# 车辆工程 2021 版本科培养方案
# Undergraduate Education Plan for Specialty in Engineering Automotive (2021)

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| 专业名称<br>Major | 车辆工程<br>Engineering Automotive | 主干学科<br>Major Disciplines | 机械工程，车辆工程<br>Mechanical engineering,Vehicle Engineering |
| 计划学制<br>Duration | 四 年<br>4 Years | 授予学位<br>Degree Granted | 工学学士<br>Bachelor of Engineering |
| 所属大类<br>Disciplinary | 机械类（车辆）<br>Mechanical Category (Vehicles) | 大类培养年限<br>Duration | 1 年<br>1 year |

**最低毕业学分规定**
**Graduation Credit Criteria**

| **课程分类 Course Classification 课程性质 Course Nature** | 公共基础课程 Public Basic Courses | 通识教育课程 Public Courses | 大类课程 Basic Courses in General Discipline | 专业教育课程 Specialized Courses | 个性课程 Personalized Course | 集中性实践教学环节 Specialized Practice Schedule | 课外学分 Study Credit after Class | 总学分 Total Credits |
|---|---|---|---|---|---|---|---|---|
| 必修课 Required Courses | 31 | \ | 44 | 16.5 | \ | 28.5 | 10 | 180.0 |
| 选修课 Elective Courses | \ | 9 | \ | 25 | 6 | \ | 10 | |

## 一、 培养目标与毕业要求

## Ⅰ Educational Objectives &Requirement

### （一） 培养目标

面向国家重大需求和汽车产业发展，培养德、智、体、美、劳全面发展，具有扎实的机械工程、车辆工程、材料和信息科学基础知识和应用能力，具有较强创新精神、突出实践能力和宽广国际视野，并具有卓越追求和卓越能力的汽车行业领军人才。

本专业期待毕业生五年后能达成下列目标：

（1）具有良好的职业素养和社会责任感，并有服务社会的意愿和能力。

（2）能从事车辆工程复杂问题研究，能从事汽车的理论研究、产品开发、生产制造、企业管理等工作。

（3）具备良好的创新意识、团队合作精神和国际化视野。

（4）具有沟通交流、终身学习的能力，具备可持续发展的工程观。

**I Education Objectives**

Facing the major needs of the country and the development of the automobile industry, the major cultivate the all-round development of morality, intelligence, body, beauty and labor, have solid basic knowledge and application ability of mechanical engineering, vehicle engineering, materials and information science, have strong spirit of innovation, outstanding practical ability and broad international vision, and have outstanding pursuit and outstanding ability of automobile industry leaders.

Students of this program are expected to achieve the following objectives 5 years after graduation：

（1）Have good professionalism and social responsibility, and the willingness and ability to serve the community.

（2）Be able to study complex problems of vehicle engineering, be engaged in automobile theory research, automobile product development, automobile design and manufacture, automobile production management and so on.

（3）Have a good sense of innovation, teamwork spirit and international vision.

（4）Have the ability of communication and lifelong learning, and have an engineering concept of sustainable development.

**（二）毕业要求**

(1) **工程知识:** 能够将数学、自然科学、工程基础和专业知识用于解决车辆复杂工程问题。

(2) **问题分析:** 能够应用数学、自然科学和工程科学的基本原理，识别、表达、并通过文献研究分析车辆复杂工程问题，以获得有效结论。

(3) **解决方案:** 能够设计针对车辆复杂工程问题的解决方案，设计满足特定需求的车辆系统、单元、部件或工艺流程，并能够在设计环节中体现创新意识，考虑社会、健康、安全、法律、文化以及环境等因素。

(4) **研究:** 能够基于科学原理并采用科学方法对车辆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:** 能够针对车辆复杂工程问题，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，并能够理解其局限性。

(6) **工程与社会:** 能够基于工程相关背景知识进行合理分析，评价车辆工程实践和车辆复杂工程问题的解决方案对社会、健康、安全、法律以及文化的影响，并理解应承担的责任。

(7) **环境和可持续发展:** 能够理解和评价针对车辆复杂工程问题的工程实践对环境、社会可持续发展的影响。

(8) **职业规范:** 具有人文社会科学素养、社会责任感，能够在工程实践中理解并遵守工程职业道德和规范，履行责任。

(9) **个人和团队:** 能够在多学科团队中承担个体、团队成员以及负责人的角色。

(10) **沟通:** 能够就车辆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、清晰表达或回应指令。具备一定的国际视野，能够在跨文化背景下进行沟通和交流。

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

(12) **终身学习:** 具有自主学习和终身学习的意识，有不断学习和适应发展的能力。

**II Graduation Requirement**

(1) **Engineering knowledge:** Be able to apply mathematics, natural science, basic and professional knowledge of engineering to solve complex engineering problems in vehicle engineering.

