微电子科学与工程专业2026版卓越英才班培养方案专业2026版本科培养方案

Undergraduate Education Plan for Specialty in Undergraduate Education Plan for Specialty in Microelectronics Science and Engineering (2026)(2026)

专业名称 Major	**微电子科学与工程 Microelectronics Science and Engineering**	主干学科 Major Disciplines	**微电子科学与工程 Microelectronics Science and Engineering**
计划学制 Duration	**四年 4years**	授予学位 Degree Granted	**工学学士 Bachelor of Engineering**

最低毕业学分规定

Graduation Credit Criteria

课程分类 Course Classification / ***课程性质 Course Nature***	通识教育课程 General Education Courser	学科基础课程 Disciplinary Fundamental Courses	专业课程 Specialty Elective Courses	个性课程 Personalized Course	集中性实践教学环节 Specialized Practice Schedule	课外学分 Extra- Course Credits	总学分 Total Credits
必修课 Required Courses	32	34.5	22	\	18	15	140.5
选修课 Elective Courses	9	\	10	\	\		

一、专业简介

1 Professional Introduction

微电子科学与工程专业培养德、智、体全面发展，具有扎实的数理基础和电子技术基础理论，掌握新型微电子器件和集成电路分析、设计、制造的基本理论和方法；具备本专业良好的实验技能，能在微电子及相关领域从事科研、教学、科技开发、工程技术、生产管理与行政管理等工作的高级专门人才。本专业围绕微电子材料与加工、电子器件制造、检测与封装、集成电路设计与系统等方向组建导师团队，每年高考直招35名微电子专业本硕连读学生。

The major of microelectronics science and engineering cultivates all-round development of morality, intelligence and body. It has a solid mathematical foundation and basic theory of electronic technology, and masters the basic theories and methods of analysis, design and manufacture of new microelectronic devices and integrated circuits. Have good experimental skills in this major, can be engaged in research, teaching, technology development, engineering technology, production management and administrative work in microelectronics and related fields of senior professionals. This major sets up a tutor team around microelectronic materials and processing, electronic device manufacturing, testing and packaging, integrated circuit design and system. Each year, 35 undergraduate and postgraduate students majoring in microelectronics are enrolled in the college entrance examination.

二、 培养目标与毕业要求

2 Educational Objectives &Requirements

（一） 培养目标

1．本科目标：本专业培养德、智、体、美、劳全面发展的复合型高级专门人才。学生具备扎实的数理基础和电子技术基础理论，系统掌握微电子器件与集成电路分析、设计、制造的基本方法，同时在先进微电子材料与器件集成方向形成鲜明特色。通过强化实验与实践训练，毕业生能够在微电子及相关领域从事科研、教学、技术开发、工程管理等工作，具备解决复杂工程问题和开展跨学科协同创新的能力。

2．研究生阶段：研究生阶段，面向国家战略信息产业重大人才需求，解决国家微电子领域关键工程难题，构建国际协同、校企协同的培养模式，培养行业拔尖工程人才。

本专业期待毕业生经过五年左右的工作实践，具有的职业能力和取得的职业成就如下：

1.本专业培养德、智、体、美、劳全面发展的复合型高级专门人才。

2.学生具备扎实的数理基础和电子技术基础理论，系统掌握微电子器件与集成电路分析、设计、制造的基本方法，同时在先进微电子材料与器件集成方向形成鲜明特色。

3.通过强化实验与实践训练，毕业生能够在微电子及相关领域从事科研、教学、技术开发、工程管理等工作，具备解决复杂工程问题和开展跨学科协同创新的能力。

4.研究生阶段，面向国家战略信息产业重大人才需求，解决国家微电子领域关键工程难题，构建国际协同、校企协同的培养模式，培养行业拔尖工程人才。

2.1 Education Objectives

1. Undergraduate Program Objectives:

This major aims to cultivate high-level, interdisciplinary professionals with comprehensive development in morality, intelligence, physical fitness, aesthetics, and labor. Students will acquire a solid foundation in mathematics, physics, and electronic technology, and systematically master the fundamental methods for the analysis, design, and manufacturing of microelectronic devices and integrated circuits. The program also establishes distinctive strengths in advanced microelectronic materials and device integration. Through enhanced experimental and practical training, graduates will be equipped to engage in scientific research, teaching, technical development, and engineering management in microelectronics and related fields, possessing the ability to solve complex engineering problems and conduct interdisciplinary collaborative innovation.

