

# 材料科学与工程

## 一、培养目标

本专业旨在培养材料科学与工程专业领域德智体美全面发展的高级专门科学技术人才。本专业学生应掌握材料科学与工程的基础理论和材料制备与加工、组织与性能、工程应用等方面的专业知识与基本技能。通过系统的理论学习与实践训练,毕业生应具有坚实的自然科学、人文社会科学基础和材料科学与工程专业基础,具有较强的自我获取知识的能力、工程素质与实践能力、创新精神与创业意识、国际化视野、社会交往能力和组织管理能力,具备成为本专业领域的专家学者或企业精英人才的潜力。

本专业的毕业生适合于在材料、航空航天、新能源、电子信息、交通、机械、化工、电力、节能环保、建筑等工程领域从事技术或管理工作,或在高等院校和科研机构继续深造或从事科研工作。

## 二、基本规格要求

本专业学生主要学习材料科学理论、材料制备工艺、材料表征及相关装备等方面的基础知识,接受与材料制造和应用相关的工程技能训练。通过系统的理论知识学习和工程实践,使学生获得以下几方面的知识和能力:

1. 具有扎实的自然科学基础和基本的人文、艺术和社会科学素养,较强的团队精神和合作意识,以及良好的职业道德意识。
2. 系统掌握材料科学与工程领域宽广的理论基础知识和应用技术,主要包括物理学、化学、力学、材料科学基础、材料工程基础、材料结构和性能表征等。
3. 掌握与材料制造和应用相关的基础知识,掌握材料的设计、制备工艺和装备知识,了解材料制造和应用的产业特征,知晓新材料的发展趋势,了解材料质量的检测与评价标准。
4. 获得较好的工程实践训练,初步具备综合运用材料科学与工程学科理论和技术分析并解决工程实际问题的能力。
5. 熟悉本专业领域和其他领域交叉的新理论、新方法和新技术,具备适应社会经济发展的专业及相关领域知识拓展与强化的能力,具备深入研究学习的能力和创新意识。
6. 掌握检索和获取信息的基本方法,具有较强的外语综合应用能力,具备国际化的视野和跨文化的交流与合作能力。
7. 具有较强的社会适应能力和积极的人生观与价值观,身心健康。

## 三、培养特色

面向现代装备制造业、新材料、机械、交通等重要工业领域,按照“宽口径、厚基础、强能力、重创新”的人才培养目标,通过构建大类培养模式下的理论课程和实践教学课程体系,使得学生能够掌握扎实的材料科学、材料工程领域基础理论知识,实践动手能力强,并具备较强的科技创新意识。

通过设置模块化的专业方向课程体系,体现学院在轻量化材料及其结构与性能表征技术、新型炭材料、功能陶瓷、电子及能源新材料方向的学科优势和培养特色。

## 四、学制、毕业基本要求及学位授予

1. 本科基本学制 4 年,弹性学习年限 3—6 年,按照学分管理制度管理。

2. 材料科学与工程专业学生毕业最低学分数为 170 学分，其中各类别课程及环节要求学分数如下表：

课程类别	通识必修	学门核心	学类核心	专业核心	专业选修	通识选修	集中实践	合计
学分数	27	24	36	19	22	8	34	170

3. 学生修满培养方案规定的必修课、选修课及有关环节，达到规定的最低毕业学分数，并修完规定必修但不记学分的所有课程和环节，德、智、体合格，完成毕业设计（论文）且成绩合格，即可毕业。满足学位授予相关文件要求的，授予工学学士学位。

## 五、课程设置及学分分布

### （一）通识教育课程【必修 27+（6）学分+选修 8 学分】

通识教育课程包括必修和选修两部分。通识选修课程按《湖南大学通识选修（文化素质教育）课程方案》实施，通识必修课程如下：

编码	课程名称	学分	备注
GE01101	毛泽东思想和中国特色社会主义理论体系概论	3+（3）	
GE01039	思想道德修养与法律基础	1.5+（1.5）	
GE01100	形势与政策	0.5+（1.5）	
GE01102	中国近现代史纲要	2	
GE01103	马克思主义基本原理（上）	2	
GE01104	马克思主义基本原理（下）	2	
GE01012（-15）	大学英语	8	
GE01088	计算机基本能力测试	0.5	
GE01093	计算机导论与程序设计	2.5	
GE01107（-13）	心理素质与生涯发展	1	
GE01089（-92）	体育	4	

