应用化学专业本科人才培养方案

# 一、专业代码与名称

专业代码：070302

专业名称：应用化学 Applied Chemistry

# 二、学制与学位

修业年限：四年 Four Years

授予学位：工学学士 Bachelor of Engineering

# 三、培养目标

本专业旨在培养德、智、体全面发展，具有扎实的、系统的应用化学及化学与电子技术有机结合所必须的基本理论、熟练的实验技能、科学和工程素养良好的化学与电子技术有机结合的应用化学高级工程技术人才和创新创业人才。

本专业毕业生能够从事印制电路设计与制造技术、材料化学与工艺、应用电化学与电子化学品、微电子工艺与电子化工等领域的研发、设计、应用和管理等方面的工作。

# 四、毕业要求

本专业的学生主要学习化学与电子技术有机结合应用化学基本理论和基本知识。通过科学实验与科学思维的基本训练，本专业毕业生要求具备如下的知识、能力与素质：

1. 掌握化学与电子技术有机结合所必须的基本理论和方法，使学生在专业领域具备较强的科研能力与创新能力；

2. 通过良好的实验教学与工程实践锻炼，使学生掌握应用化学的原理和应用方法，能独立进行原理效应分析、观察新现象，具备把工程基础和专业知识用于解决复杂工程问题的能力。

3. 培养学生的综合素质与人文素养、较强的外语能力；沟通能力强、团队精神强，并具有一定的组织管理能力和终身学习能力。

4. 具有国际视野，熟悉本专业的国内外发展状况与前景。

# 五、专业特色

围绕化学与电子技术有机结合的基础理论知识及应用为主要教学内容，通过全面、系统的理论和实验教学课程，使学生既具有电子技术知识又具有扎实的化学基础。培养具有良好科学素质和一定的印制电路与印制电子技术、微电子工艺、电子化学、功能高分子材料化学等综合素质能力的高级科研人才和卓越工程师人才。