2. Graduate Program:

At the graduate level, the program addresses the critical talent needs of the national strategic information industry and tackles key engineering challenges in the nation's microelectronics sector. By establishing an international and industry-academia collaborative training model, it aims to cultivate top-tier engineering talents for the industry.

This major expects graduates to have the following professional abilities and achievements after about five years of work practice:

1.This major aims to cultivate high-level, interdisciplinary professionals with comprehensive development in morality, intelligence, physical fitness, aesthetics, and labor.

2.Students will acquire a solid foundation in mathematics, physics, and electronic technology, and systematically master the fundamental methods for the analysis, design, and manufacturing of microelectronic devices and integrated circuits. The program also establishes distinctive strengths in advanced microelectronic materials and device integration.

3.Through enhanced experimental and practical training, graduates will be equipped to engage in scientific research, teaching, technical development, and engineering management in microelectronics and related fields, possessing the ability to solve complex engineering problems and conduct interdisciplinary collaborative innovation.

4.At the graduate level, the program addresses the critical talent needs of the national strategic information industry and tackles key engineering challenges in the nation's microelectronics sector. By establishing an international and industry-academia collaborative training model, it aims to cultivate top-tier engineering talents for the industry.

（二）毕业要求

本专业学生毕业时应当达到中国工程教育专业认证协会工程教育认证标准规定的能力，即：

1.工程知识:能够将数学、 自然科学、 计算、 工程基础和专业知识用于解决复杂工程问题。

2.问题分析:能够应用数学、 自然科学和工程科学的第一性原理， 识别、 表达并通过文献研究分析复杂工程问题， 综合考虑可持续发展的要求， 以获得有效结论。

3.解决方案:能够针对复杂工程问题开发和设计解决方案， 设计满足特定需求的系统、 单元（ 部件） 或工艺流程， 体现创新性， 并从健康与安全、 全生命周期成本与净零碳要求、 法律与伦理、 社会与文化等角度考虑可行性。

4.研究:能够基于科学原理并采用科学方法对复杂工程问题进行研究， 包括设计实验、 分析与解释数据、 并通过信息综合得到合理有效的结论。

5.工具使用:能够针对复杂工程问题， 开发、 选择与使用恰当的技术、 资源、现代工程工具和信息技术工具， 包括对复杂工程问题的预测与模拟， 并能够理解其局限性。

6.工程与社会:在解决微电子领域复杂工程问题时，能够基于工程相关背景知识，分析和评价工程实践对社会发展的影响，并理解应承担的责任。

7.环境和可持续发展:能够基于工程相关背景知识进行合理分析，评价专业工程实践和微电子领域复杂工程问题解决方案对社会、健康、安全、法律以及文化的影响，并理解应承担的责任。

8.职业规范:有工程报国、 工程为民的意识， 具有人文社会科学素养和社会责任感，能够理解和评价针对微电子领域复杂工程问题的工程实践对环境、社会可持续发展的影响。

9.个人和团队:能够在多样化、 多学科背景下的团队中承担个体、 团队成员以及负责人的角色。

10.沟通:能够就微电子领域复杂工程问题与业界同行及社会公众进行有效沟通和交流，包括撰写报告和设计文稿、陈述发言、清晰表达个人见解。熟练掌握一门外语，具有较强的听说读写能力，并具有国际视野和跨文化的交流、竞争与合作能力。

11.项目管理:理解并掌握工程管理原理与经济决策方法，并能在多学科交叉环境中应用。

12.终身学习:具有终身学习意识和批判性思维能力，具备严密的逻辑推理和组织论证能力；能够持续拓展知识边界，主动适应新质生产力发展需求，服务国家创新驱动战略。

2.2 Graduation Requirements

Upon graduation, students in this major should meet the abilities required by the Engineering Education Certification Standards of the China Engineering Education Professional Certification Association, namely:

1.Engineering knowledge: Have a firm and correct political direction, good ideological and moral character, social ethics and professional ethics; Have humanistic and social science literacy, social responsibility and sense of mission; Have good physical and psychological quality, meet the qualified standards of College Students' physical and military training stipulated by the state, and can fulfill the sacred obligation of building and defending the motherland.

