

Southwest Jiaotong University
Environmental Science and Engineering

Program Objectives

The program aims to provide students with an opportunity to develop functional expertise, strategic perspectives that they require to operate effectively in a changing social environment or to understand such an environment; help students to learn both the successes and failures in China's environmental science and engineering; introduce students the techniques of environmental science and engineering to meet the needs of social modernization, as well as sharpen their leadership and communication skills.

Major

Environmental Science and Engineering (Master)

Study Period

Two years (course study for 1 year and thesis proposal for 1 year)

Teaching Language

English

Curriculum

Level	Type	Code	Name	Emphasis on Content	Hours	Credit	Semester			Evaluation
							I	II	III	
Level 5 Course	Public Course		基础汉语 I Basic Chinese I		32	2	√			
			中国文化 Chinese Culture		32	2	√			
			基础汉语 II Basic Chinese II		32	2		√		
			中国概况 China Overview		32	2		√		
			当代中国 Contemporary China		16	1		√		
	Common Basic Course	54012001	Numerical Analysis※ 数值分析※	Theory	48	3	√			Test
		54012005	Mathematical Statistics and Multivariate Statistics※ 数理统计与多元统计※	Theory	48	3	√			Test
		54012002	Modern Mathematical Physics Equation 现代数学物理方程	Theory	48	3	√			Test
	Basic Professional	51413006	Environmental Hydraulic Dynamics※ 环境流体力学※	Theory	48	3		√		Test
		51413007	Environmental Economics and Management *※	Theory	48	3	√			Test

			环境经济与管理学*※							
		51413008	Chemistry for Environmental Engineering* 环境工程化学※	Theory	48	3	√			Test
	专业课 Professional Course	51424013	Environmental Risk and Emergency Treatment 环境风险与应急处置	Application	32	2		√		Test
		51424014	Environmental Impact Assessment Technology & Method 环境影响评价技术与方法	Application	32	2		√		Written Report
		51424015	Recycling Technologies of Solid Waste 固体废物资源化技术	Application	32	2		√		Written Report
		51424016	Functional Materials for Environmental Pollution Control 环境功能材料与污染控制	Application	32	2	√			Test
		51424017	Technology and Method of Water Quality Control 水质控制技术与方法	Application	32	2	√			Test
		51434006	Environmental Biotechnology 环境生物技术	Pay equal attention	32	2	√			Test
		51434007	Ecological Engineering and Pollution Ecology 生态工程与污染生态学	Pay equal attention	32	2		√		Test
		51434008	Environmental System Engineering and Environmental Planning 环境系统工程与环境规划	Pay equal attention	32	2	√			Test
		51434009	Solid Waste Pollution Control 固体废物污染控制工程	Pay equal attention	32	2	√			Test
		51434010	Activated Sludge Microbiology and Application 活性污泥微生物学及其应用	Pay equal attention	32	2		√		Written Report
		51434011	Control Technology of Groundwater Contamination 地下水污染防治技术	Pay equal attention	32	2	√			Written Report

		51434012	Air Pollution Control: Principles and Technologies 大气污染控制理论与技术	Pay equal attention	32	2	√			Test
		51434013	Sustainable Design and Technology 可持续设计理论与技术	Pay equal attention	32	2		√		Written Report
		51434014	Wastwater Treatment Biological and Chemical Processes 污水生物与化学处理技术	Pay equal attention	32	2	√			Test
	实验课 Experiment Course	51425007	Experiments of Environmental Engineering 环境工程实验	Application	32	2		√		Written Report

- 注： 1. The courses taught in foreign language or with textbook are marked with ‘*’.
以外语教材、外语授课的课程在课程名称的后面填“*”；
2. The courses classified as key professional courses are marked with ‘※’.
专业核心课程在课程名称后面填“※”。

Practice Training

Level	Type	Code	Name	Emphasis on Content	Hours	Credit	Semester			Evaluation
							I	II	III	
Level 5	Seminars	54316100	Current Situation and Policy 形势与政策	Theory	16	0	√	√		Written Report
		51416001	Academic Lectures (≥5 lectures) 学术报告 (至少参加 5 次)	Theory	16	1		√		Written Report
		51436002	Frontier Technology Seminars (≥5 lectures) 前沿技术专题(至少听 5 个)	Pay equal attention	16	1		√		Written Report
	Practice	51426001	Scientific Research Practice 科研实践	Application	16	1		√		Written Report
		51426002	Professional Practice 专业实践	Application	80	5			√	Written Report

Master Thesis

(1) Topic selection

Students are expected to select a topic which has important application value and theoretical significance to the construction of national economy, and it also should be combined with tutor's

research projects as far as possible. The selected topic must be approved by mentor and through the arguments.

(2)Thesis proposal

Students are required to complete the thesis proposal during the second semester. In the report meeting, students should solicit opinions widely, and the thesis proposal will be determined by the related discipline experts after the examination and approval. The contents and requirements of the thesis proposal consist of: dynamic and research level about thesis topic; the purpose and significance of the selected topic; the research contents and research methods; the results and level expected to achieve; thesis writing arrangements; qualifications for subject research and so on.

(3)Thesis writing program

Students are supposed to formulate a detailed thesis writing program under the guidance of tutor. In the program, there should be a detailed arrangements and instructions about research methods, experiments, funds and equipment, thesis writing deadline and the results expected to achieve.

(4) Thesis appraisal and defense and degree awarding should be executed according to relevant regulations of Southwest Jiaotong University.

Degree Requirements

Students are required to successfully complete 26 credit-worth course work and a master thesis and thesis defense within the required time period. After meeting the above requirements and with the approval of Southwest Jiaotong University Degree Committee, the master degree will be awarded.