# 六、课程设置与修读要求

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **课程类别 Course Types** | **课程代码 Course Code** | **课程名称** **Course Name** | **学分****Credits** | **学时 Credit Hours** | **开课学期****Semester** | **修读要求****Attending Requirements** |
| **理论****Theory** | **实验****Experiment** | **实践****Practice** | **上机****Operation** | **习题****Exercise** | **课程设计****Course Design** | **合计** **Total** |
| 通识课程General Courses | 基础通识课程Basic General Courses | 思想政治理论课Ideological and Political Theory Courses | B1600220 | 中国近现代史纲要The Summary of Chinese Modern History | 2 | 30 |  |  |  |  |  | 30 | 1 | 必修Compulsory |
| B9800320 | 形势与政策Situation and Policies | 2 | 16 |  | 16 |  |  |  | 32 | 1 |
| B1600130 | 思想道德修养与法律基础Ideological and Moral Cultivation and the Legal Basis | 3 | 42 |  |  |  |  |  | 42 | 2 |
| B1600430 | 马克思主义基本原理概论Introduction to the Basic Principles of Marxism | 3 | 48 |  |  |  |  |  | 48 | 5 |
| B1600360 | 毛泽东思想和中国特色社会主义理论体系概论The Outline of Mao Tse-tung Thought and Socialist Theoretical System with Chinese Characteristics | 6 | 48 |  |  |  |  |  | 48 | 6 |
| **学分要求 Credit Requirements** | **16** |
| 军事理论、体育Military Theory, Physical Education | B1400110 | 大学体育IPhysical Education I | 1 | 32 |  |  |  |  |  | 32 | 1 | 必修Compulsory |
| B9800110 | 军事理论Military Theory | 1 | 16 |  |  |  |  |  | 16 | 1 |
| B1400210 | 大学体育IIPhysical Education II | 1 | 32 |  |  |  |  |  | 32 | 2 |
| B1400510 | 大学生体质测试College-student Physique Test | 1 |  |  |  |  |  |  | 2 | 5 |
| 大学体育III Physical Education III | 1 |  第三学期必修 Compulsory in the 3rd semester |
| 大学体育IV Physical Education IV | 1 |  第四学期必修 Compulsory in the 4th semester |
| **学分要求 Credit Requirements** | **6** |
| 外语Foreign Languages | B1300140 | 通用英语General English | 4 | 64 | 0 | 0 |  |  |  | 64 | 1 | 必修Compulsory |
| **学分要求 Credit Requirements** | **4** |
| A类语言技能类English for Language Competence | B1300220 | 综合英语Integrated Skills of English | 2 | 32 |  |  |  |  |  | 32 | \* | A、B、C三类限选两类，且每类限选一门Required to take two foreign language selective courses from class types A , B or C, but limited to only one from the same type |
| B1300320 | 媒体英语视听说Audio-Video Skills in Media English | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1300420 | 西方报刊选读Selected Readings of Western Press | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1300520 | 公共演讲Public Speech | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1300620 | 高级英语读写Advanced English Reading and Writing | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1300720 | 高级英语听说Advanced English Listening and Speaking | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1300920 | 实用英语写作Practical English Writing | 2 | 32 |  |  |  |  |  | 32 | \* |
| 通识课程General Courses | 基础通识课程Basic General Courses | 外语Foreign Languages | B类人文素养类English for Humanity Development | B1301020 | 英语诗歌欣赏Appreciation of English Poetry | 2 | 32 |  |  |  |  |  | 32 | \* | A、B、C三类限选两类，且每类限选一门Required to take two foreign language selective courses from class types A , B or C, but limited to only one from the same type |
| B1301120 | 跨文化交际Cross-cultural Communication | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1301220 | 英语语言文化赏析Appreciation of English Language and Culture | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1301320 | 英国文学与文化English Literature and Culture | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1344320 | 魅力英语Learning English Is Fun | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1328020 | 法语语言文化入门Introduction to French and French Culture | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1328120 | 德语语言文化入门Introduction to German and German Culture | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1328220 | 俄语语言文化入门Introduction to Russian and Russian Culture | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1328520 | 中西文化对比Cultural Comparison Between China and West | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1328620 | 日语语言文化入门Introduction to Japanese and Japanese Culture | 2 | 32 |  |  |  |  |  | 32 | \* |
