自动化专业校际交流班本科培养计划

Undergraduate Program for Specialty in Automation

一、培养目标

Ⅰ．Educational Objectives

培养具有良好的思想品德和文化修养、专业理论基础宽厚扎实、富于现代科学创新意识，在控制科学与工程领域从事理论研究、科技开发与组织管理的高素质复合型人才。

Aiming at preparing students for good moral character, high quality education, generous and basic specialty theory and modern scientific original consciousness, the program produces comprehensive qualities of students who can go in for theoretical study, scientific development and management in the field of controllable science and engineering project.

二、基本规格要求

Ⅱ．Skills Outcomes

要求学生系统、坚实地掌握各种现代控制系统中共存的信息获取及处理技术、系统分析与设计方法、管理与决策等方面的基本理论和实践技能。毕业生应具备以下素质、知识和能力：

1．具有较高的人文科学修养、扎实的自然科学基础和工程应用技术的综合素质；

2．掌握控制科学与工程领域的宽厚理论基础知识和专业知识，了解本专业学科前沿的发展趋势；

3．在现代工业过程控制、运动控制、人工智能等方面具有较强的科学研究、技术开发与组织管理能力；

4．具有获取新知识和创新的能力。

Having the ability of systematically and firmly gaining information, processing, analyzing, designing and making policy in the field of modern controllable system, students are supposed to obtain:

1．Comprehensive quality of natural science, humanities and arts and ability in engineering application;

2．Basic theories and skills of controlling science and engineering, knowledge of the development in the front of the discipline;

3．Ability of studying, developing and organizing in controlling modern industrial process and automatic instruments; and artificial intelligence;

4．Ability of obtaining new knowledge and sense of innovation.

三、培养特色

Ⅲ. Program Highlights

1．以现代控制技术、现代电子技术、现代信息技术和现代网络通信技术为基础；

2. 控（制）管（理）结合、强（电）弱（电）并重、软（件）硬（件）兼施。

1．This program is based on modern control, electronics, and information and Internet telecommunication;

2．This program is the combination of control and management, software and hardware.

四、主干学科

Ⅳ．Major Disciplines

控制科学与工程Control Technology and Engineering

五、学制与学位

Ⅴ．Length of Schooling and Degree

修业年限：四年

Duration: 4 years

授予学位：工学学士

Degrees Conferred: Bachelor of Engineering

六、学时与学分

Ⅵ．Hours/Credits

完成学业最低课内学分（含课程体系与集中性实践教学环节）要求：160 学分

Minimum Credits of Curricular (Comprising course system and intensified internship practical training): 160 credits

完成学业最低课外学分要求：5 学分

Minimum Extracurricular Credits: 5 credits

1．课程体系学时与学分

Course Credits Hours and Units

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 课程类别 | | 课程性质 | 学时/学分 | 占课程体系学分比例（％） |
| 素质教育通识课程 | | 必修 | 516/28 | 18 |
| 选修 | 160/10 | 6 |
| 学科大类基础课程 | | 必修 | 608/38 | 24 |
| 专业课程 | 专业核心课程 | 必修 | 420/26 | 16 |
| 专业选修课程 | 选修 | 296/18 | 11 |
| 集中性实践教育环节 | | 必修 | 36w/16 | 10 |
| 综合实验课程（随课实验课程） | | 必修/选修 | 382/24 | 15 |
| 合计 | | | 2382+36w/160 | 100 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course Classified | | Course Nature | Hrs/Crs | Percentage (%) |
| Essential-qualities-oriented Education General Courses | | Required | 516/28 | 18 |
| Elective | 160/10 | 6 |
| Basic Courses in Discipline | | Required | 608/38 | 24 |
| Courses in Specialty | Core Courses in Specialty | Required | 420/26 | 16 |
| Elective Courses in Specialty | Elective | 296/18 | 11 |
| Practical Training | | Required | 36w/16 | 10 |
| Experiment | | Required/ Elective | 382/24 | 15 |
| Total | | | 2456+32w/160 | 100 |

2．集中性实践教学环节周数与学分

Practicum Credits

|  |  |  |  |
| --- | --- | --- | --- |
| 实践教学环节名称 | 课程性质 | 周数/学分 | 占实践教学环节学分比例（％） |
| 军事训练 | 必修 | 2/1 | 6 |
| 工程训练(3) | 必修 | 2/1 | 6 |
| 工程训练(7) | 必修 | 2/1 | 6 |
| C语言课程设计 | 必修 | 3/1 | 8 |
| 生产实习（社会实践） | 必修 | 2/1 | 6 |

