

机械工程（学科代码：080200）硕士研究生培养方案（国际研究生）

(mechanical engineering)

一、领域简介（Introduction）

上海大学是一所上海市属重点大学，也是一所教育部与上海市人民政府共建的国家“211工程”重点建设的大学，上海大学机械电子工程学科是国家及上海市重点学科。学科拥有专任教师160名，其中正高级职称38名，副高级职称74人，超过90%以上的青年教师具有留学访学背景。

面向先进制造国际前沿领域，以长三角地区先进制造业的集群优势及上海市建设具有全球影响力的科创中心为契机，以机械工程一流学科建设和上海市高原学科建设为支撑，逐步凝练形成先进机器人技术、智能制造装备与系统、微机电工程与信息装备、机电智能装备与关键核心基础单元、智能运载技术与装备和数字医疗装备等优势与特色研究方向，产出一批国内外具有影响力的标志性成果。本学位点拥有工程训练国家级实验教学示范中心、新型显示技术应用集成教育部重点实验室、海洋智能无人装备教育部工程中心、上海市智能制造及机器人重点实验室等国家和省部级人才培养基地，本学位点教授担任副主编、编委的《Advances in Manufacturing》入选SCI Q2收录国际期刊，以上支撑平台为本学位点高水平人才培养创造了良好条件。

经过多年的建设与积累，学科在人才培养、科学研究、国际合作与交流、师资队伍等方面已形成一定的规模、格局与特色，致力于为“一带一路”地区及全世界培养适应智能制造产业发展需要的、具有国际视野的、复合型创新人才。

Shanghai University is a key university under the Shanghai municipal government. It is also a national "211 Project" key university jointly established by the Ministry of Education and the Shanghai Municipal Government. The mechanical and electronic engineering discipline of Shanghai University is a national and Shanghai key discipline. The discipline has 160 faculty members, 38 of them have senior professional titles, 74 of them have deputy Senior Professional Title, and more than 90% of the young teachers have a background in studying abroad.

Facing the international forefront of advanced manufacturing, taking advantage of the cluster advantages of advanced manufacturing in the Yangtze River Delta region and the construction of a globally influential science and technology innovation center in Shanghai as an opportunity, supported by the construction of first-class disciplines in mechanical engineering and the construction of plateau disciplines in Shanghai, we will gradually refine and form advanced mechanical and human technology, intelligent manufacturing equipment and systems, micro electromechanical engineering and information equipment, electromechanical intelligent equipment and key core basic units. Research on the advantages and characteristics of intelligent transportation technology and equipment, as well as digital medical equipment, has produced a

number of influential landmark achievements both domestically and internationally. This degree program has national and provincial talent training centers such as the National Experimental Teaching Demonstration Center for Engineering Training, the Key Laboratory of New Display Technology Application Integration of the Ministry of Education, the Engineering Center of Marine Intelligent Unmanned Equipment of the Ministry of Education, and the Shanghai Key Laboratory of Intelligent Manufacturing and Robotics. The professor of this degree program, who serves as the deputy editor in chief and editorial board member, has been selected as an international journal included in SCI Q2. The above supporting platforms have created favorable conditions for the cultivation of high-level talents in this degree program.

After years of construction and accumulation, the discipline has formed a certain scale, pattern and characteristics in personnel training, scientific research, international cooperation and exchange, and teaching staff. It is committed to training innovative talents with international vision and compound abilities that meet the needs of the development of intelligent manufacturing industry for "the belt and the road" region and the world.

二、学位标准 (Degree for Require)

见《上海大学机电工程与自动化学院研究生申请学位创新成果要求（修订）》。

See requirements for innovative achievements of graduate students in school of Mechatronic Engineering and Automation, Shanghai University.

三、培养目标 (Objectives)

致力于为“一带一路”地区及全世界培养适应智能制造产业发展需要的、具有国际视野的、复合型创新人才。

It is committed to training innovative talents with international vision and compound abilities that meet the needs of the development of intelligent manufacturing industry for "the belt and the road" region and the world.

四、学习方式及学习年限 (Duration)

本学科硕士研究生学制为2.5年，学习年限不超过6年。

Normative Study Period: 2.5 years, but no more than 6 years.