| C类专门用途类English for Career & Academic Studies | B1301520 | 职场英语Professional English | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1301620 | 科技英语Science & Technology English | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1301920 | IT英语IT English | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1302020 | 商务英语Commercial English | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1335720 | 考研学业英语English for Postgraduate Academic Study | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1335820 | 留学学业英语English for Overseas Academic Study  | 2 | 32 |  |  |  |  |  | 32 | \* |
| B1341720 | 通用学术英语Academic Reading & Writing | 2 | 32 |  |  |  |  |  | 32 | \* |
| **学分要求 Credit Requirements** | **4** |
| 核心通识课程Core General Courses | 见《电子科技大学通识课程一览表》For More Information, Please Refer to The List of General Courses2-6学期必修3门Required to Select Three Subjects From Semester 2 to 6. |
| **学分要求 Credit Requirements** | **6** |
| 交叉通识课程Interdisciplinary General Courses | C1200430 | 中外文学通论The Chinese and Foreign Literature Theory | 3 | 48 |  |  |  |  |  | 48 | \* | 2-6学期选1门必修Required to Select One Subject from semester 2 |
| C1600830 | 哲学通论Introduction to Philosophy | 3 | 48 |  |  |  |  |  | 48 | \* |
| C1600930 | 大国兴衰史The Rise and Fall of Great Countries | 3 | 48 |  |  |  |  |  | 48 | \* |
| **学分要求 Credit Requirements** | **3** |
| 学科通识课程Disciplinary General Courses | D1000160 | 微积分ICalculus I | 6 | 96 | 0 | 0 |  |  |  | 96 | 1 | 必修Compulsory |
| D1000540 | 线性代数与空间解析几何ILinear Algebra and Space Analytic Geometry I | 4 | 64 | 0 | 0 |  |  |  | 64 | 1 |
| D0400340 | 大学物理ⅠPhysics I | 4 |  |  |  |  |  |  | 64 | 2 |
| D1000250 | 微积分IICalculus II | 5 | 80 |  |  |  | 12 |  | 80 | 2 |
| D0400440 | 大学物理ⅡPhysics II | 4 |  |  |  |  |  |  | 64 | 3 |
| D1000735 | 概率论与数理统计Probability and Mathematical Statistics | 3.5 | 56 |  |  |  | 8 |  | 56 | 3 |
| **学分要求 Credit Requirements** | **26.5** |
| **学分要求 Credit Requirements** | **65.5** |
| 学科基础课程Basic Disciplinary Courses | E0306525 | 无机化学ⅠInorganic Chemistry Ⅰ | 2.5 | 40 |  |  |  |  |  | 40 | 1 | 必修Compulsory |
| E0306720 | 无机化学ⅡInorganic Chemistry Ⅱ | 2 | 32 |  |  |  |  |  | 32 | 2 |
| E0306930 | 分析化学Analytical Chemistry | 3 | 48 |  |  |  |  |  | 48 | 3 |
| E0307125 | 物理化学ⅠPhysical Chemistry Ⅰ | 3.5 | 56 |  |  |  |  |  | 56 | 3 |
| E0307355 | 有机化学Organic Chemistry | 6.5 | 104 |  |  |  |  |  | 104 | 4 |
| E0307530 | 物理化学ⅡPhysical Chemistry Ⅱ | 3 | 48 |  |  |  |  |  | 48 | 4 |
| E0307720 | 仪器分析Instrumental Analysis | 2 | 32 |  |  |  |  |  | 32 | 5 |
| E0307920 | 结构化学Structural Chemistry | 2 | 32 |  |  |  |  |  | 32 | 5 |
| E0312525 | 材料物理Material Physics | 2.5 | 40 |  |  |  |  |  | 40 | 6 |
| **学分要求 Credit Requirements** | **27** |
| 学科拓展课程Disciplinary Extensive Courses | E0201345 | 电路分析基础Fundamentals of Circuit Analysis | 4.5 | 72 |  |  |  |  |  | 72 | 2 |  两门必修一门Required to Select 1 form 2 |
| E0100650 | 微处理器系统结构与嵌入式系统设计Microcomputer System Theory and Embedded System Design | 5 | 64 | 16 |  |  |  |  | 80 | 5 |
| **学分要求 Credit Requirements** | **4.5** |
| 专业核心课程Specialized Core Courses | G0312630 | 印制电路原理和工艺Principle and Technology of PCB | 3 | 48 |  |  |  |  |  | 48 | 5 | 必修Compulsory |
| G0312720 | 电子工艺化学原理Chemical Principle of Electronic Technology | 2 | 32 |  |  |  |  |  | 32 | 6 |
| G0308220 | 试验设计方法Method of Experimental Design | 2 | 28 |  |  | 4 |  |  | 32 | 6 |
| **学分要求 Credit Requirements** | **7** |
| 实践类课程Practical Courses | K0306620 | 无机化学实验ⅠExperiment of Inorganic ChemistryⅠ | 2 |  | 40 |  |  |  |  | 40 | 1 | 必修Compulsory |
| L9800210 | 军事训练Military Training | 1 |  |  |  |  |  |  | 0 | 1 |
| K0306820 | 无机化学实验ⅡExperiment of Inorganic ChemistryⅡ | 2 |  | 40 |  |  |  |  | 40 | 2 |
| K1001320 | 数学实验Mathematics Experiment | 2 | 32 |  |  |  |  |  | 32 | 2 |
| K0307030 | 分析化学实验Experiment of Analytical Chemistry | 3 |  | 60 |  |  |  |  | 60 | 3 |
| K0307230 | 物理化学实验ⅠExperiment of Physical ChemistryⅠ | 2 |  | 40 |  |  |  |  | 40 | 3 |
| K0400520 | 大学物理实验 IPhysical Experiment Ⅰ | 2 |  | 26 |  |  |  |  | 32 | 3 |
| L0201210 | 电装实习Electrical Assembly Practice | 1 |  |  |  |  |  |  | 16 | 3 |
| K0307450 | 有机化学实验Experiment of Organic Chemistry | 4 |  | 80 |  |  |  |  | 80 | 4 |
| K0307620 | 物理化学实验ⅡExperiment of Physical ChemistryⅡ | 2 |  | 40 |  |  |  |  | 40 | 4 |
| K0400620 | 大学物理实验 IIPhysical Experiment II | 2 |  | 32 |  |  |  |  | 32 | 4 |
| L0800510 | 基础工程训练Fundamental Engineering Training | 1 |  |  | 72 |  |  |  | 72 | 4 |