(2) **Problem analysis:** Be able to apply the basic principles of mathematics, natural sciences and engineering sciences, and identify, express and analyze the complex engineering problems in vehicle engineering through literature studies so as to gain valid conclusion.

(3) **Design/development solution:** Be able to design solutions to complex engineering problems of the vehicle engineering field, design the vehicle system, units, parts or technical process which can meet the special demands, and can demonstrate the innovation awareness and consider the social, healthy, safe, legal, cultural and environmental factors in the design links.

(4) **Research:** Be able to study the complex engineering problems of the vehicle engineering field on the basis of scientific principles and with scientific methods, including designing the test, analyzing and explaining the data, and integrating the information to get rational and valid conclusion.

(5) **Usage of modern tools:** In light of complex engineering problems in the vehicle engineering field, be able to develop, choose and use proper technology, resources, modern engineering tools and information technology tools, including prediction and simulation of the developing engineering problems, and can understand their limitations.

(6) **Engineering and society:** Be able to reasonably analyze and evaluate the impacts of professional practices of vehicle engineering and solutions to complex engineering problems of vehicle engineering field on the society, health, safety, law and culture on the basis of the relevant background knowledge of engineering and understand the responsibilities that they should undertake.

(7) **Environment and sustainable development:** Be able to understand and evaluate the impact of engineering practices in the field of vehicle engineering on the environmental and social sustainable development.

(8) **Professional standards:** Have quality of humanities and social sciences and sense of social responsibilities and can understand and abide by the professional ethics and codes and perform the responsibilities in the engineering practices.

(9) **Individual and team:** Be able to take on the role of individual, team members and leaders in a multidisciplinary team.

(10) **Communication:** Master a foreign language and be able to communicate and exchange in a cross-cultural context. Have an international perspective and be able to effectively communicate and exchange with the industry peers and the public on the complex engineering problems of vehicle engineering field and the related fields, including preparing reports and design documents, making presentations, clearly expressing or responding to the instructions and etc.

(11) **Project management:** Understand and master the engineering management principles and economic decision-making methods and be able to apply them in multidisciplinary environment of vehicle engineering field.

(12) **Life-long learning:** Have the awareness of self-learning and lifelong learning and ability of continuous studying and adapting themselves to the social development.

表 1 培养目标的矩阵关系毕业要求支撑

| **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 | | √ | | |

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|---|---|---|---|---|
| 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 2 毕业要求指标点的分解

| 毕业要求 | 指标点 |
|---|---|
| 毕业要求 1.工程知识:能够将数学、自然科学、工程基础和专业知识用于解决车辆复杂工程问题。 | 1.1 能运用数学、自然科学（物理、化学）及机械、电子信息等学科的语言工具恰当表述车辆工程领域的工程问题。 |
| | 1.2 能分析车辆工程领域的复杂工程问题，建立恰当的理论模型并求解。 |
| | 1.3 能够将数学、物理、力学及机械电子理论知识和相关模型方法用于推演、分析车辆工程专业工程问题。 |
| | 1.4 能够将数理知识及机械电子基础理论和相关的模型方法用于车辆工程专业工程问题解决方案的比较与综合。 |
| 毕业要求 2.问题分析:能够应用数学、自然科学和工程科学的基本原理，识别、表达、并通过文献研究分析车辆复杂工程问题，以获得有效结论。 | 2.1 能够运用机械、电子信息等相关科学与工程原理识别和判断车辆工程领域复杂工程问题的关键环节和参数。 |
| | 2.2 能够运用数学、自然科学和工程科学的基本原理和数学模型方法正确表达与汽车设 |