### （二）学门核心（24 学分）

编码	课程名称	学分	备注
GE03025（26）	高等数学 A	10	
GE03003	线性代数 A	3	
GE03004	概率论与数理统计 A	3	
GE03005（06）	普通物理 A	6	
GE03007（08）	普通物理实验 A	2	
合计		24	

**(三) 学类核心 (36 学分)**

编码	课程名称	学分	备注
CH04020	工程图学	3	
GE02010	电子技术	2	
GE02009	电工技术	2	
MS04210	工程力学	3	
MS04101	专业入门	1	
MS04102	材料化学基础	4	
MS04018 (19)	材料物理化学	4	
MS04104	材料结构基础	4	
MS04105	材料物理基础	4	
MS04106	材料科学基础	4	
MS04107	材料工程基础	4	
MS04108	专业进展 (双语)	1	
合计		36	

**(四) 专业核心 (19 学分)**

编码	课程名称	学分	备注
MS05101	材料测试技术	5	
MS05102	材料性能学	4	
MS05103	材料制备工艺及装备	4	
MS05104	先进装备材料	2	
MS05105	功能材料	2	
MS05106	工程材料学	2	
合计		19	

**(五) 专业方向限选课 (8 学分) (以下模块中, 学生任选一模块课程修读。同时, 学生还可选修所选模块之外的课程, 甚至选修材型模块课程。所选课程等同于任选课。)**

	编码	课程名称	学分	备注
新材料模块	MS07111	能源新材料	2	
	MS07112	应用电化学	2.5	
	MS07113	薄膜与电子材料	2	
	MS07114	纳米材料与技术	1.5	
高分子材料模块	MS07121	高分子化学	3	
	MS07122	高分子物理	3	
	MS07123	聚合物成型与加工	2	
无机非金属材料模块	MS07131	炭素工艺学	2	
	MS07132	陶瓷工艺学	2	
	MS07133	热工设备	2	
	MS07134	无机材料物理化学	2	
金属材料模块	MS07141	液态成形原理	2	
	MS07142	金属塑性成形原理	2	
	MS07143	金属热处理原理与工艺	2	
	MS07144	金属学原理	2	

**(六) 专业选修课 (以下课程中, 在导师指导下, 任选 14 学分的课程修读, 也可以选修其他专业的课程)**

编码	课程名称	学分	备注
MS06101	电子显微技术	2	专业选修课 要求在导师指 导下, 任选 14 学分修读, 也 可选修其他专 业的课程修读。
MS06102	无损检测	2	
MS06103	材料设计与计算机模拟	2	
MS06104	材料检测与技术	2	
MS06105	计算机在材料科学中的应用 (Matlab)	2	
MS06106	快速凝固技术	2	
MS06107	材料表面工程	2	
MS06108	冲压工艺及模具设计	2	
MS06109	焊接工程基础	2	
MS06110	模具 CAD/CAM	2	
MS06111	塑性加工技术	2	
MS06112	粉末冶金原理与技术	2	
MS06113	生物医用材料	2	
MS06114	复合材料	2	
MS06115	激光在材料加工中的应用	2	
MS06116	数值仿真技术在成形过程中的应用	2	
MS06117	液压与气压传动	2	
MS06118	低塑性材料成形技术	2	
MS06119	材料成型过程测量与控制	2	
MS06120	先进陶瓷材料	2	
MS06121	新型建筑材料	2	
MS06122	新型炭材料	2	
MS06123	超硬功能材料与工具	2	
MS06124	高电压绝缘子设计	2	
MS06125	磁性材料与器件	2	
MS06126	多孔材料	2	
MS06127	粉体工程	2	
MS06128	催化材料导论	2	
MS06129	金属腐蚀与防护	2	
MS06130	聚合物共混改性	2	
MS06131	聚合反应工程基础	2	
MS06132	橡胶材料的设计与加工原理	2	
MS06133	高分子合成原理与工艺	2	
MS06134	高分子材料测试技术	2	
MS06135	聚合物流变学	2	
MS06136	胶粘剂	2	
MS06137	功能高分子材料	2	
MS06138	涂料与涂装	2	
MS06139	发光材料与显示技术	2	
MS06140	电池工艺学	2	
MS06141	电子封装材料与工艺	2	
MS06142	光伏材料与技术	2	
MS06143	材料化学分析方法	2	

