

Academic Education Programs Sponsored by Ministry of Commerce PRC



Tongji University

2019 International Master Program in Environmental Management and Sustainable Development

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Chapter I. Program Description

Section I. Background

1, Brief

Academic Education Programs sponsored by the Ministry of Commerce of People's Republic of China is designed 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.

Starting from 2008, the graduates are now working in their specialties back in home and undertaking an increasingly significant role in the economic development cooperation between China and their home countries.



UN Environment-Tongji Institute of Environment for Sustainable Development, hereinafter referred to as "IESD", jointly established by United Nations Environment Programme and Tongji University in 2002, has served as a strategic think-tank for UN Environment, an interdisciplinary platform for Tongji University and contributed significantly to



environment and sustainable development from three main pillars – education, research and outreach. IESD has been mandate to mainstream environment and sustainable development into higher education, to promote research, education and South-South Cooperation on the environment and sustainability, to enhance the service of science and technology to policy-making and implementation, and to provide tailored solutions to the Southern countries. With support from UN Environment, Ministry of Education of China and Tongji University, IESD launched the International Master's and Doctoral Programme since 2006.

By 2018, IESD had enrolled 464 students from 83 countries.

Tongji University ranks A+ in the discipline of Environment according to the recent evaluation by the Chinese Ministry of Education. **Among the 155 universities** that were evaluated only 3 universities rank A+.

This program aims to equip candidates with integrated environment management vision and leadership ability at the local, national and regional levels on sustainable development. Candidates are expected to master various concepts and gain knowledge on economic progress, social systems, environmental protection and resource conservation issues. The three pillars of human, environment and the economy form the basis of the program.

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 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

Working staff in Ministry of Environment, the Ministry of Resources and other environmental related government department, academic and industrial sectors.

3. Program Objective

To prepare policy makers and practitioners for developing countries with integrated environment management vision and leadership ability at the local, national and regional levels on sustainable development.

4, Enrollment Plan

Major: Environmental Management and Sustainable Development

Number: 30

Language: English

Duration: 2 years (1 year for courses and 1 year for research)

Field: Water resources, environment & disaster management

5, Financial aid/Scholarship Coverage

- Tuition waiver:
- Teaching material fee waiver;
- Research and survey fee waiver;
- Dissertation guidance fee waiver;
- One-off resettlement fee: 3000RMB per master student,
- On-campus accommodation;
- Stipend: 3000RMB per month per master student,
- Medical insurance
- One-time round-trip international airfare for all the 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).
- Other parts would be managed by the Chinese Ministry of Commerce or the university which won't transfer to the students.
- The Chinese Ministry of Commerce would only offer the scholarship within the planned academic years. Those candidates who extend the graduation won't get the scholarship anymore.

Section II. University introduction

1. <u>University brief</u>

Tongji University is one of the leading universities in China under direct administration of Ministry of Education, listed on "Project 985" and "Project 211". With a history of over a century, Tongji has valued the balanced development of four functions, i.e. education, research, outreach, and culture inheritance and innovation.

The history of Tongji can be traced back to 1907 when German Medical School was founded by Erich Paulun, a German doctor in Shanghai. After being renamed Tongji German Medical School in the following year, it was formally established as a university in 1923. It became National Tongji University in 1927, one of the seven earliest national universities of China. Around 1949, Tongji already boasted five colleges of natural sciences,

engineering, medical science, liberal arts and law, and enjoyed a fine reputation as a comprehensive university both home and abroad. Following a nationwide campaign of restructuring universities in 1952, Tongji became an engineering-intensive university with top-notch strength in civil engineering and architecture, which is second to none in terms of scale and number of disciplines. Since 1978, "two transforms" were launched, namely, the transforming to an international university by restoring links to Germany, and the transforming from a university focusing mainly on civil engineering to multi-disciplinary engineering university. In 1995, Tongji declared to be jointly built by the Ministry of Education and the Shanghai Municipal Government. By 2007 when it was celebrating its centennial, Tongji had become a comprehensive, international, research-oriented university with distinct features and global influence. In 2017, the university was listed as one of the world class universities.