2.Problem analysis: Be able to apply mathematics, natural science, engineering foundation and professional knowledge of electronic information to solve complex engineering problems in the field of electronic information.

3.Be able to apply the basic principles of mathematics, natural science and engineering science to identify, express and analyze complex engineering problems in the field of microelectronics through literature research, so as to obtain effective conclusions.

4.Have the ability to design solutions to complex engineering problems in the field of microelectronics, design systems, units (components) or process flows that meet specific needs, reflect the sense of innovation in the design process, and design and develop solutions that consider social, health, safety, legal, cultural, environmental and other factors.

5.Be able to study complex engineering problems in the field of microelectronics based on scientific principles and scientific methods, including designing experiments, analyzing and interpreting data, and obtaining reasonable and effective conclusions through information synthesis.

6.When solving complex engineering problems in the field of microelectronics, be able to analyze and evaluate the impact of engineering practices on social development based on relevant engineering background knowledge, and understand the responsibilities to be undertaken.

7.Be able to conduct reasonable analysis based on relevant engineering background knowledge,

evaluate the impacts of professional engineering practices and solutions to complex engineering problems in the field of microelectronics on society, health, safety, legal issues, and culture, and understand the responsibilities to be undertaken.

8.Possess the consciousness of serving the country and the people through engineering, have humanistic and social science literacy as well as a sense of social responsibility, and be able to understand and evaluate the impact of engineering practices targeting complex engineering problems in the field of microelectronics on the environment and social sustainable development.

9.Be able to assume the role of individual, team member and leader in a multidisciplinary team.

10.Be able to communicate effectively with peers in the industry and the general public regarding complex engineering problems in the field of microelectronics, including writing reports and design documents, making presentations, and clearly expressing personal viewpoints. Proficient in a foreign language with strong listening, speaking, reading, and writing skills, and possessing an international vision as well as the ability to communicate, compete, and cooperate in a cross-cultural context.

11.Understand and master engineering management principles and economic decision-making methods, and be able to apply them in multidisciplinary environments.

12. Possessing a mindset for lifelong learning and critical thinking skills, with rigorous logical reasoning and the ability to organize and construct arguments; capable of continuously expanding the boundaries of knowledge, proactively adapting to the development needs of new quality productive forces, and serving the national innovation-driven development strategy.

附：培养目标实现矩阵

毕业要求	培养目标 1	培养目标 2	培养目标 3	培养目标 4
毕业要求 1		√	√	√
毕业要求 2	√	√	√	√
毕业要求 3		√	√	√
毕业要求 4		√	√	√
毕业要求 5		√	√	
毕业要求 6			√	√
毕业要求 7			√	√
毕业要求 8			√	√
毕业要求 9			√	√
毕业要求 10			√	√
毕业要求 11		√	√	
毕业要求 12	√		√	

毕业要求的达成需以课程（教学环节）的教学活动为支撑。本专业为 合理设置课程体系、落实对毕业要求的支撑课程，对各项毕业要求进行了解。每项毕业要求（一级指标）被分解为若干层层递进的指标点（二级指标），前一指标点的达成是下一指标点达成的基础，而下一指标点的达成是前一指标点的升华，所有指标点一起，支撑了该毕业要求的达成。根据上述分解方法， 本专业各项毕业要求的指标点分解如下表所示。