**(七) 集中实践 (34 学分)**

课程编码	课程名称	学分	学时	备注
MS10109	专业写作训练	1	32	材料院
GE09015	程序设计训练 A	1	32	信息院
GE09006	金工实习 A	2	64	工训中心
GE09021	电工电子实验与实习 A	2	64	工训中心
MS10108	材料化学基础实验	2	64	材料院
MS10101	材料学科基础实验	4	128	材料院
MS10102	模块课程实验	3	96	材料院
MS10103	材料工程设计	2	64	材料院
MS10104	认识实习	1	32	材料院
MS10105	生产实习	2	64	材料院
MS10106	毕业 (实习) 及论文	12	384	材料院
MS10107	创新实践 (含学科竞赛)	2		材料院
合计 (创新创业)		34	1024	

**六、课程责任教师一览表**

序号	姓名	职称	学历学位	专业特长	课程 (专业核心、专业选修、通识选修)
1	陈江华	教授	博士	电子显微学	材料测试与技术、先进装备材料
2	万 隆	教授	博士	超硬材料	材料制备工艺及装备、超硬功能材料与工具 (选修)
3	刘洪波	教授	博士	新型炭材料、能源材料	先进装备材料、材料性能学、新型炭材料 (选修)
4	肖汉宁	教授	博士	先进陶瓷材料	材料工程基础、先进陶瓷材料 (选修)
5	陈小华	教授	博士	纳米材料、功能材料	材料结构基础、纳米材料与器件
6	李玉平	教授	博士	先进陶瓷材料	专业入门、高压绝缘子设计 (选)、陶瓷工艺学 (限)
7	陈 刚	教授	博士	快速凝固喷射沉积、高性能铝镁合金	工程材料学
8	严红革	教授	博士	金属材料、粉末冶金	材料科学基础、金属学原理 (限)
9	周灵平	教授	博士	电子封装材料、薄膜技术	材料测试技术
10	彭 平	教授	博士	金属凝固模拟与合金强韧化设计	材料物理基础
11	彭 坤	教授	博士	磁性材料、功能薄膜材料	功能材料
12	程英亮	教授	博士	腐蚀电化学、金属表面处理	材料物理化学
13	杨新国	副教授	博士	有机高分子材料	材料化学基础
14	伍翠兰	教授	博士	材料结构显微分析	材料测试技术
15	陈玉喜	教授	博士	材料物理与化学、电子显微学	材料科学基础