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| | 计、制造、试验相关的复杂工程问题。 |
| | 2.3 能够认识和理解解决问题有不同方案，会通过文献研究寻求可替代的解决方案。 |
| | 2.4 能够运用工程科学的基本原理，借助文献研究，分析车辆工程领域工程活动过程的影响因素，获得有效结论。 |
| 毕业要求 3.解决方案:能够设计针对车辆复杂工程问题的解决方案，设计满足特定需求的车辆系统、单元、部件或工艺流程，并能够在设计环节中体现创新意识，考虑社会、健康、安全、法律、文化以及环境等因素。 | 3.1 掌握汽车工程设计和产品开发全周期、全流程的基本设计/开发方法和技术，了解影响设计目标和技术方案的各种因素。 |
| | 3.2 能够针对汽车零部件的特定要求，完成相应汽车零部件的设计。 |
| | 3.3 能够设计满足特定需求的汽车系统或工艺流程，并在设计过程中能够体现创新意识。 |
| | 3.4 在汽车零部件、系统设计和工艺流程设计中能够考虑安全、健康、法律、文化及环境等制约因素。 |
| 毕业要求 4.研究:能够基于科学原理并采用科学方法对车辆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。 | 4.1 能够基于机械和电子信息科学原理和专业基础知识，通过文献研究或相关方法，调研和分析车辆工程复杂工程问题的解决方案。 |
| | 4.2 能够根据设计性实验、综合性实验的目标，选择研究路线，设计实验方案。 |
| | 4.3 能够根据实验方案构建实验系统，安全地操作实验，正确地采集实验数据。 |
| | 4.4 能够整理和归纳实验数据、进行结果分析和解释，并通过信息综合得到合理有效的结论，撰写实验报告。 |
| 毕业要求 5.工具使用:能够针对车辆复杂工程问题，开发、选择与使用恰当的技术、资 | 5.1 了解车辆工程专业常用的设计、开发和试验仪器与设备，信息检索/搜索工具和数 |

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| 源、现代工程工具和信息技术工具，并能够理解其局限性。 | 字资源，工程设计与工程分析等软件的原理、功能及使用方法，并理解其局限性。 |
| | 5.2 能够选择与使用恰当的仪器与设备，信息检索/搜索工具和数字资源，工程设计与工程分析等软件，对复杂工程问题进行分析、计算与设计。 |
| | 5.3 能够针对车辆工程领域的具体应用对象，创造性地开发或选配满足特定需求的现代工具，模拟和预测专业问题，并能够分析其局限性。 |
| 毕业要求 6.工程与社会:能够基于工程相关背景知识进行合理分析，评价车辆工程实践和车辆复杂工程问题的解决方案对社会、健康、安全、法律以及文化的影响，并理解应承担的责任。 | 6.1 了解车辆工程领域的技术标准体系、知识产权、产业政策和法律法规，理解不同社会文化对工程活动的影响。 |
| | 6.2 能分析和评价车辆工程专业工程实践对社会、健康、安全、法律、文化的影响，以及这些制约因素对项目实施的影响，并理解应承担的责任。 |
| 毕业要求 7.环境和可持续发展:能够理解和评价针对车辆复杂工程问题的工程实践对环境、社会可持续发展的影响。 | 7.1 知晓和理解环境保护和可持续发展的理念和内涵。 |
| | 7.2 能够站在环境保护和可持续发展的角度思考车辆工程专业工程实践的可持续性，评价汽车产品周期中可能对人类和环境造成的损害和隐患。 |
| 毕业要求 8.职业规范:具有人文社会科学素养、社会责任感，能够在工程实践中理解并遵守工程职业道德和规范，履行责任。 | 8.1 保持身心健康，有正确价值观，理解个人与社会的关系，了解中国国情。 |
| | 8.2 理解诚实公正、诚信守则的工程职业道德和规范，尊重相关国家和国际通行的法律法规。 |
| | 8.3 理解工程师对公众的安全、健康、福祉以及对环境保护的社会责任，并能在车辆工 |

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| | 程专业实践中自觉遵守。 |
| 毕业要求 9.个人和团队:能够在多学科团队中承担个体、团队成员以及负责人的角色。 | 9.1 能够在多学科背景下理解团队的意义，在团队成员间有效沟通，听取他人意见或建议，并及时作出反应。 |
| | 9.2 能够在团队中独立承担分配的工作或与团队其他成员合作开展工作。 |
| | 9.3 能够组织、协调和指挥团队开展工作。 |
| 毕业要求 10.沟通:能够就车辆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、清晰表达或回应指令。具备一定的国际视野，能够在跨文化背景下进行沟通和交流。 | 10.1 能够就车辆工程领域的专业问题以撰写报告、设计文稿和口头发言等形式分别与业界同行和社会公众进行有效沟通、交流和讨论。 |
| | 10.2 了解车辆工程专业领域的国际发展趋势、研究热点，理解和尊重世界不同文化的差异性和多样性。 |
| | 10.3 具备跨文化交流的语言和书面表达能力，能就车辆工程专业问题，在跨文化背景下进行基本沟通和交流。 |
| 毕业要求 11.项目管理:理解并掌握工程管理原理与经济决策方法，并能在多学科环境中应用。 | 11.1 能够理解和掌握工程项目中涉及的工程管理原理和经济决策方法。 |
| | 11.2 了解汽车工程及产品全周期、全流程的成本构成，理解其中涉及的工程管理与经济决策问题。 |
| | 11.3 能在多学科环境下 (包括模拟环境)，运用工程管理与经济决策方法设计和制定车辆工程领域的问题解决方案。 |
| 毕业要求 12.终身学习:具有自主学习和终身学习的意识，有不断学习和适应发展的能力。 | 12.1 理解经济、社会和科技的发展进步和演进规律对个人知识更新和能力提升的要求，具备适应竞争、自主终身学习的意识。 |
| | 12.2 具有自主学习的能力，包括对车辆工程专业技术问题的理解能力，归纳总结能力和 |