续表

|  |  |  |  |
| --- | --- | --- | --- |
| 实践教学环节名称 | 课程性质 | 周数/学分 | 占实践教学环节学分比例（％） |
| 控制理论课程设计 | 必修 | 2/1 | 6 |
| 控制技术课程设计 | 必修 | 2/1 | 6 |
| 控制系统课程设计 | 必修 | 2/1 | 6 |
| 毕业设计（论文） | 必修 | 16/8 | 50 |
| 合计 |  | 32/16 | 100 |

|  |  |  |  |
| --- | --- | --- | --- |
| Internship & Practical Training | Course Nature | Weeks/Credits | Percentage (%) |
| Military Training | Required | 2/1 | 6 |
| Engineering Training(3) | Required | 2/1 | 6 |
| Engineering Training(7) | Required | 2/1 | 6 |
| C Programming Course Project | Required | 3/1 | 8 |
| Engineering Internship (Social Practice) | Required | 2/1 | 6 |
| Course Project | Required | 6/3 | 16 |
| Undergraduate Thesis | Required | 16/8 | 50 |
| Total | | 32/16 | 100 |

3. 课外学分

Extracurricular Credits

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序号 | 课外活动名称 | 课外活动和社会实践的要求 | | 课外学分 |
| 1 | 社会实践活动 | 提交社会调查报告，通过答辩者 | | 2 |
| 个人被校团委或团省委评为社会实践活动积极分子者，集体被校团委或团省委评为优秀社会实践队者 | | 2 |
| 2 | 思政课社会实践 | 提交调查报告，取得成绩 | | 2 |
| 3 | 英语及计算机考试 | 全国大学英语六级考试 | 考试成绩达到学校要求者 | 2 |
| 托福考试 | 达90分以上者 | 3 |
| 雅思考试 | 达6.5分以上者 | 3 |
| GRE考试 | 达325分以上者 | 3 |
| 全国计算机等级考试 | 获二级以上证书者 | 2 |
| 全国计算机软件资格、水平考试 | 获程序员证书者 | 2 |
| 获高级程序员证书者 | 3 |
| 获系统分析员证书者 | 4 |
| 4 | 竞赛 | 校级 | 获一等奖者 | 3 |
| 获二等奖者 | 2 |
| 获三等奖者 | 1 |
| 省级 | 获一等奖者 | 4 |
| 获二等奖者 | 3 |
| 获三等奖者 | 2 |
| 全国 | 获一等奖者 | 6 |
| 获二等奖者 | 4 |
| 获三等奖者 | 3 |
| 5 | 论文 | 在全国性刊物发表论文 | 每篇论文 | 2~3 |
| 6 | 科研 | 视参与科研项目时间与科研能力 | 每项 | 1~3 |
| 7 | 实验 | 视创新情况 | 每项 | 1~3 |

注：参加校体育运动会获第一名、第二名者与校级一等奖等同，获第三名至第五名者与校级二等奖等同，获第六至第八名者与校级三等奖等同。

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Extracurricular Activities and Social Practice | Requirements | | Extracurricular  Credits |
| 1 | Activities of Social Practice | Submit report and pass oral defense | | 2 |
| Entitled as Activist by the Communist Youth League of HUST or Hubei Province;  Membership of the group which is entitled as Excellent Social Practice Group by the Communist Youth League of HUST or Hubei Province | | 2 |
| 2 | Ideological and political course Social Practice | Submit a report and obtain a passing score | | 2 |
| 3 | Examinations in English and Computer | CET-6 | Students whose Band-6 exam scores accord our requirements | 2 |
| TOEFL | 90 Points or Higher | 3 |
| IELTS | 6.5 Points or Higher | 3 |
| GRE | 325 Points or Higher | 3 |
| National Computer Rank Examination | Win certificate of Band-2 or higher | 2 |
| National Computer Software Qualification | Win certificate of programmer | 2 |
| Win certificate of Advanced Programmer | 3 |
| Win certificate of System Analyst | 4 |
| 4 | Competitions | University Level | Win first prize | 3 |
| Win second prize | 2 |
| Win third prize | 1 |
| Provincial Level | Win first prize | 4 |
| Win second prize | 3 |
| Win Third prize | 2 |
| National Level | Win first prize | 6 |
| Win second prize | 4 |
| Win third prize | 3 |
| 5 | Thesis | Those whose thesis appears in national publications | Per piece | 2~3 |
| 6 | Scientific Research | Depending on both the time spent in and ability demonstrated in scientific research project | Each item | 1~3 |
| 7 | Experiments | Depending on innovative extent | Each item | 1~3 |

Note: In HUST Sports Meeting, the first and the second prize, the third to the fifth prize and the sixth prize to the eighth prize are deemed respectively the first prize, the second prize and the third prize of university level.