续表

序号	姓名	职称	学历学位	专业特长	课程 (专业核心、专业选修、通识选修)
16	李 劲	教授	博士	新型炭材料、能源材料	材料物理化学、无机材料物理化学(限)、催化材料导论(选)
17	李轩科	教授	博士	高性能碳纤维及复合材料	先进装备材料
18	费又庆	教授	博士	碳纤维及其复合材料	
19	胡望宇	教授	博士	材料物理	材料科学基础
20	袁武华	教授	博士	金属材料、塑性加工	材料制备工艺及装备、金属塑性成形原理(限)
21	郭坤琨	教授	博士	高分子化学与物理、生物物理理论	材料专业导论
22	梁 逵	教授	博士	电磁材料、新型炭材料	材料制备工艺及装备、新型能源材料、新型电子材料
23	刘艳丽	副教授	博士	纳米材料	材料物理化学
24	刘海蓉	副教授	博士	生物材料	材料结构基础、纳米材料与技术(限)、生物医用材料(选)
25	陈石林	副教授	博士	炭素材料、新型炭材料	材料工程基础、热工设备(限)、粉体工程(选)
26	陈吉华	副教授	博士	金属材料	材料工程基础、材料科学基础、金属学原理(限)
27	杨 雷	副教授	博士	纳米功能材料	材料物理基础
28	钟文斌	副教授	博士	新型高分子的合成、高分子纳米材料	材料结构基础、高分子物理(限)
29	茶丽梅	副教授	博士		材料进展(双语)
30	夏伟军	副教授	博士		金属塑性成形原理、金属塑性加工工艺学
31	高朋召	副教授	博士	新型无机非金属材料	材料性能学(核)
32	袁定旺	副教授	博士	材料模拟与设计	材料物理基础
33	唐艳红	副教授	博士	功能高分子材料	功能高分子材料(选)、材料测试技术
34	黄凯兵	副教授	硕士	功能高分子吸附材料	材料制备工艺及装备、聚合物成型与加工(限)
35	刘小磐	助理教授	博士	超硬材料	无机材料物理化学、热工设备(限)、超硬功能材料与工具
36	朱家俊	助理教授	博士	功能材料、薄膜材料	功能材料(专业核心课)、薄膜技术及应用(限)、电子封装材料与工艺(选)
37	吕铁铮	助理教授	博士	新型无机非金属材料	材料结构基础、能源新材料(限)、光伏材料与技术(选)
38	李 伟	助理教授	博士	树脂基复合材料	材料工程基础、聚合反应工程基础(选)、胶粘剂(选)
39	陈 惠	助理教授	博士	新型炭材料、能源材料	材料性能学、新型建筑材料(选)、能源新材料(限)
40	欧阳婷	助理教授	博士	碳纤维及其复合材料	材料工程基础、聚物流变学(选)
41	袁剑民	助理教授 讲师	博士	功能高分子、节能环保材料	材料化学基础、涂料与涂装(选)

续表

序号	姓名	职称	学历学位	专业特长	课程 (专业核心、专业选修、通识选修)
42	夏笑虹	助理教授	博士	能源材料、建筑材料	材料物理化学、高分子化学
43	韩 飞	助理教授	博士		材料热力学(核)、能源材料科学(选)
44	胡爱平	讲师	博士	化学、能源材料	材料化学基础
45	唐群力	讲师	博士	多孔材料的制备与应用、金属表面处理、催化	材料化学基础

## 七、专业责任教授

序号	姓名	职称	学历学位	专业特长	承担授课课程
1	陈小华	教授	博士	纳米材料、功能材料	材料结构基础、纳米材料与器件

# Material Science and Engineering

## I . Objectives

This program dedicates to cultivate highly qualified scientists and technicians in the field of materials science and engineering with all-round development of morality, intelligence physique and aesthetic. Students participated in this program and full-fill the course requirements and practices will, at the end of the program, gain an understanding of the elementary theories in materials sciences and the basic knowledge in materials manufacturing and processing, the relationship between structure and mechanical properties, as well as industry applications, etc. Through systematic studying and practicing, the undergraduate students can achieve a strong foundation both in nature and social sciences, and will be competence in self-learning, international perspective, sociability, organization and management, associated with high creativity and practical ability, therefore have great potential to be experts and elites in this area.

Students accomplished this program will be suitable to work in the field of materials, aerospace, new energy resource, electronic information, transportation, mechanics, chemical engineering, electricity, energy conservation and environment protection, architecture, etc. as well as perform further study and research in universities and/or scientific research institutions.

## II . Basic Specifications

Major concerns focus on the primary knowledge of materials science theories, materials processing, characterization techniques and correlative apparatus, and relevant engineering skill trainings on materials manufacturing and applications. Students accomplished the fundamental theory study and practical activity should be qualified with following specific knowledge and abilities:

1. a fundamental quality of nature science, cultural, artistic and social knowledge, associated with high cooperative awareness, team spirits and good professional ethics.
2. an extensive accomplishment in the basic theories of materials science and engineering practical skills, mainly concerning physics, chemistry, mechanics, fundamentals of materials science, fundamentals of materials engineering, microstructures and mechanical properties, etc.
3. well understanding of materials manufacturing and applications, materials design, processing and relevant equipment, an understanding of the characteristics of the materials manufacturing and application industry, development tendency of new materials, quality tests and evaluation criterions of materials.
4. receiving well practical trainings and be able to apply the basic principles of materials science and engineering to analysis and solve real practical problems.
5. Being acquainting to new theories, methods and technologies in materials research fields, and capable of expanding and consolidating relevant knowledge to adapt the fast growing social and economic demands, competence to further study and creativity.
6. obtaining the ability to search and fetch information, comprehensive usage of a foreign language, intercultural communication and cooperation, and international vision.