| 实践类课程Practical Courses | L0800610 | 电工电气技术实训Electronic Engineering and Electrical Technology Training | 1 |  |  | 72 |  |  |  | 72 | 4 | 必修Compulsory |
| L0303110 | 生产实习Engineering Internship | 1 |  |  |  |  |  |  | 16 | 6 |
| K0310710 | 综合课程实验Experiment of Comprehensive Course  | 1 |  |  |  |  |  |  | 20 | 5 |
| L0303820 | 综合课程设计BComprehensive Course Designs B | 2 |  |  |  |  |  |  | 32 | 7 |
| L0303280 | 毕业设计（论文）Undergraduate Thesis | 8 |  |  |  |  |  |  | 128 | 8 |
| **学分要求 Credit Requirements** | **37** |
| 多元化个性化课程Diversified and Personalized Courses | 艺体类素质教育选修课不超过4学分，其他课程任意选修。Credits of Art Quality Education Elective Courses Should Be Less Than 4; Other Courses Are Freely Elective.建议根据专业方向、兴趣爱好和未来发展规划合理修读。We Suggest A Reasonable Study Plan Based on Major Field, Interests and Future Development. |
| 多元化个性化课程Diversified and Personalized Courses | 新生研讨课Freshman Seminar | I0310810 | [集成光学材料与器件初探](http://eams.uestc.edu.cn/eams/courseApply%21info.action?courseApplyRecord.id=1612)Introduction to Integrated Photonic Materials and Devices | 1 | 16 |  |  |  |  |  |  | 2 | 任选Freely Elective |
| I0309820 | [纳米科学初探](http://eams.uestc.edu.cn/eams/courseApply%21info.action?courseApplyRecord.id=1611) Introduction of Nanotechnology | 2 | 24 |  |  |  |  |  |  | 2 |
| 本专业选修课Specialized Elective Courses | E0800120 | 现代工程设计制图Engineering Graphics | 2 | 24 |  |  | 8 |  |  | 32 | 1 |
| H0311815 | 高级语言程序设计Advanced Programming Language Design | 1.5 | 24 |  |  |  |  |  | 24 | 1 |
| H0310920 | 计算机基础与程序实验Computer Fundamental and Program Experiment | 2 | 40 |  |  |  |  |  | 40 | 1 |
| K0200710 | 电子技术实验基础 IFundamentals of Electronic Technology Experiment I | 1 |  | 20 |  |  |  |  | 20 | 2 |
| H0308620 | 计算机在化学中的应用Application of Computer in Chemistry | 2 | 16 |  |  | 16 |  |  | 32 | 3 |
| H0303430 | 精细化学品合成技术Synthesis Technology of Fine Chemicals | 3 | 32 |  |  |  |  | 16 | 48 | 5 |
| H0308520 | 电子电镀技术Electronics Electroplating Technology | 2 | 32 |  |  |  |  |  | 32 | 5 |
| F0301720 | 微电子工艺Microelectronic Technology | 2 | 32 |  |  |  |  |  | 32 | 6 |
| H0300110 | 新技术专题（一）Lectures on New Technologies（1） | 1 | 16 |  |  |  |  |  | 16 | 6 |
| H0300210 | 新技术专题（二）Lectures on New Technologies（2） | 1 | 16 |  |  |  |  |  | 16 | 6 |
| H0300310 | 新技术专题（三）Lectures on New Technologies（3） | 1 | 16 |  |  |  |  |  | 16 | 6 |
| H0308330 | 纳米材料的设计与合成Design and Synthesis of Nano Materials | 3 | 48 |  |  |  |  |  | 48 | 6 |
| H0308720 | 高分子材料化学Material Chemistry of Macro Molecule | 2 | 32 |  |  |  |  |  | 32 | 7 |
| H0308820 | 应用电化学Applied Electrochemistry | 2 | 32 |  |  |  |  |  | 32 | 7 |
| H0308920 | 合成化学Synthetic Chemistry | 2 | 32 |  |  |  |  |  | 32 | 7 |
| H0309020 | 化工原理Principle of Chemical Engineering | 2 | 32 |  |  |  |  |  | 32 | 7 |
| H0309120 | 环境化学Environmental Chemistry | 2 | 32 |  |  |  |  |  | 32 | 7 |
| H0309220 | 化学电源Chemical Power | 2 | 32 |  |  |  |  |  | 32 | 7 |
| H0309320 | 发射发光材料Launch Luminous Materials | 2 | 32 |  |  |  |  |  | 32 | 7 |
| 多元化个性化课程Diversified and Personalized Courses | 多元化个性化课程Diversified and Personalized Courses | 跨专业选修课、跨学院选修课Interdisciplinary Elective Courses, Inter-school Elective Courses |  见其他专业、其他学院培养方案 For More Information, Please Refer to the Training Programs of Other Majors and Schools | 任选Freely Elective |
| 素质教育选修课Quality Education Elective Courses |  见《电子科技大学素质教育选修课一览表》 For More Information, Please Refer to “The List of UESTC Quality Education Elective Courses” |
| 创新与拓展项目Innovative and Extensive Projects |  见《电子科技大学创新与拓展学分认定细则》 For More Information, Please Refer to “The Detailed Rules of UESTC Innovative and Extensive Credits Determination” |
| **学分要求 Credit Requirements** | **27** |
| 多元化个性化修读建议 | “专业学术类”人才修读建议 | 建议选修科学技术史、物理学与社会进步、高级语言程序设计、电子技术实验基础 I、新技术专题、纳米材料的设计与合成等课程，参加科研训练，培养科研能力，完成多元化个性化课程学分要求。 |
| “交叉复合类”人才修读建议 | 建议与电子科学与技术专业交叉复合，建议选修材料分析基础、电子器件基础、电子技术实验基础 I、电子材料工艺原理、高分子材料化学、纳米材料与纳米器件等相关课程，完成多元化个性化课程学分要求。 |
| “就业创业类”人才修读建议 | 建议选修现代工程设计制图、精细化工、电子电镀技术、应用电化学、微电子工艺、应用电化学、计算机在化学中的应用等相关课程。并建议根据个人需求和兴趣选修相关专业选修课程及素质教育选修课，完成多元化个性化课程学分要求，建议选修创新创业、大学生就业指导、现代社交礼仪、职业生涯规划等素质教育选修课。加强实践能力培养，提高沟通方法和技巧，参与相关比赛如“挑战杯”、“创新创业大赛”等，建议参加创新创业项目、社会实践项目、社会实践项目及创业团队，提高实践和应用能力。 |
| **毕业总学分要求 Graduation Credit Requirements** | **168** |