The university now covers 10 broad categories of academic disciplines, including engineering, science, medicine, management, economics, philosophy, literature, law, education and arts. The number of faculty stands at 2,814, of which 1028 are professors, and 1786 associate professors. The university now registers 17,757 full-time undergraduate students, 12,852 graduate students, and 4,279 PhD candidates. Another 5,246 international students are pursuing their degrees here.

The university offers 85 undergraduate majors. It can grant master degrees in 47 broad academic disciplines, together with 18 professional Master's programs. It also grants PhD degrees in 31 broad academic disciplines with 3 professional PhD programs and 25 post-doctoral mobile research stations. Of all the disciplines, 3 are first-level national key disciplines, 7 secondlevel national key disciplines, 3 second-level national key disciplines (incubated), and 17 first-level Shanghai disciplines. There are 3 State Key Laboratories, 1 National Engineering Lab, 5 National Engineering (Technology) Research Centers, and 53 ministerial/provincial-level key labs and engineering (technology) research centers as well as 7 affiliated hospitals and 6 affiliated high schools. Since its founding, Tongji has turned out nearly 300,000 graduates, among which many are extraordinary political leaders, scientists, educators, social activists, business leaders, medical specialists, and engineering technology experts. Over 140 alumni are academicians of the Chinese Academy of Sciences, or the Chinese Academy of Engineering.

2. College brief

The College of Environmental Science and Engineering (CESE) at Tongji University was one of the earliest established colleges dedicated to environmental education and research in China. Its predecessor was the Department of Health Engineering established in 1952 and later the Department of Environmental Engineering established in 1978. Currently, CESE comprises three specialty branches: Environmental Engineering, Municipal Engineering (Water Supply and Sewerage Engineering), and Environmental Science, all with undergraduate, master, doctoral, and postdoctoral programs. In order to promote the research and education in the field of global environment issues and sustainable development, the United Nations Environment Programme-Tongji Institute of Environment for Sustainable Development (IESD) was co-established by UN Environment and Tongji University in 2002. The close affiliation of IESD with CESE committed the active involvement of CESE in international environmental education and scientific research.

Nowadays, the college has 3 departments, namely, Municipal Engineering, Environmental Engineering and Environmental Science and develops itself into a complete system of undergraduate and graduate students ranging from BA, MA, PhD to postdoctoral level(including national key disciplines on environmental engineering and key subject of Shanghai Municipal Engineering). Apart from this, the college sets up the State Key Laboratory of Pollution Control and Resource Reuse, National Engineering Research Center for Urban Pollution Control, National Experimental Teaching Demonstration Center of Environmental Science and Engineering, Key Laboratory of Yangtze River Water Environment, Ministry of Education and the UN Environment - Tongji Institute of Environment for Sustainable Development (IESD).

As to the majors, the students from Water Supply and Drainage Engineering and Environmental Engineering become members of the "Excellent Engineers" training plan launched by Ministry of Education. In addition, Environmental Engineering is one member of "Excellent Postgraduates" training plan launched by Ministry of Education. Each year, the Environment Science and Engineering College enrolls about 150 undergraduates, 250 graduate students (including doctoral students) and about 30 international students. In the past 60 years, around ten thousand

of high-level professionals graduated from the college to serve the society. Through international cooperation with the United Nations Environment Programme (UN Environment), IESD is an international education model in the field of Environment and Sustainable Development for the region and the world, especially for developing countries and have been able to cultivate many professional talents in the field of environmental and sustainable development.