七、主要课程及创新创业课程

Ⅶ. Main Courses and Innovation（Entrepreneurship）Courses

（一）主要课程Main Courses

电路理论Circuit Theory、模拟电子技术Analog Electronics、数字电路与逻辑设计（一）Digital Circuit and Logic Design(Ⅰ)、微机原理Microcontroller Theory、自动控制原理（一）Control Theory(Ⅰ)、自动控制原理（二）Control Theory(Ⅱ)、过程控制系统Process Control System、运动控制系统Movement Control System、微机控制技术Microcomputer Control Technology、传感器与检测技术Sensor and Detecting Technology

（二）创新（创业）课程Innovation（Entrepreneurship）Courses

创新意识启迪类课程Orientational Innovation (Entrepreneurship) Courses：信息技术基础Introduction to Information Technologies.

创新能力培养类课程Capacity-building Innovation (Entrepreneurship) Courses：文献检索与科技论文写作Document Retrieval & Scientific Paper Writing.

创新实践训练类课程Innovative Practice Training Courses：自主智能系统课程设计Course Projects of Autonomous Intelligent System.

八、主要实践教学环节（含专业实验）

Ⅷ．Main Internship and Practical Training (Including experiments)

军事训练Military Training、工程训练Engineering Training、生产实习Engineering Internship、课程设计Course Project、毕业设计Undergraduate Thesis

九、教学进程计划表

Ⅸ．Table of Teaching Schedule

院（系）：人工智能与自动化学院 专业：自动化

School (Department): School of Artificial Intelligence and Automation Specialty: Automation