注：通识课程、素质教育选修课、创新与拓展项目具体开出课程参见当期课程目录。

# 七、指导性教学进程安排

## 特别提示：

|  |  |  |  |
| --- | --- | --- | --- |
| 通识课程General Courses | 大学体育ⅢPhysical Education Ⅲ | 在多种体育课程中选1门必修Required to Select One Subject From Physical Education Courses.（第三学期必修） | 分学期教学进程安排已列出本专业选修课程，其他课程参见当期开出的课程目录。The Specialized Elective Courses Have Been Listed in The Teaching Process Arrangement, Other Courses Please Refer to The Current Course Catalog. |
| 大学体育ⅣPhysical Education Ⅳ | 在多种体育课程中选1门必修Required to Select One Subject From Physical Education Courses.（第四学期必修） |
| 大学生体质测试College-student Physique Test | 必修，4次测试合格后获1个学分。Compulsory，4 times Qualified tests to get 1 credit. |
| 外语课程Foreign Language Courses | A、B、C三类限选两类，且每类限选一门Required to Take Two Foreign Language Selective Courses From Class Types A , B or C, But Limited to Only One From the Same Type |
| 核心通识类课程Core General Courses | 2-6学期，必修3门。Required to Select Three Subjects from semester 2 to 6. |
| 交叉通识类课程Interdisciplinary General Courses | 理工类在2-6学期必修1门。Science and Engineering Required to Select One Subject from semester 2 to 6. |
| 注：以上课程未在分学期教学进程安排表中列出，请学生依照此建议修读。Courses Above are Not Listed in the Teaching Process Schedule of Each Semester. Please Select Courses According to the Suggestions. |
| 多元化个性化课程Diversified and Personalized Courses | 本专业选修课Specialized Elective Courses | 结合每学期的建议选修学分，自主选择修读。Freely Elective Combined with Recommendatory Elective Credits Per Semester. |
| 跨专业、跨学院选修课Interdisciplinary Elective Courses、Inter-school Elective Courses |
| 素质教育选修课Quality Education Elective Courses |
| 创新与拓展项目Innovative and Extensive Projects |