The Institute's research areas cover pollution control, water and wastewater engineering, environmental chemistry, environmental biology, integrated water resources management and utilization, environmental planning and management. In addition, the college undertakes some national key research programs, such as the National Plan, the National Water Pollution Control and Governance, the National 863 Program, the Natural Science Foundation. In the past 5 years, our college has achieved a big improvement in a large number of significant researches by getting 6 awards for National Science and Technology Progress, 36 awards for scientific and technological progress in the level of province and minister, obtaining nearly 200 national invention patents, and publishing 1978 papers including 599 SCIs.

Until now, the college has established broad technical cooperation and academic exchange with Germany, France, UK, USA, Canada, Australia, and Japan, as well as Hong Kong and Taiwan. The School presided a number of international conferences, e.g., The Asia-Pacific Leadership Programme on Environment and Sustainable Development, International Workshop on Water Environment, International Water Pollution Control and Water Treatment Technology, Sino-Japan Workshop on Water Treatment Technology, Cross-Strait Workshop on Environmental Protection, Sino-German Cooperation Workshop on Sludge Treatment and Disposal, Sino-Swiss Workshop on Solid Waste Management and Technology, and Sino-France Seminar on Urban Air Quality etc.

The college has always devoted special importance to social responsibilities, scientific research and application. With the development of economy and urbanization, we are facing with many serious problems on environmental pollution. The college transforms the research achievements of water treatment and pollution control into social practice by the cooperation with the National Engineering Research Center for

Urban Pollution Control, Environmental Engineering of Tongji Institute of Architectural Design (Group) Co., Ltd. Design Institute, Shanghai Tongji water purification Engineering Co., Ltd., Shanghai Tongji Kelan Environmental Protection Equipment Engineering Co., Ltd. and Environmental Impact Assessment Department of Tongji University, etc.. For instance, in the national level, the achievements of our research are successfully applied to the 2010 Shanghai World Expo, the Suzhou River water environment governance, Taihu Lake and Chaohu Lake Basin Water Pollution Control; and in the international level, the college constructs and operates several water treatment program in Russia, Africa and Asia, resulting in a significant economic, social and environmental benefits.

For more than twenty years, the college contributes much to the modernization and opening of the country by educating high-level capable intellectuals for environmental protection, and water supply and sewage, that lays the foundation of the academic stand of the college as "superior within campus", "frontier domestically", and "well-known world widely".

In recent years, the college presided and attended many national and local key research project, and have 12 projects in "863" High Technology Research Development Plan. In 2003, the college was honored three National Science Awards, and got ten more prizes by national and local departments.

The UN Environment-Tongji Institute of Environment for Sustainable Development (IESD) was jointly established by UN Environment and Tongji University on May 9, 2002 upon the signing of the Letter of Agreement between Dr. Klaus Töpfer, then UN Under- Secretary-General and UN Environment Executive Director, and Prof. Qidi Wu, then President of Tongji University, in the College of Environmental Science and Engineering. At the 2014 IESD Board Meeting, the Board decided to elevate IESD to its next level, as a global think-tank for UN Environment in promoting sustainable development education and capacity building, research on the environmental and urban development issues.

IESD achievements over 2015 are based on the guidance and support of UN Environment, Chinese relevant Ministries, Shanghai Government, international and domestic organizations. IESD mobilizes resources from its stakeholders and is leading efforts for a sustainability-oriented

university at Tongji University, with a green campus, inter-disciplinary education and integrating sustainable development into higher education and social service. From 2004 to 2018, IESD has organized nearly 50 international and domestic training programs, seminars and trainings, attracting 5,000+ participants from all over the world. IESD have recruited 130 Chinese and 334 international students from 83 countries since 2006, 1/3 from African countries (85 African from 19 countries).

In 2012, the Global Universities Partnership on Environment and Sustainability (GUPES) was launched at IESD in the lead up to the Rio+20 Summit. Professor WU Jiang, Vice President of Tongji University and Dean of IESD, was elected as the Chair of GUPES. GUPES provides a global platform for Universities to mainstream environment and sustainable development into higher education, to incorporate sustainable development concepts and best practices in higher education, and to train technical and management personnel, particularly for developing countries. It also provides Universities the opportunity to benefit for UN Environment's knowledge base on environmental and sustainability issues. Over 560 Universities are currently part of the growing GUPES network.

