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University of Science and Technology of China Training Program for Doctoral Students in Safety Science and Engineering (2025 Edition)

Note: The English translation of all the following information is for reference only. Should there be any discrepancy between the Chinese and English versions, the Chinese version shall prevail

关于国际研究生培养要求的相关说明

Relevant Explanations on the Training of International Graduate Students

根据教育部外交部公安部《学校招收和培养国际学生管理办法》以及教育部《来华留学生高等教育质量规范(试行)》等精神, 我校国际研究生的培养, 原则上参照《中国科学技术大学研究生培养方案总则》, 除公共必修课和汉语水平要求之外, 在学科专业上的培养目标和毕业要求与所在专业的中国学生一致。为进一步明确国际研究生培养相关要求, 现作以下说明:

In accordance with the *Administrative Measures for the Enrollment and Training of International Students by Schools* jointly issued by the Ministry of Education, the Ministry of Foreign Affairs, and the Ministry of Public Security, as well as the *Quality Standards for Higher Education of International Students in China (Trial)* released by the Ministry of Education, the training of international graduate students at our university shall, in principle, follow the *General Principles of Graduate Training Program at the University of Science and Technology of China*. Apart from public compulsory courses and Chinese language proficiency requirements, the training objectives and graduation standards for international students in their respective disciplines shall align with those applicable to Chinese students in the same programs. To further clarify the relevant requirements for the training of international graduate students, the following provisions are hereby specified:

一、汉语和中国概况是来华接受高等学历教育的留学生的必修课。国际研究生的公共必修课课程设置及汉语水平要求, 按照专业授课语言规定如下(不区分硕士研究生、普通博士研究生、硕博一体化研究生, 不区分学术学位、专业学位):

I. Chinese Language and China Panorama are compulsory courses for international students pursuing degree education in China. The public compulsory course arrangements and Chinese proficiency requirements for international graduate students are set according to the language of instruction of the program (with no distinction between master's students, regular doctoral students, consecutive master's and doctoral students, academic degrees, or professional degrees):

1. 汉语授课专业的国际研究生, 毕业时汉语应达到 HSK 五级水平。公共必修课包括:《高级汉语》(4 学分),《中国概况》/《中国概况 II》(4 学分), 共计 8 学分。

1. For programs taught in Chinese, international graduate students must attain HSK Level 5 by the time of graduation. Public compulsory courses include: Advanced Chinese (4 credits), China Panorama / China Panorama II (4 credits), totaling 8 credits.

2. 英语授课专业的国际研究生，毕业时汉语应至少达到 HSK 三级水平。公共必修课包括：《综合汉语》(2 学分)，《汉语听说》(2 学分)，《中国概况》/《中国概况 II》(4 学分)，共计 8 学分。

2. For programs taught in English, international graduate students must attain at least HSK Level 3 by the time of graduation. Public compulsory courses include: Comprehensive Chinese (2 credits), Chinese Listening and Speaking (2 credits), China Panorama / China Panorama II (4 credits), totaling 8 credits.

二、国际研究生在学科专业上的培养目标和毕业要求与所在专业的中国学生一致。各学科可参照《中国科学技术大学研究生培养方案总则》和本学科研究生培养方案，结合国际研究生的学习特点，制定本学科国际研究生培养方案。

II. The training objectives and graduation requirements for international graduate students in their specialized disciplines shall be consistent with those for Chinese students in the same programs. Each discipline may formulate a tailored training program for international graduate students with reference to the *General Principles of Graduate Training Program at the University of Science and Technology of China* and the discipline-specific training program, taking into account the learning characteristics of international graduate students.

三、对于不单独制定国际研究生培养方案的学科，相关国际研究生的总学分要求，在各学科培养方案规定的总学分要求基础上，根据国际研究生公共必修课与中国学生公共必修课学分的差额，作相应调整。例如：如果中国学生总学分要求为 35 学分，其中公共必修课学分要求为 7 学分，则同专业同类别的国际研究生总学分要求为 36 学分；如果中国学生总学分要求为 45 学分，其中公共必修课学分要求为 11 学分，则同专业同类别的国际研究生总学分要求为 42 学分。

III. For disciplines that do not formulate a separate training program for international graduate students, the total credit requirement for relevant international graduate students shall be adjusted based on the difference between the public compulsory course credits for international graduate students and those for Chinese students, relative to the total credit requirement stipulated in the discipline-specific training program. For example: If the total credit requirement for Chinese students is 35 credits, including 7 credits for public compulsory courses, then the total credit

requirement for international graduate students in the same program and category shall be 36 credits. If the total credit requirement for Chinese students is 45 credits, including 11 credits for public compulsory courses, then the total credit requirement for international graduate students in the same program and category shall be 42 credits.