7. getting good adaptability in social life and positive view on value, being both physically and mentally healthy.

### III. Characteristics

Oriented to vital industry areas such as modern manufacturing, new materials, mechanics and transportation, evaluated with criteria of “extensive in knowledge, solid in fundamental research, competence in practice and vigorous in innovation”, students participated in this program will be educated with an elaborately scheduled syllabus including theory courses and practical activities to gain a strong capture of fundamental theories of materials science and engineering and good practical ability, as well as an passion in science creativity.

The modularized curriculums, such as lightweight materials and its structure and property characterization techniques, new carbon materials, functional ceramics, new materials in electronic and power, etc. Represent the superiority and distinguishing features of our college.

### IV. Length of Schooling, Basic Requirements for Graduation and Degree Conferment

1. The basic education for undergraduate students is 4 years, with a flexible time schedule at 3~6 years which is managed with credit system.

2. To graduate from the major of materials science and engineering, one must gathers a credit exceeding 170. Credits required in each education link are listed in following table.

Course Category	Required General Education Courses	Introductory Major Courses	Major Survey Courses	Required Core Courses	Restricted Electives	General Education Electives	Intensive Practice	Total
Credits	27	24	36	19	22	8	34	170

3. Graduation requirements including: accomplishing the prescriptive courses and practices, and reaching the lower limit of credit requirement, passing through all regulated courses and exercise training (without credit records), well development in morality, intelligence and physique, finishing the graduation project (thesis) and being approved. Full-fill requirements of degree granting, a degree of bachelor of engineering will be authorized.

### V. Curriculum and Credits

1. General Education Courses [required 27+(6) + elective 8 credits]

The general education courses consist of required courses and elective courses. General education electives are designed according to the *Curriculum Design of General Education Electives of Hunan University*. Required general education courses are illustrated in the following table.

Code	Course Title	Credit(s)	Remarks
GE01101	Introduction to Maoism and Theoretical System of Socialism with Chinese Characteristics	3+(3)	
GE01039	Moral Cultivation and Law Basics	1.5+(1.5)	
GE01100	Current Situation and Policies	0.5+(1.5)	
GE01102	Outline of Modern Chinese History	2	
GE01103	Fundamentals of Marxism I	2	
GE01104	Fundamentals of Marxism II	2	

Cont

Code	Course Title	Credit(s)	Remarks
GE01012(-15)	College English	8	
GE01088	Computer Proficiency Test	0.5	
GE01093	Introduction to Computer Science and Programming	2.5	
GE01107(-13)	Psychological Health & Career Planning	1	
GE01089(-92)	Physical Education	4	

## 2. Introductory Major Courses(24 credits)

Code	Course Title	Credit(s)	Remarks
GE03025(26)	Advanced Mathematics A	10	
GE03003	Linear Algebra A	3	
GE03004	Probability and Statistics A	3	
GE03005(06)	Physics A	6	
GE03007(08)	Physical Experiments A	2	
Total		24	

## 3. Major Survey Courses (36 credits)

Code	Course Title	Credit(s)	Remarks
CH04020	Engineering Graphics	3	
GE02010	Electronics Technology	2	
GE02009	Electrical Engineering	2	
MS04210	Engineering Mechanics	3	
MS04101	Introduction of Materials Science and Technology	1	
MS04102	Fundamentals of Material Chemistry	4	
MS04018(19)	Physical Chemistry of Materials	4	
MS04104	Fundamentals of Material Structure	4	
MS04105	Fundamentals of Materials Physics	4	
MS04106	Fundamentals of Materials Science	4	
MS04107	Fundamentals of Materials Engineering	4	
MS04108	Advances in Materials Science and Technology	1	
Total		36	