五、研究方向 (Research Areas)

机械工程专业主要培养方向包括：

- 1、机械电子工程
- 2、机械制造及其自动化
- 3、机械设计及其理论
- 4、车辆工程

The main research areas of the mechanical engineering:

- 1.Mechatronic Engineering
- 2.Mechanical Manufacturing and Automation
- 3.Mechanical Design and Theory
- 4.Vehicle Engineering

六、语言要求 (Language Requirements)

本专业来华留学生应当能够顺利使用英语完成本学科、专业的学习和研究任务，并具备使用中文从事本专业相关工作的能力，毕业时达到汉语三级水平。

Students who come to China in this major should be able to successfully use English to complete the subject, study and research tasks, and have the ability to use Chinese to engage in the relevant work of this major, you must reach the third level of Chinese proficiency test (HSK) before graduation.

七、培养方式及导师要求 (Training Methods and Tutor Requirements)

全日制

Full-time

八、课程设置及学分要求 (Curriculum and Credit Requirement)

Curriculum (see table below)

课程设置 (见下表)

研究生的学习实行学分制，根据课程设置，应修满不少于43学分，其中公共课7学分，专业基础课和专业选修课不少于30学时，创新创业课2学分，学术规范与写作课2 学分，学术研讨课2学分。

The credit system shall be implemented for graduate students' study. According to the curriculum, they shall take not less than 43 credits, including 7 credits for public courses, 30credits for professional basic courses and professional elective courses, 2 credits for innovation and entrepreneurship courses, 2 credits for academic norms and writing courses, and 2 credits for academic seminar courses.

九、培养计划制定 (Development of Training Plan)

攻读硕士学位的研究生入学后，应在导师指导下按照本学科当年度培养方案的要求制订培养计划，在入学后1个月内，登录研究生管理系统，输入培养计划，同时，打印的纸质版培养计划报各学位评定分委员会审核批准后，由学院留存备案。凡列入培养计划的课程必须修读合格方可进行答辩。

After the admission, postgraduate students studying for master's degree shall formulate a training plan according to the requirements of the discipline's current annual training plan under the guidance of their tutors. Within one month after the admission, they shall log into the postgraduate management system and fill in the training plan. At the same time, the printed paper-based training plan shall be submitted to each degree evaluation sub-committee for examination and approval, and shall be kept for the record by the college. All courses included in the training plan must be qualified before they have a defense.

十、必修环节 (Compulsory courses)

为不断提高研究生研究的科学性和有效性，发挥研究生培养过程中的筛选作用，研究生必须要进行课程考核、中期考核，在学位论文答辩前要进行预答辩。

In order to improve the scientificity and effectiveness of postgraduate research and play the screening role in the process of postgraduate training, graduate students must carry out course assessment, mid-term assessment, and pre-defense before dissertation defense.

1. 课程考核

学习成绩低于60分为不及格，不及格的课程必须重修；课程考试及格但低于75分也可向所在培养单位申请重修。重修由研究生本人在每学期开学一周内申请。原成绩与重修成绩均如实记载在成绩单中，课程成绩按最后一次修读的成绩计。未在培养计划中出现的课程不计入总学分，平均成绩为计入总学分的课程成绩的平均分。为保证硕士生学位论文工作质量，硕士生课程学习原则上要求在第一学年内结束，且应至少取得43个学分。

1. Course assessment

If the score is lower than 60, it will be regarded as failing, and the failed course must be taken again; if the course passes the examination but the score is lower than 75, you can apply to the training unit where you are. The application for retake should be made within one week of each semester. The original score and the reexamination result are recorded in the transcript, and the course score is calculated according to the score of the last study. Courses not included in the training plan are not included in the total credit, and the average score is the average score of the course score included in the total credit. In order to ensure the quality of master's thesis work, master's course learning is required to be completed within the first academic year in principle, and at least 43 credits should be obtained.