### 第一学期 Semester 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **课程代码****Course Code** | **课程名称****Course Name** | **学分****Credits** | **周学时****Hours per week** | **修读要求****Attending Requirements** |
| B1600220 | 中国近现代史纲要The Summary of Chinese Modern History | 2 | 2 | 必修Compulsory |
| B9800320 | 形势与政策Situation and Policies | 2 | 2 | 必修Compulsory |
| B1400110 | 大学体育IPhysical Education I | 1 | 2 | 必修Compulsory |
| B9800110 | 军事理论Military Theory | 1 | 2 | 必修Compulsory |
| B1300140 | 通用英语General English | 4 | 4 | 必修Compulsory |
| D1000160 | 微积分ICalculus I | 6 | 6 | 必修Compulsory |
| D1000540 | 线性代数与空间解析几何ILinear Algebra and Space Analytic Geometry I | 4 | 4 | 必修Compulsory |
| E0306525 | 无机化学ⅠInorganic Chemistry Ⅰ | 2.5 | 3 | 必修Compulsory |
| K0306620 | 无机化学实验ⅠExperiment of Inorganic ChemistryⅠ | 2 | 4 | 必修Compulsory |
| L9800210 | 军事训练Military Training | 1 | 1 | 必修Compulsory |
| E0800120 | 现代工程设计制图Engineering Graphics | 2 | 2 | 选修Elective |
| H0311815 | 高级语言程序设计Advanced Programming Language Design | 2 | 4 | 选修Elective |
| H0310920 | 计算机基础与程序实验Computer Fundamental and Program Experiment  | 2 | 2 | 选修Elective |
| I0325930 | 计算机应用基础Computer Application Basis | 3 | 4 | 选修Elective |
| **必修学分Required Course Credits** | **25.5** |
| **建议选修学分Recommended Elective Course Credits** | **2** |

### 第二学期 Semester 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **课程代码****Course Code** | **课程名称****Course Name** | **学分****Credits** | **周学时****Hours per week** | **修读要求****Attending Requirements** |
| B1600130 | 思想道德修养与法律基础Ideological and Moral Cultivation and the Legal Basis | 3 | 4 | 必修Compulsory |
| B1400210 | 大学体育IIPhysical Education II | 1 | 2 | 必修Compulsory |
| D0400340 | 大学物理ⅠPhysics I | 4 | 4 | 必修Compulsory |
| D1000250 | 微积分IICalculus II | 5 | 5 | 必修Compulsory |
| E0306720 | 无机化学ⅡInorganic Chemistry Ⅱ | 2 | 2 | 必修Compulsory |
| E0201345 | 电路分析基础Fundamentals of Circuit Analysis | 4.5 | 5 | 两门必修一门Required to Select 1 form 2 |
| K0306820 | 无机化学实验ⅡExperiment of Inorganic ChemistryⅡ | 2 | 4 | 必修Compulsory |
| K1001320 | 数学实验Mathematics Experiment | 2 | 2 | 必修Compulsory |
| K0200710 | 电子技术实验基础 IFundamentals of Electronic Technology Experiment I | 1 | 2 | 选修Elective |
| I0313215 | [大学生青年领导力提升课](http://eams.uestc.edu.cn/eams/courseApply%21info.action?courseApplyRecord.id=1613)Student’s Leadership Promotion Course | 1.5 | 2 | 选修Elective |
| I0310810 | [集成光学材料与器件初探](http://eams.uestc.edu.cn/eams/courseApply%21info.action?courseApplyRecord.id=1612)Introduction to Integrated Photonic Materials and Devices | 1 | 2 | 选修Elective |
| I0309820 | [纳米科学初探](http://eams.uestc.edu.cn/eams/courseApply%21info.action?courseApplyRecord.id=1611) Introduction of Nanotechnology | 2 | 2 | 选修Elective |
| **必修学分Required Course Credits** | **19** |
| **建议选修学分Recommended Elective Course Credits** | **11.5** |