表： 毕业要求指标点的分解

毕业要求	指标点

附：毕业要求实现矩阵

课程名称	微电子科学与工程专业毕业要求											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
微纳米加工技术(10044121032)		L		L		M	M					
毕业论文(10047124001)		H					L	L			L	L
电路原理 B 下(10114121064)	H											
Python 程序设计基础 A(10121121086)		L	L		M							
AI 通识教育(10121126001)					M							
电路原理 B 上(10134121080)	H											
电路原理 B 实验下(10134221081)	H	M										
电路原理 B 实验上(10134221082)	H	M										
线性代数(10153111001)	H											
概率论与数理统计 B(10155111054)	H											
人工智能素养与英语学习(10201126002)					L			M		L		
英语创新工作坊(10201126003)									L	M		
思想道德与法治(10211124001)						H	L					
毛泽东思想和中国特色社会主义理论体系概论(10211124002)								L				L
习近平新时代中国特色社会主义思想概论(10211124003)								L				L
马克思主义基本原理(10211124004)								L				L
中国近现代史纲要(10211124005)						L			L			L
形势与政策(10218121091)						L	L	L				
形势与政策(10218121092)						L	L	L				
形势与政策(10218121093)						L	L	L				
形势与政策(10218121094)						L	L	L				
形势与政策(10218121095)						L	L	L				
形势与政策(10218121096)						L	L	L				
形势与政策(10218121097)						L	L	L				
形势与政策(10218121098)						L	L	L				
体育 4(10271117043)									H			
体育 3(10271117044)									H			
体育 2(10271117045)									H			
体育 1(10271117046)									H			
军事理论(10381121001)									H			
军事技能训练(10381321003)									H			
心理健康教育(10388117003)									H			
创新链项目课 0(10444126001)									L		L	
创新链项目课Ⅰ(10444126002)									L		L	
创新链项目课Ⅲ(10444126003)									L		L	

创新链项目课Ⅱ(10447126001)										L		L	
创新链项目实践 0(10447326001)										L		L	
创新链项目实践Ⅰ(10447326002)										L		L	
创新链项目实践Ⅲ(10447326003)										L		L	
创新链项目实践Ⅱ(10447326004)										L		L	
高等数学 上(10713126001)	H												
高等数学下(10713126002)	H												
大学物理 B（下）(10723126004)	H												
大学物理 B（上）(10723126005)	H												
电子科学与技术（含实验）(1A043126008)			H	H									
量子力学(1A043126009)	H												
半导体器件原理（荣誉课程）(1A044126019)			H	H									
人工智能与微电子器件封测(1A044126020)				H	L								
CMOS 集成电路设计基础(1A044126021)			H	H									
AI 与 IC(1A044126022)					L								
微电子工艺学（荣誉课程）(1A044126023)			H	H									
科技与产业前沿（IC)(1A044126024)						L							L
（荣誉课程）半导体物理基础 A(1A044126025)			H	H									
人工智能与微电子材料(1A044126026)				M	L								
微电子工艺实验与安全(1A044226001)						L	L						
半导体逻辑与存储(1A045126012)			M	M									
高级模拟集成电路设计(1A045126013)			L	M									
材料制备原理与技术(1A045126014)			L	L									
高速高频集成电路(1A045126015)			L	L									
模拟集成电路与微系统(1A045126016)			L	L	L								
光电材料与器件(1A045126017)			L	L									
Verilog 语言与 FPGA 实践(1A045126018)			L	L	L								
集成电路版图设计与后端实现(1A045126019)			L	L	L								
神经形态器件与系统(1A045126020)			L	L									
基于 RISC-V 的 SoC 芯片设计(1A045126021)			L	L	L								
认识实习(微电子)(1A047326007)										L	L	L	L
专业实习（微电子）(1A047326008)										L	L	L	L
通识教育选修课	“四史”类						L						L
	人文社科类						L		L				
	科技创新类				L								L
	经济管理类							L				L	
	创新创业类											L	L
	艺术审美类									L	L		
	体育健康类									L			
备注：表中用“H”、“M”、“L”分别表示该课程对指标点的支撑强度为“高”、“中”、“低”。													

三、专业核心课程

3 Core Courses

CMOS 集成电路设计基础,微电子工艺学（荣誉课程）,人工智能与微电子材料

Fundamental of CMOS IC design,Microelectronics Process Technology,Artificial Intelligence and Microelectronics Materials