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 课程  类别  course type | 课程  性质  required/  elective | 课程  代码  course code | 课程名称  course name | 学时  hrs | 学分  crs | 其中  Including | | 设置  学期  semester |
| 实验  exp. | 上机  operation |
| 素质教育通识课程Essential-qualities-oriented Education General Courses | 必 修 Required | MAX0022 | 思想道德修养与法律基础 Morals & Ethics & Fundamentals of Law | 40 | 2.5 |  |  | 1 |
| 必 修 Required | MAX0042 | 中国近现代史纲要 Survey of Modern Chinese History | 40 | 2.5 |  |  | 2 |
| 必 修 Required | MAX0013 | 马克思主义基本原理 Basic Principles of Marxism | 40 | 2.5 |  |  | 3 |
| 必 修 Required | MAX0002 | 毛泽东思想和中国特色社会主义理论体系概论 General Introduction to Mao Zedong Thought and Socialist Theory with Chinese Characteristics | 72 | 4.5 |  |  | 4 |
| 必 修  Required | MAX0031 | 形势与政策 Situation and Policy | 32 | 2 |  |  | 5-7 |
| 必 修 Required | RMWZ0001 | 军事理论 Military Theory | 16 | 1 |  |  | 1 |
| 必 修 Required | CHI0001 | 中国语文 Chinese | 32 | 2 |  |  | 1 |
| 必 修 Required | SFL0001 | 综合英语（一） Fundamental English (Ⅰ) | 56 | 3.5 |  |  | 1 |
| 必 修 Required | SFL0011 | 综合英语（二） Fundamental English (Ⅱ) | 56 | 3.5 |  |  | 2 |
| 必 修 Required | PHE0001 | 大学体育（一） Physical Education(Ⅰ) | 32 | 1 |  |  | 1 |
| 必 修 Required | PHE0011 | 大学体育（二） Physical Education(Ⅱ ) | 32 | 1 |  |  | 2 |
| 必 修 Required | PHE0021 | 大学体育（三） Physical Education(Ⅲ) | 32 | 1 |  |  | 3 |
| 必 修 Required | PHE0031 | 大学体育（四） Physical Education(Ⅳ) | 32 | 1 |  |  | 4 |
| 选 修  Elective |  | 从不同的课程模块中修读若干课程，艺术类课程不低于2学分，总学分不低于10学分（含国际教育学院开设的英语口语(外教)、西方文化（外教）和专业写作（外教））Select courses from different sections with no less than 10 credits(include the international courses opened by the School of International Education) | 160 | 10 |  |  | 2-8 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 续表 |
| 课程  类别  course type | 课程  性质  required/  elective | 课程  代码  course code | 课程名称  course name | 学时  hrs | 学分  crs | 其中  Including | | 设置  学期  semester |
| 实验  exp. | 上机  operation |
| 学科基础课程Basic Courses in Discipline | 必 修 Required | MAT0551 | 微积分（一）上 Calculus(Ⅰ) | 88 | 5.5 |  |  | 1 |
| 必 修 Required | MAT0531 | 微积分（一）下 Calculus(Ⅰ) | 88 | 5.5 |  |  | 2 |
| 必 修 Required | MAT0721 | 线性代数 Linear Algebra | 40 | 2.5 |  |  | 1 |
| 必 修 Required | MAT0561 | 复变函数与积分变换 Complex Function and Integral Transform | 40 | 2.5 |  |  | 2 |
| 必 修 Required | MAT0591 | 概率论与数理统计 Probability and Mathematics Statistics | 40 | 2.5 |  |  | 3 |
| 必 修 Required | MESE0891 | 工程制图（一） Engineering Graphics (Ⅰ) | 40 | 2.5 |  |  | 1 |
| 必 修 Required | PHY0511 | 大学物理（一） Physics (Ⅰ) | 64 | 4 |  |  | 2 |
| 必 修 Required | PHY0521 | 大学物理（二） Physics (Ⅱ) | 64 | 4 |  |  | 3 |
| 必 修 Required | PHY0551 | 物理实验（一） Physics Experiments (Ⅰ) | 32 | 1 | 32 |  | 2 |
| 必 修  Required | PHY0561 | 物理实验（二） Physics Experiments (Ⅱ ) | 24 | 0.8 | 24 |  | 3 |
| 必 修 Required | EEE0721 | 电路理论（五） Circuit Theory (V) | 64 | 4 | 10 |  | 3 |
| 必 修 Required | EIC0751 | 数字电路与逻辑设计(一) Digital Circuit and Logic Design (Ⅰ) | 56 | 3.5 |  |  | 4 |
| 必 修 Required | EIC0591 | 模拟电子技术（二） Analog Electronics (Ⅱ) | 56 | 3.5 |  |  | 4 |
| 必 修 Required | EIC0551 | 电子线路设计、测试与实验（一） Electronic Circuitry Design Test and Experiments | 32 | 1 | 32 |  | 4 |
| 必 修 Required | EIC0541 | 电子线路设计、测试与实验（二） Electronic Circuitry Design Test and Experiments | 32 | 1 | 32 |  | 4 |
| 必 修 Required | AUT0511 | C语言程序设计 Advanced Programming Language (C) | 56 | 3.5 |  | 20 | 2 |
| 必 修 Required | AUT5611 | 数据结构 Data Structure | 48 | 3 |  | 12 | 3 |
|  | 必 修 Required | AUT0531 | 计算方法（二） Computational Methods (Ⅱ ) | 32 | 2 |  |  | 3 |