### 第三学期 Semester 3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **课程代码****Course Code** | **课程名称****Course Name** | **学分****Credits** | **周学时****Hours per week** | **修读要求****Attending Requirements** |
| D0400440 | 大学物理ⅡPhysics II | 4 | 4 | 必修Compulsory |
| D1000735 | 概率论与数理统计Probability and Mathematical Statistics | 3.5 | 4 | 必修Compulsory |
| E0306930 | 分析化学Analytical Chemistry | 3 | 3 | 必修Compulsory |
| E0307125 | 物理化学ⅠPhysical Chemistry Ⅰ | 3.5 | 4 | 必修Compulsory |
| K0307030 | 分析化学实验Experiment of Analytical Chemistry | 3 | 4 | 必修Compulsory |
| K0307230 | 物理化学实验ⅠExperiment of Physical ChemistryⅠ | 2 | 4 | 必修Compulsory |
| K0400520 | 大学物理实验 IPhysical Experiment Ⅰ | 2 | 2 | 必修Compulsory |
| L0201210 | 电装实习Electrical Assembly Practice | 1 | 8 | 必修Compulsory |
| H0308620 | 计算机在化学中的应用Application of Computer in Chemistry | 2 | 2 | 选修Elective |
| **必修学分Required Course Credits** | **22** |
| **建议选修学分Recommended Elective Course Credits** | **7** |

### 第四学期 Semester 4

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **课程代码****Course Code** | **课程名称****Course Name** | **学分****Credits** | **周学时****Hours per week** | **修读要求****Attending Requirements** |
| E0307355 | 有机化学Organic Chemistry | 6.5 | 6 | 必修Compulsory |
| E0307530 | 物理化学ⅡPhysical Chemistry Ⅱ | 3 | 3 | 必修Compulsory |
| K0307450 | 有机化学实验Experiment of Organic Chemistry | 4 | 6 | 必修Compulsory |
| K0307620 | 物理化学实验ⅡExperiment of Physical ChemistryⅡ | 2 | 4 | 必修Compulsory |
| K0400620 | 大学物理实验 IIPhysical Experiment II | 2 | 2 | 必修Compulsory |
| L0800510 | 基础工程训练Fundamental Engineering Training | 1 | 4 | 必修Compulsory |
| L0800610 | 电工电气技术实训Electronic Engineering and Electrical Technology Training | 1 | 4 | 必修Compulsory |
| **必修学分Required Course Credits** | **19.5** |
| **建议选修学分Recommended Elective Course Credits** | **7** |

### 第五学期 Semester 5

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **课程代码****Course Code** | **课程名称****Course Name** | **学分****Credits** | **周学时****Hours per week** | **修读要求****Attending Requirements** |
| B1600430 | 马克思主义基本原理概论Introduction to the Basic Principles of Marxism | 3 | 4 | 必修Compulsory |
| E0307720 | 仪器分析Instrumental Analysis | 2 | 2 | 必修Compulsory |
| E0307920 | 结构化学Structural Chemistry | 2 | 2 | 必修Compulsory |
| E0100650 | 微处理器系统结构与嵌入式系统设计Microcomputer System Theory and Embedded System Design | 5 | 5 | 两门必修一门Required to Select 1 form 2 |
| G0312820 | 印制电路原理和工艺Principle and Technology of PCB | 3 | 4 | 必修Compulsory |
| H0308430 | 精细化学品合成技术Synthesis Technology of Fine Chemicals | 3 | 3 | 选修Elective |
| H0308520 | 电子电镀技术Electronics Electroplating Technology | 2 | 2 | 选修Elective |
| K0310710 | 综合课程实验Experiment of Comprehensive Course | 1 |  | 必修Compulsory |
| **必修学分Required Course Credits** | **11** |
| **建议选修学分Recommended Elective Course Credits** | **6** |