四、 教学建议进程表

4 Course Schedule

开课单位 Course College	课程编号 Course Number	课程名称 Course Title	学分 Crs	学时分配 Including						建议修读学期 Suggested Term	先修课程 Prerequisite Course
				总学时 Tot hrs.	理论 Theory	实验 Exp.	上机 Ope-ratio.	实践 Prac-tice.	课外 Extra-cur.		
（一）通识教育必修课程 1 General Education Compulsory Courses											
人工智能学院	10121126001	AI 通识教育 General Education in Artificial Intelligence	1	24	8	0	0	16	0	1	
外国语学院	10201126002	人工智能素养与英语学习 Artificial Intelligence Literacy and English Language Learning	1	16	16	0	0	0	0	1	
马克思主义学院	10211124001	思想道德与法治 Morality and the rule of law	3	48	42	0	0	6	0	1	
马克思主义学院	10218121091	形势与政策 Situation & Policy	0.25	8	8	0	0	0	0	1	
体育学院	10271117046	体育 1 Physical Education I	1	32	32	0	0	0	0	1	
学生工作部（处）、武装部	10381121001	军事理论 Military Theory	2	32	32	0	0	0	0	1	
学生工作部（处）、武装部	10381321003	军事技能训练 Military Skills Training	2	136	0	0	0	136	0	1	
学生工作部（处）、武装部	10388117003	心理健康教育 Mental Health Education	2	32	24	0	0	8	0	1	
外国语学院	10201126003	英语创新工作坊 English Innovation Workshop	1	16	16	0	0	0	0	2	
马克思主义学院	10211124005	中国近现代史纲要 Outline of Contemporary and Modern Chinese History	3	48	42	0	0	6	0	2	
马克思主义学院	10218121092	形势与政策 Situation & Policy	0.25	8	8	0	0	0	0	2	
体育学院	10271117045	体育 2 Physical Education II	1	32	32	0	0	0	0	2	
马克思主义学院	10211124002	毛泽东思想和中国特色社会主义理论体系概论 Introduction to Mao Zedong Thought and Socialism with Chinese Characteristics	3	48	30	0	0	18	0	3	
马克思主义学院	10211124004	马克思主义基本原理 Fundamental Principles of Marxism	3	48	42	0	0	6	0	3	
马克思主义学院	10218121093	形势与政策	0.25	8	8	0	0	0	0	3	

		Situation & Policy									
体育学院	10271117044	体育 3 Physical Education III	1	32	32	0	0	0	0	3	基础体育，基础体育 2
集成电路学院	1A044126022	AI 与 IC AI for Integrated Circuits	2	32	32	0	0	0	0	3	
马克思主义学院	10211124003	习近平新时代中国特色社会主义思想概论 Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	3	48	36	0	0	12	0	4	
马克思主义学院	10218121094	形势与政策 Situation & Policy	0.25	8	8	0	0	0	0	4	
体育学院	10271117043	体育 4 Physical Education IV	1	32	32	0	0	0	0	4	基础体育，基础体育 2
马克思主义学院	10218121095	形势与政策 Situation & Policy	0.25	8	8	0	0	0	0	5	
马克思主义学院	10218121096	形势与政策 Situation & Policy	0.25	8	8	0	0	0	0	6	
马克思主义学院	10218121097	形势与政策 Situation & Policy	0.25	8	8	0	0	0	0	7	
马克思主义学院	10218121098	形势与政策 Situation & Policy	0.25	8	8	0	0	0	0	8	
小 计 Subtotal			32	720	512	0	0	208	0		

修读说明:
NOTE:

（二）通识教育选修课程
2 General Education Elective Courses

“四史”类 Education of "Four Histories"	1. 通识课程应修满至少 9 学分； 2. 至少修读“四史”课程以及创新创业类课程各 1 门； 3. 非艺术类专业学生还应在艺术审美类课程中至少选修 2 学分； 4. 学校引进开设的通识教育网络课程采用“学分认定”方式计入通识选修课，最高计入 4 学分。 5. 必须选修人文社科类中《国家安全教育》课程。 1. Elective courses ≥9 credits. 2.At least one course in Education of "Four Histories" and one course in innovation and entrepreneurship; 3.Non art major students should also take at least 2 elective credits in art aesthetics courses; 4.The general education online courses introduced by the school are included in the general education elective courses through credit recognition, with a maximum of 4 credits. 5. National Security Education of the Humanities and Social Sciences Courses is the specialized elective course
人文社科类 Humanities and Social Sciences	
科技创新类 Technology innovation	
经济管理类 Economic Management	
创新创业类 Innovation and entrepreneurship	
艺术审美类 Art Aesthetics	
体育健康类 Sports and Health	