IESD also conducts interdisciplinary research and promotes know-how transfer to developing countries through technology cooperation. Working together with UN Environment, IESD implemented the Chongming Ecoisland Evaluation Report and assisted UN Environment's assessment of Shanghai's efforts to organize an environmentally-friendly Expo 2010. IESD also launched the Chinese version of UN Environment's Green Economy Report. Since 2012, IESD translated UN Environment's flagship publications into Chinese.

The China Meteorological Administration (CMA) and Tongji University signed an agreement to initiate overall collaboration on capacity building, disciplinary development, research, talent cultivation on climate change, technology transfer and resources sharing. Key Laboratory of Cities' Mitigation and Adaptation to Climate Change in Shanghai, China Meteorological Administration was launched by the end of 2014 with the support of CMA and Shanghai Meteorological Bureau.

3, Student living environment

Tongji University is located in Shanghai, four campus covers an area of 280 hectares. The programme would be mainly at Siping Campus. The students have access to swimming pool, tennis ground, gym, shop, etc inside the campus.

The university would offer single rooms for the candidates either in Siping Campus or other campus.









Section III. Academic Teaching Plan

1, <u>Curriculum</u>

2018-2019 IESD Course List To take 30 credits in total web: 4m3.tongji.edu.cn							
课程性质 Type	课号 Code	课程名	Course name	学期 Semester	学分 Credit	Remarks	
公共学位课 Public Degree Course	2070100	第一门外国语(汉语)	Chinese Language	Spring/Autumn	3	compulsory, available in both semesters	
	2900006	中国概况	China Outlook	Spring/Autumn	3	compulsory, available in both semesters	
DEGREE COURSE 6 courses to be taken	2050136	环境系统与可持续发展	Environmental System and Sustainable Development	Spring	2	compulsory	
	2050143	环境科学概论	Environmental Science	Autumn	2	compulsory only for non- environmental background	
	2050199	生态经济学	Ecological Economics	Spring	2	compulsory	
	2050147	环境管理与政策	Environmental Management and Policy	Autumn	2		
	2050186	固体废物处置与资源化	Intergrated Solid Waste Management and Reuse	Spring	2		
	2050188	污水处理的原理与技术	Wastewater Treatment: Principles and Technology	Autumn	2		
	2050189	给排水工程的原理与技术	Water Supply: Principles and Technology	Spring	2		
	2050149	大气科学与气候变化	Atmospheric Science and Climate Change	Spring	2		
非学位课 Non-degree course 4 courses to be taken	2050141	环境伦理学	Environmental Ethics	Autumn	2	compulsory	
	2050211	文献检索与科技论文写作	Literature Search and Scientific Writing	Autumn	2	compulsory	
	2050190	水资源管理	Water resource managenment	Autumn	3		
	2050191	水环境化学	Aquatic Environmental Chemistry	Spring	2		
	2050194	环境分子微生物学	Environmental Molecular Microbiology	Spring	2		
	2050150	环境信息学	Environmental Informatics	Spring	2		
	2050210	通用试验原则与数据逐层 分析	Common Experiment Principles and Step-by-Step Data Processing	Autumn	2	compulsory only for experimental research students, pls confirm with your mentor	
	2050196	环境系统分析	Environment System Analysis	Autumn	2		
必修环节 COMPULSORY LINK	2900012	公共讲座	Lectures	To be completed before the mid- term assessment.	2	compulsory, at least 16 lectures, online registration+summary for each:	
	2900011	学术行为规范	Conduct norm	To be completed before the end of the 1st semester.	1	compulsory	
	2900002	开题报告	Research Proposal	To be completed at the beginning of the 2nd semester.	1	compulsory	
	2900013	中期考核	mid-term assessment	To be completed at the beginning of the 3rd semester.	0	compulsory, at least 2 months after the submission of the research proposal	
	\	预答辩	Pre-Defense	To be completed before the end of the 3rd semester.	0	compulsory	
	\	答辩	Defense	To be completed before the end of the 4th semester.	0	compulsory, at least 6 months after the submission of mid-term assessment	
	\	学位论文	Degree Thesis	To be completed before the end of the 4th semester.	0	compulsory	
	١	学术小论文	Academic Publication	To be completed/published before the end of the 4th semester.	0	compulsory	