2. 学位论文开题报告与中期考核

1) 开题报告

硕士研究生的开题报告，一般应在课程学习结束，取得规定学分后进行，通常在第4学期（即第2学年第1学期）完成。为保证硕士生有1年的时间从事学位论文研究工作，硕士生的开题报告（审查通过）至学位论文答辩时间不少于1年。

(1) 在开题报告之前，硕士研究生应修满培养计划规定的学分，递交1篇文献阅读专题报告或学术讨论会小结报告；

(2) 学位论文选题：学位论文的选题应与本专业的前沿研究相关或来自与本专业有关的国民经济中的科学技术问题；

(3) 开题报告的要求：硕士研究生在第2学年第1学期末以前完成5000字以上的开题报告，内容包括文献综述、选题意义、研究内容、难点与特点、预期成果和可能的创新点等部分，引用文献不少于30篇；

(4) 开题报告的评审：硕士生开题报告必须以学术报告会形式公开进行，实施学位论文学科集中开题制度。本学科内研究生的学位论文集中开题工作由学科学位论文开题小组负责

组织。学位论文开题小组成员一般不少于3人，要求副高级及以上职称，实行导师回避制度。开题报告评审小组听取开题报告并进行评审并对考核结果进行排序，评审通过后方可开题。开题报告为公开性报告，并在第2学年第1学期末完成。硕士学位论文开题报告及学位论文的内容应参照《上海大学硕士研究生论文工作的有关规定》执行，对于未通过者必须在2个月内重作开题报告。仍未通过者，则按《上海大学研究生培养过程质量监督与管理办法（上大研[2019]8号）》处理。

2. Dissertation opening report and mid-term assessment

1) Dissertation opening report

The opening report of master's degree students should be carried out at the end of the course and after obtaining the required credits. It is usually completed in the fourth semester (i.e. the first semester of the second academic year). In order to ensure that the postgraduates have one year to engage in dissertation research, the time from the opening report (examination and approval) to the thesis defense shall not be less than one year.

(1) Before the opening report, postgraduates should complete the credit required by the training plan and submit a special report on literature reading or summary report of academic seminar;

(2) Topic selection: the topic selection of the thesis should be related to the frontier research of the major or from the scientific and technological issues in the national economy related to the major;

(3) Requirements of the opening report: the master's students shall complete the opening report with more than 5000 words before the end of the first semester of the second academic year, including literature review, significance of topic selection, research content, difficulties and characteristics, expected results and possible innovation points, with no less than 30 references cited;

(4) Evaluation of opening report: the opening report of master's degree thesis must be carried out publicly in the form of academic conference, and the centralized topic opening system of dissertation discipline shall be implemented.

The thesis opening group of the discipline is responsible for organizing the centralized proposal of Graduate Dissertations in this discipline. Generally, there are no less than 5 members in the dissertation assessment group, including no less than 2 experts outside the school. The title of deputy senior or above is required, and the tutor avoidance system is implemented. The opening report review group listens to the opening report and reviews it, and sorts the assessment results. The project can be opened only after the evaluation is passed. The opening report is a public report and will be completed at the end of the first semester of the second academic year. The contents of the opening report and Dissertation of the master's degree thesis shall refer to the relevant

provisions on the work of master's thesis of Shanghai University. For those who fail to pass the assessment, the opening report must be made again within 2 months. Those who fail to pass the assessment shall be dealt with in accordance with the measures for quality supervision and management of graduate training process of Shanghai University (SDY [2019] No. 8).

2) 学位论文中期检查

在第2学年第2学期末,对学位论文的进展情况进行阶段报告和中期考核,以保证按进度进行。评审不合格的,将给予警告,半年后再次进行中期检查,连续两次不合格的,将取消其撰写学位论文资格。

2) Mid-term examination of Dissertation

At the end of the second semester of the second academic year, the progress of the paper will be reported and mid-term assessment will be carried out to ensure the progress. Those who fail to pass the evaluation will be given a warning, and the mid-term assessment will be conducted again after half a year. Those who fail to pass the evaluation twice in a row will be disqualified from writing dissertation.