四、对于与国外高校联合培养项目的国际研究生，公共必修课学分要求按以上规定执行，毕业时对汉语水平不作硬性要求，各学科可制定专门的联合培养项目国际研究生培养方案。

IV. For international graduate students enrolled in joint programs with overseas universities, the public compulsory course credit requirements shall follow the above regulations. However, there is no mandatory Chinese language proficiency requirement for graduation. Each discipline may formulate a specialized training program for international graduate students in such joint programs.

2024 年 11 月 18 日

November 18, 2024

中国科学技术大学安全科学与工程学科
普通招考博士研究生培养方案（2025 版）
Training Program for Doctoral Students in
Safety Science and Engineering (2025 Edition)

一、培养目标

I. Training Objectives

本学科培养德、智、体、美、劳全面发展，适应我国新时代社会、经济、科技、教育发展需要，从事安全科学与工程领域的研究、教学、设计、管理的高级人才。博士研究生应掌握本学科的宽广基础理论和深入专业知识，掌握科研方法，了解国内外发展动态，具备独立研究和技术创新能力，并取得创造性成果。至少掌握一门外语。

This discipline is dedicated to cultivating high-level talents with an all-round development of morality, intelligence, physical fitness, aesthetics and labor competence, who can meet the development needs of China's society, economy, science and technology, and education in the new era, and engage in research, teaching, design and management in the field of Safety Science and Engineering. Doctoral students shall master extensive fundamental theories and in-depth specialized knowledge of this discipline, grasp scientific research methodologies, keep abreast of domestic and international development trends of this discipline, and possess capabilities for independent research and technological innovation with creative academic achievements. They shall command proficiency in at least one foreign language.

二、主要研究方向

II. Core Research Directions

1. 火灾安全科学与工程：重点研究火灾及其相关灾害的演化过程，揭示火灾及其相关灾害安全的科学规律并建立相应的基础理论。

1. Fire Safety Science and Systems Engineering: Focus on investigating the evolutionary processes of fires and associated disasters, revealing the scientific laws governing fire and disaster safety, and establishing the corresponding fundamental theories.

2. 火灾安全技术：重点研究清洁阻燃、智能探测和高效灭火等火灾防治关键技术原理，发展新型火灾防治关键技术。

2. Fire Safety Technology: Focus on exploring the principles of key fire prevention and control technologies including clean flame retardancy, intelligent detection and high-efficiency fire suppression, and developing cutting-edge key technologies for fire prevention and control.

3. 智能火灾安全：重点研究先进智能技术在火灾及其相关灾害场景的应用，发展先进的灾害预测方法和模型。

3. Intelligent Fire Safety: Focus on examining the application of advanced intelligent technologies in fires and associated disaster scenarios, and developing advanced disaster prediction methods and models.

4. 公共安全应急与安全管理：重点研究火灾及其相关灾害系统要素的演化行为与规律，探索突发事件形成机制及其优化干预策略，发展公共安全事件应急管理理论和方法。

4. Public Safety Emergency Response and Safety Management: Focus on investigating the evolutionary behaviors and laws of systemic elements in fires and associated disasters, exploring the formation mechanisms of emergent incidents and their optimized intervention strategies, and developing theories and methodologies for the emergency management of public safety incidents.

三、学习方式及修业年限

III. Study Mode and Duration

学术学位普通招考博士研究生采用全日制学习方式，基本学习年限为 3-4 年，最短学习年限为 2 年，最长学习年限为 8 年。

Academic doctoral students shall adopt a full-time study mode. The standard duration is 3-4 years, with a minimum of 2 years and a maximum of 8 years.

四、课程设置及学分要求

IV. Curriculum Structure and Credit Requirements

课程学习是研究生掌握基础理论和专业知识，构建知识结构的主要途径，课程学习应按照培养计划严格执行。

Course learning constitutes the primary pathway for graduate students to acquire foundational theories and specialized knowledge, and construct a systematic

knowledge framework. It must be rigorously implemented in accordance with the training program.

学术学位博士研究生课程学习实行学分制，研究生在申请博士学位时，取得的学分不少于 10 学分(*留学生不少于 14 学分)，其中课程学习不少于 8 学分(*留学生不少于 12 学分)，具体要求如下：

A credit-based system is adopted for the course learning of academic doctoral students. To apply for the doctoral degree, they must complete a minimum of **14** credits, including no less than **12** credits from course learning. Specific requirements are as follows:

1. 公共课程（4 学分）(*留学生需 8 学分)

1. Public courses (8 credits)

包括：博士政治课程 2 学分，博士英语课程 2 学分。（*留学生修综合汉语 2 学分；汉语听说 2 学分；中国概况 4 学分。）

These include Comprehensive Chinese (2 credits), Chinese Listening and Speaking (2 credits), and China Panorama (4 credits).