### 第六学期 Semester 6

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **课程代码****Course Code** | **课程名称****Course Name** | **学分****Credits** | **周学时****Hours per week** | **修读要求****Attending Requirements** |
| B1600360 | 毛泽东思想和中国特色社会主义理论体系概论The Outline of Mao Tse-tung Thought and Socialist Theoretical System with Chinese Characteristics | 6 | 4 | 必修Compulsory |
| B1400510 | 大学生体质测试College-student Physique Test | 1 | 2 | 4次测试合格后获得1学分 |
| E0312525 | 材料物理Material Physics | 2.5 | 3 | 必修Compulsory |
| G0312720 | 电子工艺化学原理Chemical Principle of Electronic Technology | 2 | 2 | 必修Compulsory |
| G0308220 | 试验设计方法Method of Experimental Design | 2 | 2 | 必修Compulsory |
| F0301720 | 微电子工艺Microelectronic Technology | 2 | 4 | 选修Elective |
| H0300110 | 新技术专题（一）Lectures on New Technologies（1） | 1 | 2 | 选修Elective |
| H0300210 | 新技术专题（二）Lectures on New Technologies（2） | 1 | 2 | 选修Elective |
| H0300310 | 新技术专题（三）Lectures on New Technologies（3） | 1 | 2 | 选修Elective |
| L0303110 | 生产实习Engineering Internship | 1 | 1 | 必修Compulsory |
| H0308330 | 纳米材料的设计与合成Design and Synthesis of Nano Materials | 3 | 3 | 选修Elective |
| **必修学分Required Course Credits** | **13.5** |
| **建议选修学分Recommended Elective Course Credits** | **5** |

### 第七学期 Semester 7

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **课程代码****Course Code** | **课程名称****Course Name** | **学分Credits** | **周学时****Hours per week** | **修读要求****Attending Requirements** |
| L0303820 | 综合课程设计BComprehensive Course Designs B | 2 | 2 | 必修 Compulsory |
| H0308720 | 高分子材料化学Material Chemistry of Macro Molecule | 2 | 4 | 选修Elective |
| H0308820 | 应用电化学Applied Electrochemistry | 2 | 2 | 选修Elective |
| H0308920 | 合成化学Synthetic Chemistry | 2 | 4 | 选修Elective |
| H0309020 | 化工原理Principle of Chemical Engineering | 2 | 2 | 选修Elective |
| H0309120 | 环境化学Environmental Chemistry | 2 | 4 | 选修Elective |
| H0309220 | 化学电源Chemical Power | 2 | 4 | 选修Elective |
| H0309320 | 发射发光材料Launch Luminous Materials | 2 | 4 | 选修Elective |
| **必修学分Required Course Credits** | **3** |
| **建议选修学分Recommended Elective Course Credits** | **10** |

### 第八学期 Semester 8

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **课程代码****Course Code** | **课程名称****Course Name** | **学分Credits** | **周学时****Hours per week** | **修读要求****Attending Requirements** |
| L0303280 | 毕业设计（论文）Undergraduate Thesis | 8 | 8 | 必修Compulsory |
| **必修学分Required Course Credits** | **8** |
| **建议选修学分Recommended Elective Course Credits** | **0** |

# 八、辅修专业修读要求

1. **专业培养目标**

修完化学专业必须的4大基础课程和相应的实验课程，掌握必须的化学基础知识和必须的化学实验技能，能够从事与化学相关的工作。

2. **课程设置与修读要求**

|  |  |  |  |
| --- | --- | --- | --- |
| **课程名称****Course Name** | **课程代码****Course Code** | **学分/学时****Credits/Credit hours** | **修读要求** **Attending Requirements** |
| 无机化学Ⅰ | E0306525 | 2.5/40 | 必修  |
| 无机化学Ⅱ | E0306720 | 2/32 | 必修 |
| 分析化学 | E0306930 | 3/48 | 必修 |
| 物理化学Ⅰ | E0307125 | 2.5/40 | 必修 |
| 有机化学  | E0307355 | 5.5/88 | 必修 |
| 物理化学Ⅱ | E0307530 | 3/48 | 必修 |
| 无机化学实验Ⅰ | K0306620 | 2/40 | 必修 |
| 无机化学实验Ⅱ | K0306820 | 2/40 | 必修 |
| 分析化学实验 | K0307030 | 3/60 | 必修 |
| 物理化学实验Ⅰ | K0307230 | 3/60 | 必修 |
| 物理化学实验Ⅱ | K0307620 | 2/40 | 必修 |
| 有机化学实验 | K0307450 | 5/100 | 必修 |
| 其他（在学科基础课、专业核心课、专业选修课中选修） | 9.5/152 | 必修 |
| **辅修结业学分要求** | **45/560** |  |

注：具体管理按《电子科技大学本科生辅修专业管理办法（试行）》执行。

培养方案制定人：何为 培养方案审核人：于奇 培养方案批准人：曾勇