小 计 Subtotal	9	144								

（三）学科基础课程 3 Disciplinary Fundamental Courses											
数学与统计学院	10153111001	线性代数 Linear Algebra	2.5	40	40	0	0	0	0	1	
数学与统计学院	10713126001	高等数学 上 Advanced MathematicsI	4	64	64	0	0	0	0	1	
物理与力学学院	10723126005	大学物理 B（上） College Physics B (Part 1)	3	48	48	0	0	0	0	1	
集成电路学院	1A044126024	科技与产业前沿（IC） Frontiers of Technology and Industry（IC)	1	16	16	0	0	0	0	1	
数学与统计学院	10713126002	高等数学下 Advanced MathematicsII	5	80	80	0	0	0	0	2	
物理与力学学院	10723126004	大学物理 B（下） College Physics B (Part 2)	2	32	32	0	0	0	0	2	
信息工程学院	10134121080	电路原理 B 上 Circuit Principle B	2	32	32	0	0	0	0	3	线性代数,高等数学 A 下,高等数学 A 上,复变函数与积分变换 B
新能源与电气工程学院	10134221082	电路原理 B 实验上 Electric Circuits B Exp I	0.5	16	0	16	0	0	0	3	电路原理 B 上
数学与统计学院	10155111054	概率论与数理统计 B Probability and Mathematical Statistics	3	48	48	0	0	0	0	3	线性代数
集成电路学院	1A043126008	电子科学与技术（含实验） Electronic Science and Technology	6	112	80	32	0	0	0	3	
信息工程学院	10114121064	电路原理 B 下 Circuit Principle B II	3	48	48	0	0	0	0	4	
新能源与电气工程学院	10134221081	电路原理 B 实验下 Electric Circuits B Exp II	0.5	16	0	16	0	0	0	4	电路原理 B 下,电路原理 B 上,电路原理 B 实验上
集成电路学院	1A043126009	量子力学 Quantum Mechanics	2	32	32	0	0	0	0	4	
小 计 Subtotal			34.5	584	520	64	0	0	0		
修读说明: NOTE:											

（四）专业必修课程 4 Specialized Required Courses											
(1)专业必修课程											
本科生院[未来学习中心、素质教育中心（国家大学生文化素质教育基地）、厚德书院、附属学校管理办公室]	10444126001	创新链项目课 0 Innovation Chain Project Course 0	0.5	6	6	0	0	0	0	1	
本科生院[未来学习中心、素质教育中心（国家大学生文化素质教育基地）、厚德书院、附属学校管理办公室]	10444126002	创新链项目课 I Innovation Chain Project Course I	1	16	16	0	0	0	0	2	
人工智能学院	10121121086	Python 程序设计基础 A Foundation of Python Programming A	2	32	32	0	0	0	0	3	
本科生院[未来学习中心、素质教育中心（国家大学生文化素质教育基地）、厚德书院、附属学校管理办公室]	10447126001	创新链项目课 II Innovation Chain Project Course II	2	32	32	0	0	0	0	3,4	
集成电路学院	1A044126025	（荣誉课程）半导体物理基础 A (Honors Course) Fundamentals of Semiconductor Physics A	2.5	40	40	0	0	0	0	4	
集成电路学院	1A044126019	半导体器件原理（荣誉课程） Principles of Semiconductor Devices	2	32	32	0	0	0	0	5	
集成电路学院	1A044126023	微电子工艺学（荣誉课程） Microelectronics Process Technology	3	48	48	0	0	0	0	5	
集成电路学院	1A044126026	人工智能与微电子材料 Artificial Intelligence and Microelectronics Materials	2	32	32	0	0	0	0	5	
集成电路学院	1A044226001	微电子工艺实验与安全 Microelectronics Process Experiment and Safety	1	32	0	32	0	0	0	5	
本科生院[未来学习中心、素质教育中心（国家大学生文化素质教育基地）、厚德书院、附属学校管理办公室]	10444126003	创新链项目课III Innovation Chain Project Course III	2	32	32	0	0	0	0	5,6	
集成电路学院	1A044126020	人工智能与微电子器件封测 Artificial Intelligence and Microelectronic Device	2	32	32	0	0	0	0	6	