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| | 提出问题的能力，并能接受和应对新技术、新事物和新问题带来的挑战。 |

## 二、专业核心课程与专业特色课程

## Ⅱ Core Course and Characteristic Courses

### （一） 专业核心课程

工程图学 A 上,工程图学 A 下,理论力学 A,电工与电子技术基础 A,材料力学 C,汽车构造 D,汽车理论 E,汽车设计 E

Engineering Graphics Ⅰ,Engineering Graphics Ⅱ,Theoretical Mechanics, Fundamentals of Electrical and Electronic Technology Ⅰ,Mechanics of Materials, Construction of Automobile, The Theory of Automobile, Automobile Design

### （二） 专业特色课程

整车开发与项目管理,汽车智能制造系统及机器人技术,整车开发与项目管理,数据结构与算法,新能源汽车结构与原理 B,汽车性能仿真与评价,汽车轻量化技术,智能汽车环境感知技术,智能汽车规划与控制,人工智能概论,汽车创新设计 A

Vehicle Development and Project Management, Intelligent Manufacturing System and Robotics of Automobile, Vehicle Development and Project Management, Data Structures and Algorithms, Structures and Theory of New Energy Vehicle, Automobile Performance Simulation and Evaluation, Automotive Lightweight Technology, Perception of Intelligent Vehicle, Planning and Control of Intelligent Vehicle, Introduction to Artificial Intelligence, Automotive Innovation Design

**附：毕业要求实现矩阵**

| 专业核心课程 | 专业特色课程 | 课程名称 | 车辆工程专业毕业要求 | | |

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| | | 特色社会主义理论体系概论 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 马克思主义基本原理 | | | | | √ | | | | | | | | | | | | | | | | | | | | | | | | √ | | | | | √ |
| | | 大学英语1 | | | | | | | | | | | | | | | | | √ | | | | | | | √ | | √ | | | √ | | | | | |
| | | 大学英语2 | | | | | | | | | | | | | | | | | √ | | | | | | | √ | | √ | | | √ | | | | | |
| | | 大学英语3 | | | | | | | | | | | | | | | | | √ | | | | | | | √ | | √ | | | √ | | | | | |
| | | 大学英语4 | | | | | | | | | | | | | | | | | √ | | | | | | | √ | | √ | | | √ | | | | | |
| | | C程序设计基础B | | | | | √ | | | | √ | | | | | | | √ | √ | | | | | | | | | | | | | | | | | |
| | | 计算机基础与C程序设计综合实验B | | | | | √ | | | | √ | | | | | | | √ | √ | | | | | | | | | | | | | | | | | |
| | | 军事技能训练 | | | | | | | | | | | | | | | | | | | | | | | | √ | √ | √ | | | | | | | | |
| | | 军事理论 | | | | | | | | | | | | | | | | | | | | | | | | √ | √ | √ | | | | | | | | |
| | | 体育1 | | | | | | | | | | | | | | | | | | | | | | | | √ | √ | √ | √ | √ | √ | | | | √ | √ |
| | | 体育2 | | | | | | | | | | | | | | | | | | | | | | | | √ | √ | √ | √ | √ | √ | | | | √ | √ |
| | | 体育3 | | | | | | | | | | | | | | | | | | | | | | | | √ | √ | √ | √ | √ | √ | | | | √ | √ |
| | | 体育4 | | | | | | | | | | | | | | | | | | | | | | | | √ | √ | √ | √ | √ | √ | | | | √ | √ |
| | | 高等数学A上 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| √ | | 工程图学A上 | | √ | | | | | | √ | | | | | | | √ | | | | | | | | | | | | | | | | | | | |
| | | 高等数学A下 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| √ | | 工程图学A下 | | √ | | | | | | √ | | | | | | | √ | | | | | | | | | | | | | | | | | | | |
| | | 线性代数 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 大学物理B | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| | | 工程化学 | √ | | √ | | | √ | | | | | | | | | √ | | | | | | | | | | | | | | | | | | | |
| | | 工程化学实验 | √ | | | | | √ | | | | √ | | | | | √ | | | | | | | | | | | | | | | | | | | |
| | | 物理实验B | | | | | | | | √ | | | | | | | | | | | | | | | | | | | | | √ | | | | | |
| | | 概率论与数理统计B | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| √ | | 理论力学A | | | √ | | | √ | | | | | | | | | | | | | | | | | √ | | | | | | | | | | | √ |
| √ | | 电工与电子技术基 | | | | | | | | | | | | | | | | | | | √ | √ | | | | | | | | | | | | | | |