Academic Plan

- 1. All the courses will be taught in English. Traditional teaching, discussions, field trips and lectures by foreign experts will be combined together.
- 2. It is two-year study period for the Master's degree. First year you are expected to study in Tongji University. While second year you will finish your paper wherever you want.
- 3. According to the credit standard of Tongji University. Academic Degree Graduate are required to get at least 30 credits: 6 credits for public degree courses, no less than 12 credits for professional degree courses, no less than 8 credits for non-degree courses, 4 credits for compulsory courses.
- 4. Students are required to finish all the academic and non-academic courses within the first year (Academic Master 30 credits), complete the master degree thesis (65-70 pages) independently and pass the dissertation defense. Later you can apply for Master Graduation certificate of Tongji University. Only academic paper with issue number published, the student could apply for Master Degree Certificate.

Teaching staff

This college's current community of scholars includes 171 staff members, among which there are 2 members from "Thousands of Plans", 2 member of Outstanding Youth Fund, 67 professors, 50 associate professors, 66 doctoral supervisors. Meanwhile, The college also invited Academician DUAN Ning, Academician HOU Li'an, former Executive Director of UN Under-Secretary-General, the United Nations Environment Programme, Dr. Klaus Toepfer and other prestigious environmental experts as honorary professors and visiting professors, and many universities and research institutions from all over the world have a close cooperation with the college in teaching and research.

2. Teaching methods

All the courses will be taught with the form of lectures, seminars, case studies, field visits, and scientific research and so on. We also enhance the comprehension of environmental management and sustainable development by case study, experiencing such situations as well as topical seminars. Thus we can strengthen students' environmental management capacity and professional skills, enhance the sustainable development of the concept, and promote green leadership.



3. Full Schedule

Date	ITEM
Sept. 2019	Registration and start of semester 1
Sept. 2019-Jan. 2020	Semester 1-courses
Feb.2020	Winter vacation
Feb. 2020-Jul.2020	Semester 2-courses
Jul.2020-Aug.2020	Summer vacation
Sept. 2020-Jan. 2021	Semester 3-research
Feb. 2021	Winter vacation
Feb. 2021-Jul.2021	Semester 4-research and dissertation
Jul. 2021	Defense and Graduation

4. Thesis/Dissertation

- Basic requirements of graduation thesis
 - o Systematic and comprehensive
 - o Meaningful suggestion
 - o Independent writing under the supervision of the mentor
 - o Academic morality
- Basic requirements of defense:
 - o Pre-defense (compulsory)
 - o Approval from the mentor
 - Two reviewers' comments letters (associate professors or master's supervisor) at least 2 weeks before the defense
 - Confirmation of the defense member (3 members besides the mentor, associate professors or master's supervisor)+1 defense

- secretary
- Online application (blind review + apply for the defense)
- o Official defense
- Revision of the thesis according to the feedback from the defense members
- Submission of hardcopy to the office & Input the final result of the defense online

5. <u>Degree Award</u>

	Master Programme				
	2 Years:				
Duration	 1 year for courses 				
	 1 year for research 				
	✓ Complete all the courses as required;				
Graduation Certificate	✓ Finish the final dissertation;				
	✓ Success in the final Defense;				
	At least one paper published in any issued				
Degree Certificate	formal documents (academic journal or				
	academic conference)				

Chapter II. Application

Section I. Application Requirement

- Applicants must be non-Chinese nationals and in good health. Physical examination certificate is compulsory.
- Bachelor's degree.
- Fluent in oral and written English.
- Senior officers working in the government sectors of environmentrelated fields in the developing countries, such as Ministry of Environment, Ministry of Natural Resources etc. are encouraged to apply.
- English proficiency certificate (such as IELTS or TOEFL IBT Score, Certificate of English Courses, Certificate of English Scores, etc.)