		Packaging and Testing									
集成电路学院	1A044126021	CMOS 集成电路设计基础 Fundamental of CMOS IC design	2	32	32	0	0	0	0	6	
小 计 Subtotal			22	366	334	32	0	0	0		
修读说明: NOTE:											
（五）专业选修课程 5 Specialized Elective Courses											
(1)专业选修课程											
集成电路学院	10044121032	微纳米加工技术 Micro/Nanofabrication Technologies	2	32	32	0	0	0	0	6	
集成电路学院	1A045126012	半导体逻辑与存储 Semiconductor Logic and Memory	2	32	32	0	0	0	0	6	
集成电路学院	1A045126013	高级模拟集成电路设计 Advanced Analog Integrated Circuit Design	2	32	32	0	0	0	0	6	
集成电路学院	1A045126014	材料制备原理与技术 Principle and Techniques of Materials Preparation	2	32	32	0	0	0	0	6	
集成电路学院	1A045126015	高速高频集成电路 High-Speed and High-Frequency Integrated Circuits	2	32	32	0	0	0	0	6	
集成电路学院	1A045126016	模拟集成电路与微系统 Analog Integrated Circuits and Microsystems	2	32	32	0	0	0	0	6	
集成电路学院	1A045126017	光电材料与器件 Optoelectronic Materials and Devices	2	32	32	0	0	0	0	6	
集成电路学院	1A045126018	Verilog 语言与 FPGA 实践 Verilog HDL and FPGA Practice	2	32	32	0	0	0	0	6	
集成电路学院	1A045126019	集成电路版图设计与后端实现 Integrated Circuit Layout Design and Back-End Implementation	2	32	32	0	0	0	0	6	
集成电路学院	1A045126020	神经形态器件与系统 Neuromorphic Devices and Systems	2	32	32	0	0	0	0	6	
集成电路学院	1A045126021	基于 RISC-V 的 SoC 芯片设计 RISC-V Based SoC Chip Design	2	32	32	0	0	0	0	6	
小 计 Subtotal			22	352	352	0	0	0	0		
修读说明: NOTE:											
（六）个性课程 6 Personalized Elective Courses											

（七）集中性实践教学环节
7 Specialized Practice Schedule

(1)集中性实践教学环节

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本科生院[未来学习中心、素质教育中心（国家大学生文化素质教育基地）、厚德书院、附属学校管理办公室]	10447326002	创新链项目实践 I Innovation Chain Project Practice Level I	1	32	0	0	0	32	0	2	
本科生院[未来学习中心、素质教育中心（国家大学生文化素质教育基地）、厚德书院、附属学校管理办公室]	10447326004	创新链项目实践 II Innovation Chain Project Practice Level II	2	32	0	0	0	32	0	3,4	
集成电路学院	1A047326007	认识实习(微电子) Internship (Microelectronics)	1	16	0	0	0	16	0	4	
本科生院[未来学习中心、素质教育中心（国家大学生文化素质教育基地）、厚德书院、附属学校管理办公室]	10447326003	创新链项目实践III Innovation Chain Project Practice Level III	2	32	0	0	0	32	0	5,6	
集成电路学院	1A047326008	专业实习（微电子） Professional Internship (Microelectronics)	3	48	0	0	0	48	0	6	
集成电路学院	10047124001	毕业论文 Graduation Thesis	8.5	272	0	0	0	272	0	7	
小 计 Subtotal			18	452	0	0	0	452	0		

修读说明:
NOTE:

五、 修读指导

5 Recommendations on Course Studies

1. 课外培养方案详见《武汉理工大学第二课堂课外学分实施办法》。

2. 汉语授课本科层次国际学生汉语类课程修读要求详见《武汉理工大学本科层次国际学生公共汉语课程设置与修读要求》，其它课程修读与中国学生培养方案保持一致。

3. 各专业应不断强化劳动教育，将劳动要素融入专业教育，充分依托实习实训、社会调查等实践教学环节，设置劳动教育模块，标注含不少于 32 学时（2 学分）的劳动教育，明确劳动教育的目标、内容、形式和考核要求。

1.Please refer to the cultivation plan of the second class-Implementation Measures for Extracurricular Credits of the Second Class of Wuhan University of Technology.

2.Chinese courses for International students accepting Chinese teaching at undergraduate level can be found in detail the Public Chinese Curriculum and Study Requirements for International Students at undergraduate level of Wuhan University of Technology, and the study of other courses should be consistent with the undergraduate training program for Chinese students.

3.All majors should continue to strengthen labor education, integrate labor elements into specialty education, fully rely on practical teaching links such as practical training and social investigation, set up labor education modules, label labor education with no less than 32 class hours (2 credits), and clarify the goal, content, form and assessment requirements of labor education.

学院教学负责人：王涛

专业培养方案负责人：孙丛立, 卢文婧