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| | | 础 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| √ | | 材料力学 C | | | √ | | | √ | | | | | | | | | | | | | | | | | √ | | | | | | | | | | | √ |
| | | 汽车工程材料 | | | | | | | √ | √ | | | | | | | | | | | | √ | | | | | | | | | | | | | | |
| | | 机械制造基础 | | | | | | | | √ | | | | | | | | | | | | | | | | √ | | | | | | | | | | |
| | | 流体动力学基础 E | | √ | | | | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 热工基础 B | | √ | | | | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| √ | | 汽车构造 D | | | | √ | | | | | √ | | | | √ | | | | | | | | | | | | | | | | | | | | | |
| √ | | 汽车理论 E | | √ | | | | | | | √ | | | | √ | | | | | | | | | | √ | | | | | | | | | | | |
| √ | | 汽车设计 E | | | | | | | | | | √ | √ | | | | | | | √ | | √ | | | | | | | | | | | | | √ | |
| | | 汽车性能实验 | | | | | | | | | | | | | | √ | √ | √ | | | | | | | | | | √ | √ | | | | | | | | |
| | | 机械类（车辆）专业导论 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | √ | | | | √ | |
| | | 复变函数与积分变换 C | √ | √ | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 机械设计基础 A | | | | | | | | √ | | | | √ | | | | | | | | | √ | | | | | | | | | | | | | |
| | | 汽车动力系统原理 | | | | | | | | | √ | | | | | | | | | | √ | | √ | | | | | | | | | | | | | |
| | | 车辆控制理论 B | | √ | | | √ | | | | | | | | √ | | | | | | | | | | √ | | | | | | | | | | | |
| | | 汽车试验学 B | | | | | | | | | | | | | | √ | | | | √ | | √ | | | | | | | | | | | | | | |
| | | 汽车制造工艺学 B | | | | | | | | | | | √ | | √ | | | | | | | | √ | | | | | | | | | | | | | | |
| | √ | 整车开发与项目管理 | | | | | | | | | √ | | | | | | | | | | √ | | | | | | | | | | | | √ | √ | √ | | |
| | | 数值计算 | | √ | | | | √ | | | | | √ | | | | | √ | | √ | | | | | | | | | | | | | | | | | √ |
| | | 机械设计基础 A | | | | | | | | √ | | | | √ | | | | | | | | | √ | | | | | | | | | | | | | | |
| | √ | 汽车智能制造系统及机器人技术 | √ | | | | | | | | | | √ | | | √ | | | | | | | | | | | | √ | | | | | | | | | |
| | | 汽车车身结构与设计 B | | √ | | | | √ | | | √ | | | | | | | | √ | | | | | | | | | | | | | | | | | | |
| | | 汽车制造工艺学 A | | | | | | | | | | | √ | | √ | | | | | | | | | √ | | | | | | | | | | | | | |