3. 学位论文预答辩

预答辩的必要条件是必须同时满足以下三点:(1) 完成学位论文;(2) 满足学位标准;(3) 指导教师同意进行预答辩。预答辩由本学科学位论文预答辩委员会组织并实施集中预答辩制度。学位论文预答辩委员会成员一般不少于3人,其中校外专家不少于1人,要求副高级及以上职称,同行评议专家不超过半数,答辩委员会主席一般由校外专家担任,实行导师回避制度。本学科对参加集中预答辩研究生的考核结果进行排序,对各环节考核未达到要求的研究生给予学业警告,延期、分流淘汰或淘汰。

3. Thesis pre-defense

The necessary conditions for the pre-defense are as follows: (1) to complete the dissertation; (2) to meet the degree standards; (3) the tutor's agreement to the pre-defense. The pre-defense is organized and implemented by the pre-Defense Committee of the academic dissertation of the discipline. Generally, the members of the dissertation pre-defense Committee shall not be less than 3, including no less than 1 off campus expert, who shall have a deputy senior title or above, and no more than half of the peer review experts. The chairman of the defense committee shall generally be the off campus expert, and the tutor avoidance system shall be implemented. In this discipline, the assessment results of graduate students who participate in the centralized pre-defense are sorted, and those who fail to meet the requirements in each link are given academic warning, postponed, diversion eliminated or eliminated.

十一、学位论文 (Dissertation)

根据学校、学院的相关规定,对研究生的培养过程,对培养质量不达标学生实行分流淘汰管理制度。具体措施为:研究生在正式进入学位论文工作前必须要进行中期考核,中期考核一般在第二学年冬季学期前结束。中期考核实行分流淘汰制,考核的排名结果提交研究生院备案。具体按照《上海大学研究生中期考核及分流淘汰管理办法(试行)》予以执行。

According to the relevant regulations of schools and colleges, the training process for postgraduates will be implemented, and the students who fail to meet the quality standards will be subject to a shunt and elimination management system. The specific measures are: the graduate students must conduct the mid-term assessment before they officially enter the dissertation work, and the mid-term assessment generally ends before the winter semester of the second academic

year. The mid-term assessment implements a shunt and elimination procedure, and the ranking results of the assessment are submitted to the graduate school for record. It will be implemented in accordance with the “Administrative Measures for the Mid-term Assessment and Distributary Elimination of Shanghai University (Trial)”.

学位论文正式答辩前必须进行预答辩，预答辩通过后，按国家学位条例有关规定进行评审和答辩。申请硕士学位时，学位论文科研成果量化指标见上大内（2022）59号文《上海大学研究生学位论文“双盲”评议及申请学位创新成果要求的规定》和机自学院（2022）15号文《机电工程与自动化学院研究生申请学位创新成果要求（修订）》。

Before the dissertation is formally defended, it must be pre-answered. After the pre-answer is passed, it will be reviewed and defended according to the relevant provisions of the National Degree Regulations. The quantitative indicators of scientific research achievements of thesis are listed in the documents required by School of Mechatronic Engineering and Automation,

研究生要求每周至少完成60-70学时的科研工作，具体考察形式由授课教师或者研究生导师安排。鼓励研究生同学参加相关的学术论坛和报告，以及有益的社会调查等工作。

Graduate students are required to participate in the professional teaching practice, including the guidance of undergraduate experiment, marking the lab reports and homework to complete at least 60-70 hours of work. The practice process will be reviewed by the teachers in charge of teaching or supervisor. The graduate students are also required to attend related seminars and experts forum, and if possible, to participate in social investigation and research or technology promotion.

对硕士学位论文答辩申请工作，应严格按照我国学位授予实施办法、上海大学研究生院相关管理与规定，经过校外评审和学校学位委员会审议通过。

The application for the respondent of the master thesis including the reviewing and defense should be strictly in accordance with the requirements of the "Interim Implementation Measures of the Regulations Concerning Academic Degrees of the People's Republic of China", as well as adopted by the Academic Degrees Committee of the degree-granting work rules and other related documents and regulations.

留学硕士研究生，可以用汉语或英语撰写学位论文和进行学位论文答辩。使用非汉语接受学历教育的留学硕士研究生，学位论文摘要应当用汉语撰写。留学硕士研究生的学位论文答辩必须在我校进行。

Both Chinese and English can be used in write dissertations and thesis defense. Graduate students who have received academic degrees using non-Chinese should translate the abstract of the thesis from English to Chinese. The thesis defense must be carried out in Shanghai University.

本专业毕业生经考试合格达到上海大学硕士学位要求者，将获得工学硕士学位证书。

Graduates who meet the requirements of SHU will receive the degree (Master of Engineering) from Shanghai University.