| 必 修 Required | AUT0571 | 信号分析 Signal Analysis | 32 | 2 |  |  | 4 |
| 必 修 Required | AUT0561 | 微机原理 Principle of Microcomputer | 48 | 3 |  |  | 5 |
| 必 修 Required | EIC0631 | 微机原理实验 Experiment of Microcomputer Principle | 32 | 1 | 32 |  | 5 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 续表 |
| 课程  类别  course type | 课程  性质  required/  elective | 课程  代码  course code | 课程名称  course name | 学时  hrs | 学分  crs | 其中  Including | | 设置  学期  semester |
| 实验  exp. | 上机  operation |
|  | 必 修 Required | AUT5381 | 计算机网络 Computer Network | 40 | 2.5 | 8 |  | 6 |
| 选 修 Elective |  | 雅思或托福提高（国际教育学院开设）  Advanced Courses for IELTS or TOFEL (opened by the School of International Education) | 32 | 2 |  |  | 3 |
| 选 修 Elective |  | 专业（实验）课程（外教，国际教育学院开设）  Professional (Experimental) Courses (International course, opened by the School of International Education) | 32 | 2 |  |  | 4 |
| 专业核心课程Core courses in Specialty | 必 修  Required | AUT2241 | 人工智能导论  Introduction to Artificial Intelligence | 32 | 2 |  |  | 4 |
| 必 修 Required | AUT2222 | 自动控制原理（一） Control Theory (Ⅰ) | 56 | 3.5 |  |  | 5 |
| 必 修  Required | AUT5101 | 传感器与检测技术 Sensor and Detecting Technology | 40 | 2.5 | 8 |  | 5 |
| 必 修 Required | AUT2201 | 运筹学（一） Operational Research(1) | 32 | 2 |  |  | 5 |
| 必 修 Required | AUT2091 | 控制理论综合实验 Control Theory Experiment | 32 | 1 | 32 |  | 5-6 |
| 必 修 Required | AUT2232 | 自动控制原理（二） Control Theory (Ⅱ) | 40 | 2.5 |  |  | 6 |
| 必 修 Required | AUT2071 | 计算机控制技术 Computer Control Technology | 32 | 2 |  |  | 6 |
| 专业选修课程Elective courses in Specialty |  |  | 专业选修课程 (A类)  Electives in Specialty（A） | 352 | 20 |  |  |  |
| 选 修 Elective | AUT5792 | 系统建模 System model | 32 | 2 |  |  | 3 |
| 选 修 Elective | AUT5142 | 电力拖动与电气控制 Electric Drive and Electric Control | 48 | 2.5 |  |  | 5 |
| 选 修 Elective | AUT6071 | 模式识别与机器学习  Pattern Recognition and Machine Learning | 32 | 2 |  |  | 5 |
| 选 修 Elective | AUT2281 | 生产计划与控制  Production Planning and Control | 32 | 2 |  |  | 5 |
| 选 修 Elective | AUT5242 | 功率电子技术 Power Electronic Technology | 40 | 2.5 |  |  | 6 |
| 选 修 Elective | AUT5303 | 过程控制系统 Process Control System | 40 | 2.5 |  |  | 6 |
| 选 修 Elective | AUT6151 | 图像处理与计算机视觉  Image Processing and Computer Vision | 32 | 2 |  |  | 6 |
| 选 修 Elective | AUT5971 | 模式识别与图像处理综合实验  Pattern Recognition & Image Processing Experiment | 32 | 1 | 32 |  | 6 |
| 选 修 Elective | AUT5862 | 运动控制系统 Motion Control System | 40 | 2.5 |  |  | 7 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 续表 |
| 课程  类别  course type | 课程  性质  required/  elective | 课程  代码  course code | 课程名称  course name | 学时  hrs | 学分  crs | 其中  Including | | 设置  学期  semester |
| 实验  exp. | 上机  operation |
| 专业选修课程Elective courses in Specialty | 选 修 Elective | AUT5432 | 控制技术综合实验  Control Technology Experiment | 24 | 0.5 | 24 |  | 6-7 |
|  |  | 专业选修课程 (B类)  Electives in Specialty（B） |  | 11.5 |  |  |  |
| 选 修 Elective | AUT5801 | 信息技术导论  Introduction to Information Technologies | 24 | 1.5 |  |  | 1 |
| 选 修 Elective | AUT6161 | 文献检索与科技论文写作  Document Retrieval & Scientific Paper Writing | 16 | 1 |  |  | 2 |
| 选 修 Elective | AUT6021 | 工程伦理（案例讲座）  Engineering Ethic | 32 | 2 |  |  | 2 |
| 选 修 Elective | AUT5451 | 面向对象的程序设计 Object Orient Program Design | 40 | 2.5 |  | 8 | 3 |
| 选 修 Elective | AUT5211 | 复杂性科学基础 Foundation of complexity sciences | 32 | 2 |  |  | 3 |
| 选 修 Elective | AUT5051 | 博弈论 Game Theory | 32 | 2 |  |  | 4 |
| 选 修 Elective | AUT5031 | Java程序设计 Java Programming | 40 | 2.5 |  | 16 | 4 |