2. 博士专业课（不少于 4 学分）

2. Doctoral professional courses (no less than 4 credits)

博士专业课主要为各单位根据人才培养目标而设置的学科（专业）基本理论、基本技能课程。

Doctoral professional courses primarily consist of foundational theoretical and technical modules designed by respective schools to align with the training objectives.

3. 必修环节（2 学分）

3. Compulsory components (2 credits)

包括：开题报告 1 学分，中期考核 1 学分，学位论文预评审。

Including Dissertation Proposal (1 credit); Mid-term Evaluation (1 credit); and Dissertation Preliminary Review.

课程设置及学分具体要求如下表。

Specific curriculum structure and credit requirements are detailed in the following table.

学术学位普通招考博士研究生课程设置及学分要求

Curriculum Structure and Credit Requirements for General-Recruitment Academic
Doctoral Students

课程类别	课程编号	课程名称	学分	教学方式	备注
公共课程(*留学生参照《关于国际研究生培养要求的相关说明》)	PHIL7101U	中国马克思主义与当代	2	讲授	必修
	FORL7101U	科技论文写作	2	讲授	
博士专业课	SAFE7005P	应用数学基础	2	讲授	不少于 4 学分, 但 SAFE7006P 和 SAFE7007P 不得同时计入该类学分
	SAFE7006P	安全科学与工程前沿	3	讲授	
	SAFE7007P	智能安全材料与传感	3	讲授	
	SAFE7008P	安全工程数值计算方法	2	讲授	
必修环节	MPRO6201M	学位论文开题	1		
	MPRO6301M	学位论文中期进展报告	1		

Course Category	Course Code	Course Name	Credit	Teaching Method	Remarks
Public courses	FORL6201U	Comprehensive Chinese	120	2	Compulsory 8 credits
	FORL6202U	Chinese Listening and Speaking	60	2	
	FORL6203U/ FORL6205U	China Panorama I/II	80	4	
Doctoral professional courses	SAFE7005P	Fundamentals of Applied Mathematics	2	Lecture	No less than 4 credits. However, SAFE7006P and SAFE7007P
	SAFE7006P	Frontiers in Safety Science	3	Lecture	

		and Engineering			cannot be counted towards this category of credits simultaneously.
	SAFE7007P	Intelligent Safety Materials and Sensing	3	Lecture	
	SAFE7008P	Numerical Calculation Method for Safety Engineering	2	Lecture	
Compulsory component	MPRO6201M	Dissertation Proposal	1		
	MPRO6301M	Dissertation Mid-term Progress Report	1		

修读说明:

Notes on course study:

1. 普通招考博士研究生中途由其他专业转入本专业的，应按照本专业课程要求补修课程，已修课程符合本专业要求的（课程号一致），可以计入学位课程学分。

1. Academic doctoral students transferring to this program from other fields midway shall complete supplementary courses in accordance with the curriculum requirements of this program. Courses previously completed that meet the standards of this program (with identical course codes) may be counted toward the degree course credits.

2. 普通招考博士研究生补修本科生课程所获学分不计入学位课程学分。

2. Credits earned by academic doctoral students for making up undergraduate courses shall not be counted towards degree course credits.

3. 研究生公共课程成绩通过，其他学位课程每门课成绩均达 60 分及以上的，方可申请学位。

3. Doctoral students shall be eligible to apply for the degree only if they have passed the public courses and achieved a score of 60 or above in each of other degree

courses.

五、研究生培养过程要求

V. Requirements for the Training Process of Graduate Students

1. 开题报告、中期考核、预评审、论文评审、论文答辩要求请见学校和实验室相关文件规定。

1. Requirements for dissertation proposal, mid-term evaluation, preliminary review, dissertation review, and dissertation defense shall be implemented in accordance with the relevant documents issued by the university and the laboratory.

2. 国际学术交流：博士生在学期间须参加一次国际学术会议并交流学术论文，或短期出境访学一次。请留存好相关证明材料。

2. International Academic Exchange: Doctoral students must participate in at least one international academic conference to present their research papers or complete a short-term overseas academic visit during their enrollment period. Please retain all relevant supporting documents for verification.

六、学位授予

VI. Degree Conferral

遵照学校和实验室学位授予相关政策要求执行。

The conferral of degrees shall be implemented in strict compliance with the relevant policies and requirements formulated by the university and the laboratory.

七、其他

VII. Miscellaneous

本培养方案经中国科学技术大学力学与工程学科学学位分委员会工作会议审议通过，自 2025 级安全科学与工程普通招考博士研究生开始施行。

This Training Program has been reviewed and approved at the working meeting of the Degree Sub-Committee of Mechanics and Engineering Discipline, University of Science and Technology of China, and shall come into force for the 2025 cohort of academic doctoral students in Safety Science and Engineering.