## 4. Required Core Courses (19 credits)

Code	Course Title	Credit(s)	Remarks
MS05101	Analysis and Testing Technology of Materials	2	
MS05102	Mechanical Properties of Materials	5	
MS05103	Processing and Equipment of Material Preparation	4	
MS05104	Advanced Materials for Equipment Manufacturing	4	
MS05105	Functional Materials	2	
MS05106	Engineering Materials A	2	
Total		19	

5. Restricted Electives (8 credits) (Students are permitted to select courses in different category arbitrarily, students could also take courses which are not listed here, and the selected courses are equivalent to optional courses.)

Category	Code	Course Title	Credit(s)	Remarks
Advanced Materials	MS07111	Advanced energy Materials	2	
	MS07112	Applied Electronic Chemistry	2.5	
	MS07113	Film and Electronic Materials	2	
	MS07114	Nanomaterial and Nanotechnology	1.5	
Macromolecular Materials	MS07121	Polymer Chemistry	3	
	MS07122	Polymer Physics	3	
	MS07123	Processing of Polymers	2	
Inorganic Non-metallic Materials	MS07131	Carbon Technology	2	
	MS07132	Ceramic Processing	2	
	MS07133	Thermal Equipment	2	
	MS07134	Physical Chemistry of Inorganic Materials	2	
Metallic Materials	MS07141	Principles of Liquid Forming	2	
	MS07142	Principles of Metal Forming	2	
	MS07143	Heat Treatment and Processing of Metals	2	
	MS07144	Principles of Metallography	2	

6. General Education Electives (under the guidance of the tutor, students are free to select courses with a totally credit of 14 in the following list. Courses in other majors are optional.)

Code	Course Title	Credit(s)	Remarks
MS06101	Electron Microscopy Technology	2	
MS06102	Nondestructive Testing	2	
MS06103	Computer asisted design and Foundation of Materials	2	
MS06104	Testing and Analysis of Materials	2	
MS06105	Application of Computer in Materials Science and Engineering(Matlab)	2	
MS06106	Rapid Solidification Technology	2	
MS06107	Surface Engineering of Materials	2	
MS06108	Stamping Process and Mold Design	2	
MS06109	Fundermental of Welding Engineering	2	
MS06110	Mold CAD/CAM	2	
MS06111	Plastic Working Technology	2	
MS06112	Principles and Technology of Powder Metallurgy	2	
MS06113	Biomedical Materials	2	
MS06114	Composite Materials	2	
MS06115	Application of Laser in Material Processing	2	
MS06116	Application of Numerical Simulation Technology in Forming Process	2	
MS06117	Hydraulic and Pneumatic Transmission	2	
MS06118	Duetility Low Material Forming Technology	2	
MS06119	Measurement and Control of Material Forming Processing	2	
MS06120	Advanced Ceramic Materials	2	
MS06121	New Building Materials	2	
MS06122	New Carbon Materials	2	
MS06123	Super Hard Function Materials and Tools	2	
MS06124	Insulator Design in High Voltage	2	
MS06125	Magnetic Materials and Devices	2	
MS06126	Porous Materials	2	
MS06127	Powder Engineering	2	
MS06128	Introduction of Catalytic Materials	2	
MS06129	Metal Erosion and Protection	2	
MS06130	Hybrid Polymerid Modification	2	
MS06131	Fundamental of Polymerization Reaction Engineering	2	
MS06132	Design and Processing of Rubber Materials	2	
MS06133	Principles and Processing of Polymer Synthesis	2	
MS06134	Testing Technique of Polymer	2	
MS06135	Polymer Rheology	2	
MS06136	Adhesive	2	
MS06137	Functional Polymer	2	
MS06138	Coating Technology	2	
MS06139	Luminescent Materials and Display Technology	2	
MS06140	Battery Technology	2	
MS06141	Electronic Packaging Materials and Technology	2	
MS06142	Photovoltaic Materials and Technology	2	
MS06143	Chemical Analytic Methods of Materials	2	

