinese Embassy, applicants shall have relevant approval or recommendation letter issued by relevant authority in their countries. Please submit the originals and scanned electronic copies mentioned in the Step 1-3 above to the Economic and Commercial Counsellor's Office of Chinese Embassy in the host country. The addresses and contacts of all the Economic and Commercial Counsellor's Offices can be reached out in the official website (English version) of Academy for International Business Officials (AIBO) of the Ministry of Commerce of PRC: https://www.china-aibo.cn/en/.

(3) The dispatching authorities of the home country shall submit a written request to the Economic and Commercial Counsellor's Office for the recommendation letter for the recommended applicants. In this written document, it shall be clearly stated that if the planned enrollment figure of SWJTU is run out, whether accepting the same or similar major of different university. Other special requests shall also be raised if any.

#### Key Notes:

(1) All the submitted materials shall be written (printed) in Chinese or English. Non-Chinese or Non-English documents shall be submitted with notarized Chinese or English translated copies.

(2) Originals and copies of important documents, such as Graduation Certificate,

Degree Certificate, Academic Transcripts, Language Proficiency Certificate, Foreigner Physical Examination Form and Non-Criminal Record Report shall be submitted for verification by the Economic and Commercial Counsellor's Office of Chinese Embassy. After verification, the applicants should scan the application materials and upload through the application systems.

(3) All the paper materials (originals and copies) shall be reclaimed and kept after the verification by the Economic and Commercial Counsellor's Office of Chinese Embassy. The paper documents shall be taken to China and submitted to the assigned departments of the university for verification and filing once you are admitted.(4) All the application materials are not returned.

### (III) Deadline

June 7, 2024. All the materials provided after the deadline will not be accepted.

### III. Other Key Notes

(I) Contact Contact person of the university Ms. ZENG Tel.: +86-28-66366343 Fax: +86-28-66366346 E-mail: iso@swjtu.edu.cn Website: https://en.swjtu.edu.cn

Address: Room 448, International Students Office, Office of International Cooperation and Exchanges, Comprehensive Building, Southwest Jiaotong University, Xipu Campus, No. 999, Xi'an Road, Pidu District, Chengdu, China

### (II) Other Notes

1. All the application materials will not be returned no matter what results are.

2. The Chinese government will not give any explanation for the results.

3. Spouse and children are not allowed to come to China as study companions. Expenses or fees for spouse's or relatives' visit will not be assumed by Chinese side.

4. The procedures and requirements for entering China will be explained in the letter of admission.

# 2024 Application Form of Master Program in Rail Transit

### **Electrification and Information Technology**

### in Southwest Jiaotong University for Developing Countries

- Please complete the form in English or in Chinese.
- Please complete the form in marker pens.

1.	Persona	l Informati	on				
	D (	N	Family name:				
Name	Passport	ssport Name Given na				Photo	
	Chinese Name:					1 11010	
Gender:		Nationalit	у:	Married:	Single:		
Passport No.   Valid Until   Yr.   Mon.   Date							
Date of Birth: YrMonDate		_Date	Place of Birth:CountryCity:				
Religion:				Native Language:			
		Employer:					
Current		Location:					
Employment Occu		Occupation	Occupation:				
		Position:					
Tel.:			Fax:		E-mail:		
Permaner	nt Address	5:					

#### 2. Educational Background (from tertiary education)

#### 2.1 Highest Diploma

Name of School	School Location	
Major/Subject	Degree Obtained	

	<b>A A</b>	
Years	Teaching	
Attended(from/to)	Language	
2.2 Other Diploma, i	if applicable	1
Name of School	School Location	on
Major/Subject	Degree Obtain	ed
Years	Teaching	
Attended(from/to)	Language	
2.3 Other Diploma, i	if applicable	
Name of School	School Locatio	n
Major/Subject	Degree Obtaine	ed
Years	Teaching	

#### 3. Employment Record

Attended(from/to)

Employer	Time (from/to)	Work Engaged	Position Held

Language

### 4. Language Proficiency

4.1 English: Excellent Good Fair Poor None

4.2 I can be taught in English: Yes□ No□

4.3 Documents which can show your English level:

#### 5. Family Members

Name		Age	Occupation	Tel.	E-mail
Spouse					
Father					
Mother					

#### 6. Publications and Thesis

#### ♦ I hereby affirm that

(1) All the information and materials I provided above are true and correct.

(2) I shall abide by the laws and decrees of the Chinese government and the rules and regulations of university, and will not participate in any activities in China which are deemed to be adverse to the social order of China and are inappropriate to the capacity as a student.

### Applicant's signature \_\_\_\_\_