Section II. Application Procedures

1, How to apply

(1) Procedure

Fill in the application form online first at: http://study-info.tongji.edu.cn/, print out the form and sign. Submit and post all the application documents in hard copies to UN Environment-Tongji Institute of Environment for Sustainable Development office. (Room 903 Zonghe Building, Tongji University, No.1239 Siping Road, Shanghai, China); Meanwhile, scan the hard copies to the following email address: unep_tongji@tongji.edu.cn

(2) Notice

- A. The online form should be signed and dated by hand after printing out.
- B. The appropriate photo should be pasted to the application form.
- C, "China Government Scholarship" should be selected in the source of finance.

2. Apply for scholarship

Please visit the online application system of Chinese Scholarship Council at www.csc.edu.cn, and register for an account. Select the program "Chinese Government Scholarship" – Category B, fill in all the required information, and an application form will come into being. Print out the form, put on a hand-written name and date, and then post a photo on it. To complete the form successfully, please note the following information: Notice:

- (1) **The code of Tongji University is 10247**, the field is Environmental Management and Sustainable Development.
- (2) The CSC number produced from the form would be used in filling the form of studying in China visa application.

3. Application Documents

Please prepare the following documents before submission:

- (1) A recommendation letter from the current employer.
- (2) Two letters of recommendation by two professors.
- (3) Copies of previous degree and diploma certificates.
- (4) Original or notarized transcripts of all courses from bachelor programme. Transcripts in languages other than Chinese or English must be attached with notarized translations in Chinese or English.
- (5) Research plan.
- (6) Personal resume.
- (7) Copy of passport(not diplomatic one).

- (8) Copy of English proficiency certificate (such as IELTS or TOEFL IBT Score, Certificate of English Courses, etc).
- (9) 2 photos of recent 3 months with white background.
- (10) Physical examination results for the past months.

3. Submission

- (3) Submit all the application materials listed above mentioned in both hard copy and scanned copy to the Economic and Commercial Counsellor's Office of Chinese Embassy. Hard copy must include both the original copy and the photocopy. For emails and addresses of the Economic and Commercial Counsellor's Offices, please visit the English website of http://www.china-aibo.cn.
- (4) Submit a written request to the Economic and Commercial Counsellor's Office of Chinese Embassy for an official recommendation letter and clearly state:
- a) Whether the applicant is willing to be considered for a similar program at other universities if the programs at Tongji University are already full.
- b) Other special requests if any.

Important notices

- 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 from the Economic and Commercial Counsellor's Office. After the Economic and Commercial Counsellor's Office have checked and verified the documents, you should send all the scanned copies to the email of the contact person of Tongji University.
- c) Applicants will get back all the hard-copy materials, both original copies and photocopies after the Economic and Commercial Counsellor's Office have checked them. If admitted, you should take the documents to Tongji University and submit them to the school.

Deadline

June 10th, 2019

Other Important Statement

Contact

Name: Ms. WANG Zidi/Mme. SHEN Jiaqi

Tel: 0086-21-65986949 Fax: 0086-21-68987790

Email: unep_tongji@tongji.edu.cn Web: http://unep-iesd.tongji.edu.cn/

Address: Room 903 Zonghe Building, Tongji University, No.1239 Siping

Road, Shanghai, China

Other Notices

- 1. Application materials will not be returned regardless of the result of application.
- 2. Chinese government won't comment on the result of application.
- 3. The visiting fee of spouse or children won't be provided.
- 4. There'll be specification on procedures how to come to China in the admission files.