## 7. Intensive Practice (34 credits)

Code	Course Title	Credit(s)	Time (hours)	Remarks
MS10109	Professional Writing Training	1	32	Institute of Material Science and Engineering
GE09015	Program Design A	1	32	Information Institute
GE09006	Metal Working Practice	2	64	The Engineering Training Center
GE09021	Electrical and Electronic Experiment and Practice	2	64	The Engineering Training Center
MS10108	Basic Experiments of Material Chemistry	2	32	Institute of Material Science and Engineering
MS10101	Basic Experiments of Materials Science	4	128	Institute of Material Science and Engineering
MS10102	Experiments in Relative Selected Courses	3	96	Institute of Material Science and Engineering
MS10103	Design of Materials Engineering	2	64	Institute of Material Science and Engineering
MS10104	General Knowledge and Practies in Waterial Science	1	32	Institute of Material Science and Engineering
MS10105	Industrial Visit and Manufacturing Practise	2	64	Institute of Material Science and Engineering
MS10106	Graduation and Thesis Writing(Including Academic Competitions Novel Entrepreneurship)	12	384	Institute of Material Science and Engineering
MS10107	Innovative Practice	2		Institute of Material Science and Engineering
Total		34	992	

## VI. Course Instructor List

No.	Name	Title	Academic degree	Professional Competence	Major-specific courses (Major-specific Core, Major-specific Electives, General Electives)
1	Chen Jianghua	Professor	Doctor	Electron Microscopy	Material Testing Technology, Introduction to Material Science(Bilingual)
2	Wan Long	Professor	Doctor	Superhard Materials	Technology and Equipment of the Preparation of Materials
3	Liu Hongbo	Professor	Doctor	New Carbon Materials, Energy Materials	Advanced Materials of Equipment-Advanced Inorganic Nonmetallic Materials, Properties of Materials
4	Xiao Hanning	Professor	Doctor	Advanced Ceramic Materials	Fundamentals of Material Engineering-Principle of Material Preparation
5	Chen Xiaohua	Professor	Doctor	Nano Materials, Functional Materials	Fundamentals of Material Structure, Nano Materials and Devices

Cont

No.	Name	Title	Academic degree	Professional Competence	Major-specific courses (Major-specific Core, Major-specific Electives, General Electives)
6	Li Yuping	Professor	Doctor	Advanced Ceramic Materials	Technology and Equipment of the Preparation of Materials, Introduction to Material Science(Bilingual)
7	Chen Gang	Professor	Doctor	Rapid Solidification Spray deposition Advanced Al/Mg Alloy	Engineering Materials
8	Yan Hongge	Professor	Doctor	Metal Materials Powder Metallurgy	Fundamentals of Materials Science A Principles of Metallography
9	Zhou Lingping	Professor	Doctor	Electronic Packaging Materials, Thin-film Technology	Analysis and Testing technology
10	Peng Ping	Professor	Doctor	Metal Solidification Simulation and Toughening Alloy Design	Fundamentals of Material Physical
11	Peng Kun	Professor	Doctor	Magnetic Materials, Functional Thin-film Materials	Properties of Materials, Functional Materials
12	Cheng Yingliang	Professor	Doctor	Corrosion Electrochemistry, Metal Surface Treatment	Physical Chemistry of Material
13	Yang Xinguo	Associate Professor	Doctor	Oganic Polyiuer Materials	Fundamentals of Material Chemistry
14	Wu Cuilan	Professor	Doctor	Microscopic Analysis of Material Structure	Material Testing Technology
15	Chen Yuxi	Professor	Doctor	Physics and Chemistry of Material, Electronic Microscopy	Fundamentals of Material Science
16	Li Jin	Professor	Doctor	New Carbon Materials, Energy Materials	Physical Chemistry of Material-Thermodynamics of Materials
17	Li Xuanke	Professor	Doctor	High-Properties of Carbon Fiber and Composites	Advanced Materials of Equipment-Advanced Inorganic Nonmetallic Materials
18	Fei Youqing	Professor	Doctor	Carbon fiber & CFRC	
19	Hu Wangyu	Professor	Doctor	Physics of Material	Fundamentals of Physical Material
20	Yuan Wuhua	Professor	Doctor	Metal Materials Plastic forming	Processing and Equipment of Material Preparation Principles of Metal forming
21	Guo Kunkun	Professor	Doctor	Polymer Chemistry and Physics, Biological Physics Theory	Introduction to Material Science
22	Liang Kui	Professor	Doctor	Electronic Magnetic Materials Mew Carbon Materials	Processing and Equipment of Material Preparation Advanced Energy Materials Advanced Electronic Materials