若本方案与当年研究生培养手册规定不一致，则按当年研究生培养手册执行。

If the plan is inconsistent with the provisions of the graduate training manual of the current year, the graduate training manual of the current year shall prevail.

附表. 课程与必修环节

学术学位硕士研究生（国际研究生）课程设置与必修环节

类别 (Course Category)	课程编号	课程名称 (Course Name)	学时 (class hour)	学分 (Credits)	开课学期 (Term)	备注 (Remark)
公共课Public Courses	0CS000027	公共体育(Public Physical Education)	20	1	第一学期	
	0LY000001	中国概况(General Situation of China)	60	3	第三学期	
	0LY000002	综合汉语B(Comprehensive Chinese B)	60	3	第二学期	
	4CS000001	创业与创新(Entrepreneurship and Innovation)	20	2	第一学期	
专业基础课 Fundamental Courses	3XSL09107	高等工程数学(Advanced engineering mathematics)	40	4	第二学期	
	3XSL09112	先进机械设计(Advanced Mechanical Design)	40	4	第一学期	
	3XSL09122	Modern control theory(Modern control theory)	40	4	第二学期	
	3XSL09128	微机电系统(英文)(Micro-Electro-Mechanical System)	40	4	第二学期	
专业选修课 Major Elective Courses	3XS091053	先进移动机器人(Advanced in Mobile Robot)	40	4	第一学期	
	3XSL09105	摩擦学(TRIBOLOGY)	40	4	第一学期	
	3XSL09109	微纳加工技术导论(Introduction to Micro-Nanofabrication Technology)	40	4	第一学期	
	3XSL09115	弹性力学与有限元法(Elastic Mechanics and Finite Element Method)	40	4	第二学期	
	3XSL09120	程序设计与工程应用(Program design and engineering application)	40	4	第二学期	
	3XSL09124	智能结构与主动控制(英文)(Smart Structures and Active Control)	40	4	第二学期	
	3XSL09125	机器人技术应用(英文)(Robotics Technology and Application)	40	4	第三学期	
	3XSL09126	现代光学测试技术(英文)(Modern optical measurement technology)	40	4	第二学期	
	3XSL09127	机器视觉与图像处理(英文)(Machine Vision and Image Processing)	40	4	第二学期	
	3XSL09129	微纳米系统工程(Micro nano systems engineering)	40	4	第三学期	
创新创业课 Innovation and Entrepreneurship Course	4XS091003	智能制造及机器人创业指导(Entrepreneurship and innovation for Intelligent Manufacture and Robot)	20	2	第二学期	
	4XSL09101	创新方法学(Innovation Methodology)	20	2	第一学期	
学术规范与写作课 Academic Standards and Writing Course	2XSL09204	学术写作(Scientific Writing)	20	2	第一学期	
	7XSL09101	专业英语与写作(Professional English and Writing)	20	2	第二学期	
学术研讨课 Academic Seminar Course	6XSL00001	学术研讨课(Academic Seminars)	20	2	第一学期	

跨院系、专业 选修课 (Cross- Disciplinary Optional Courses)	<p>学生可根据自身情况在导师指导下跨院系、专业选取非本专业课程列入培养计划，课程学分计入总学分。</p> <p>(Under the guidance of supervisors, students can select cross-disciplinary optional courses as part of their program. The course scores will be incorporated into the total academic score.)</p>			
补修课 (Designated Complementary Courses)	<p>根据学生具体情况由导师指定选修本科生主干课2-3门（不计入总学分）</p> <p>(Students are required to select two to three undergraduate courses designated by the supervisors, which will not be incorporated into the total academic score.)</p>			
必修环节 (Required Steps)	课程考核 Course Scores		第三学期 Third Semester	须通过考核 后方可进入 下一环节 (Move to the next step only after confirming the previous step)
	论文开题 Thesis Proposal		第四学期 Fourth Semester	
	中期考核 Mid-Term Evaluation		第四学期 Fourth Semester	
	论文预答辩 Thesis Pre-Defense		第八学期 Eighth semester	
	论文答辩 Thesis Final Defense		第八学期 Eighth semester	

学位评定分委员会主席签章

学院盖章