| 选 修 Elective | AUT6051 | 工业互联网技术 Industrial Internet Technology | 32 | 2 |  | 8 | 4 |
| 选 修 Elective | AUT5621 | 数据库技术 Database Technology | 32 | 2 |  |  | 4 |
| 选 修 Elective | AUT5951 | 数据科学基础  Foundation of Data Science | 32 | 2 |  |  | 4 |
| 选 修 Elective | AUT5521 | 软件工程 Software Engineering | 24 | 1.5 |  | 8 | 5 |
| 选 修 Elective | AUT5771 | 系统仿真与Matlab Matlab System Simulation and Matlab | 32 | 2 | 4 |  | 5 |
| 选 修 Elective | AUT5251 | 管理信息系统 Management Information System | 32 | 2 |  |  | 5 |
| 选 修 Elective | AUT5161 | 电子商务 E-Business | 32 | 2 |  |  | 5 |
| 选 修 Elective | AUT5662 | 数字信号处理 Digital Signal Processing | 32 | 2 |  |  | 5 |
| 选 修 Elective | AUT5641 | 数字图像处理  Digital Image Processing | 32 | 2 |  |  | 5 |
| 选 修 Elective | AUT5821 | 信息系统工程基础 Information System Engineering | 40 | 2.5 | 8 |  | 5 |
| 选 修 Elective | AUT5021 | DSP原理与应用 Principle and Application of DSP | 32 | 2 | 8 |  | 6 |
| 选 修 Elective | AUT5121 | 单片机原理  Principle of Single Chip Microcomputer | 32 | 2 | 8 |  | 6 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 续表 |
| 课程  类别  course type | 课程  性质  required/  elective | 课程  代码  course code | 课程名称  course name | 学时  hrs | 学分  crs | 其中  Including | | 设置  学期  semester |
| 实验  exp. | 上机  operation |
| 专业选修课程Elective courses in Specialty | 选 修 Elective | AUT5781 | 系统工程 Introduction to System Engineering | 32 | 2 |  |  | 6 |
| 选 修 Elective | AUT5911 | 自动化仪表与执行器 Automation Instrument | 32 | 2 |  |  | 6 |
| 选 修 Elective | AUT5681 | 图像处理嵌入式系统设计 Embedded system design for image processing | 32 | 2 |  |  | 6 |
| 选 修 Elective | AUT5881 | 智能控制 Intelligent Control | 32 | 2 |  |  | 6 |
| 选 修 Elective | AUT5151 | 电气控制基础与可编程控制器 Electric control and Programmable Logic Controller | 40 | 2.5 | 12 |  | 6 |
| 选 修 Elective | AUT5501 | 人机交互技术 Interaction Technology | 32 | 2 |  |  | 6 |
| 选 修 Elective | AUT5331 | 集散控制系统与组态软件 Distribution control system and software | 40 | 2.5 |  |  | 7 |
| 选 修 Elective | AUT5871 | 智能计算（一） Intelligent Computing(Ⅰ) | 32 | 2 |  |  | 7 |
| 选 修 Elective | AUT5201 | 飞行器制导控制基础 Basis of Aircraft guidance control | 32 | 2 |  |  | 7 |
| 选 修 Elective | AUT5921 | 最优控制 Optimal Control | 32 | 2 |  |  | 7 |
| 选 修 Elective | AUT5471 | 嵌入式系统原理与应用 Principle and Application of Embedded System | 32 | 2 | 8 |  | 7 |
| 选 修 Elective | AUT5321 | 机器人原理 Principle of Robotics | 32 | 2 | 8 |  | 7 |
| 选 修 Elective | AUT5721 | 网络安全 Network Security | 32 | 2 |  |  | 7 |
| 选 修 Elective | AUT5131 | 导弹概论 Introduction missile | 16 | 1 |  |  | 7 |
| 实践环节Internship and Practical Training | 必 修  Required | RMWZ3511 | 军事训练  Military Training | 2w | 1 |  |  | 1 |
| 必 修 Required | ENG3541 | 工程训练(3)  Industrial Training(3) | 2w | 1 |  |  | 2 |
| 必 修 Required | ENG3551 | 工程训练(7)  Industrial Training(7) | 2w | 1 |  |  | 3 |
| 必 修 Required | AUT3621 | 生产实习 Engineering Internship | 2w | 1 |  |  | 6 |
| 必 修 Required | AUT3511 | C语言程序设计课程设计 C Programming Course Project | 3w | 1.5 |  |  | 3 |
| 必 修  Required | AUT3691 | 控制理论课程设计(12周后)  Control Theory Course Project | 1w | 0.5 |  |  | 6 |
| 必 修  Required | AUT3711 | 控制技术课程设计  Control Technology Course Project | 2w | 1 |  |  | 7 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 续表 |
| 课程  类别  course type | 课程  性质  required/  elective | 课程  代码  course code | 课程名称  course name | 学时  hrs | 学分  crs | 其中  Including | | 设置  学期  semester |
| 实验  exp. | 上机  operation |
|  | 必 修  Required | AUT3721 | 控制系统课程设计  Control System Course Project | 2w | 1 |  |  | 7 |
| 必 修 Required | AUT3521 | 毕业设计（论文） Undergraduate Thesis | 16w | 8 |  |  | 8 |