Cont

No.	Name	Title	Academic degree	Professional Competence	Major-specific courses (Major-specific Core, Major-specific Electives, General Electives)
23	Liu Yanli	Associate professor	Doctor	Nanometer Materials	Physical Chemistry of Material
24	Liu Hairong	Associate professor	Doctor	Biological Materials	Base material structure-Chemical Material structure
25	Chen Shilin	Associate professor	Doctor	Carbon Materials, New carbon Materials	Material Physical Basis-transmission Principle
26	Chen Jihua	Associate professor	Doctor	Metal Materials	Fundamental of Engineering Materials B Fundamental of Material Science Principles of Metallography
27	Yang Lei	Associate professor	Doctor	Nanometer Functional Materials	Material physical basis
28	Zhong Wenbin	Associate professor	Doctor	Advanced Polymer Synthesis, Polymer Nonomaterials	Fundamental of Material Structure Polymer Physics
29	Cha Limei	Associate professor	Doctor		Advance in Material Science and Engineering(Bilingual)
30	Xia Weijun	Associate professor	Doctor		Principles of Metal Forming
31	Gao Pengzhao	Associate professor	Doctor	New Type of Inorganic Non-metallic Materials	Material Physical Basis-Material Crystallography
32	Yuan Dingwang	Associate professor	Doctor	Materials Simulation and Design	Material Physical Basis
33	Tang Yanhong	Associate professor	Doctor	Functional Polymer Materials	Functional Polymer Materials Analysis and Testing Technology of Materials
34	Huang Kaibing	Associate professor	Doctor	Functional Polymer Adhesive Materials	Processing and Equipment of Material forming Processing of Polymers
35	Liu Xiaopan	Assistant professor	Doctor	Superhard Material	Inorganic Materials Chemistry-Inorganic Chemistry, Material Preparation Technology and Equipment-Materials Preparation Technology and Equipment
36	Zhu Jiajun	Associate professor	Doctor	Functional Materials, Film Materials	Functional Materials Film Technology and Application Electronic Packaging Materials
37	Lv Tiezheng	Assistant professor	Doctor	New Type of Inorganic Non-metallic Materials	Base Material Structure-Chemical Material Structure
38	Li Wei	Assistant professor	Doctor	Resin Based Composite	Fundamental of Materials Engineering Fundamental of Polymerization Reaction Engineering Adhesive
39	Chen Hui	Assistant professor	Doctor	New Type of Carbon Material, Energy Material	The Properties of Ceramic Materials to learn-The Physical Properties of Materials

Cont

No.	Name	Title	Academic degree	Professional Competence	Major-specific courses (Major-specific Core, Major-specific Electives, General Electives)
40	Ou Yangting	Assistant professor	Doctor	Carbon Fiber & CFRC	Fundamental of Material Engineering Polymer Rheology
41	Yuan Jianmin	Assistant professor	Doctor	Functional Polymer Energy Conservation and Environmental Protection Materials	Fundamental of Material Chemistry Coating Technology
42	Xia Xiaohong	Assistant professor	Doctor	Energy Materials Architecture Material	Physic Chemistry of Materials Chemistry of Polymer
43	Han Fei	Assistant professor	Doctor		Science of Energy Materials Thermodynamics of Materials
44	Hu Aiping	Assistant professor	Doctor	Chemical Energy Materials	Chemical Material Basis
45	Tang Qunli	Lecturer	Doctor	The Preparation and Application of Porous Materials	Chemical Material Basis

## VII. Specialized responsible Professors

Number	Name	The title	degree	Professional competence	Teaching course
1	Chen Jianghua	professor	Doctor	Electron Microscopy	Material Testing Technology

(翻译人:茶丽梅)