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| | | 汽车试验学 B | | | | | | | | | | | | | √ | | | | √ | | √ | | | | | | | | | | | | | | | |
| | √ | 整车开发与项目管理 | | | | | | | | √ | | | | | | | | | | | √ | | | | | | | | | | | | √ | √ | √ | |
| | | 复变函数与积分变换 C | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 面向对象程序设计 | | | | | √ | | | | | | √ | | | | | | | √ | | | | | | √ | | | | | | | | | | |
| | √ | 数据结构与算法 | | √ | √ | | | | | | | | | √ | | | | | √ | √ | | | | | | | | | | | | | | | | |
| | | 机械设计基础 B | | | | | | | √ | | | | √ | | | | | | | | | √ | | | | | | | | | | | | | | |
| | | 车辆控制理论 A | | √ | | | √ | | | | | | | √ | | | | | | | | | | | | √ | | | | | | | | | | |
| | | 汽车制造工艺学 | | | | | | | | | | √ | | √ | | | | | | | | | √ | | | | | | | | | | | | | |
| | | 汽车 CAD/CAE（B） | | √ | | | | | √ | | | √ | | | | | | | √ | | | | | | | √ | | | | | | | | | | |
| | | 汽车振动基础 B | √ | √ | | | √ | √ | | | √ | | | | √ | | | | | | | | | | | | | | | | | | | | | |
| | | 汽车专业英语 | | | | | | | | | | | | | | | | | | | | | | | | | | | | √ | √ | √ | | | | |
| | | 电子控制技术及应用 B | √ | | | | | | | | | | | | | | | √ | | | | | | | | | | | | | | | | | | |
| | | 汽车电器与电控系统 C | √ | | | | √ | | | | | | | √ | | | | | | | | | | | | | | | | | | | | | | |
| | √ | 新能源汽车结构与原理 B | | | √ | | | | | √ | | | | √ | | | | | | | √ | | √ | | | | | | | | | | | | | |
| | | 汽车自动变速技术 | | | | | | | | | | | | √ | | | | | | | | | | | | | | | | | √ | | | | | |
| | | 汽车优化设计 B | | √ | | | | √ | | | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 汽车底盘控制 | | √ | | | | √ | | | | | | √ | | | | | | √ | | | | | | | | | | | √ | | | | | |
| | | 汽车振动与噪声控制 | | | | | | | | √ | | | | √ | | | | | | | | | | | | | | | | | | | | | | |
| | | 专用车结构与设计 B | | | | | | | | | | √ | | | | | | | | √ | | | | | | √ | | | | | | | | | | |
| | | 汽车结构有限元分析 B | | | | | √ | | | | | | | √ | | | | | | | | | | | | | | | | | | | | | | |
| | √ | 汽车性能 | | | | | | | | | | √ | | | | | | | | √ | | | | | | √ | | | | | | | | | | |

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| | | 仿真与评价 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 汽车电动与液压传动 | √ | | | | √ | | | | | √ | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 汽车内外饰设计与制造技术 | | √ | | | | | | | √ | | | | √ | | | | | | | | | | | √ | | | | | | | | | | |
| | | 汽车车身艺术设计 | | | | | | | | √ | | | | | | | | | √ | | | | √ | √ | | | | | | | | | | | | |
| | √ | 汽车轻量化技术 | | | | | √ | | | | | | | | √ | | | | | | | | | √ | | | | | | | | | | | | |
| | | 汽车碰撞与安全 C | | | | | | | | | | | | √ | | | | | | | | | √ | | | | | | | | | | | | | |
| | | 汽车虚拟现实 | | √ | | | | | | | | √ | | | | √ | | | | | √ | | | | | | | | | | | | | | | |
| | | 汽车结构有限元分析 B | | | | | √ | | | | | | | | √ | | | | | | | | | | | | | | | | | | | | | |
| | | 汽车空气动力学 B | | √ | | | | | | | | | √ | | √ | | | | | | | | | | | √ | | √ | | | | | | | | |
| | | 汽车车身智能检测技术 | | | √ | | | √ | | | | | | √ | | | | | | | | | | | | | | | | | √ | | | | | |
| | | 汽车增材制造技术概论 | | | | | | √ | | | | | √ | | | | | | | | | | | | | | | | | | | | | | | |
| | | 现代汽车生产与管理 B | | | | | | √ | | | | | | | | | | | | | | | | | | √ | | | | √ | | | | | | |
| | | 电子控制技术及应用 C | √ | | | | | | | | | | | | | | | | √ | | | | | | | | | | | | | | | | | |
| | | 汽车电器与电控系统 B | √ | | | | √ | | | | | | | | √ | | | | | | | | | | | | | | | | | | | | | |
| | | 软件工程基础 | | | | | | | | | √ | | | | | | | | √ | | | √ | | √ | | | | | | | | | √ | | | |
| | | 电机学基础 | √ | | | | √ | | | | | | | | √ | | | | | | | | | | | √ | | | | | | | | | | |
| | | 信号与系统 | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | √ | 智能汽车环境感知技术 | | | √ | | | | | √ | | | | | | | | | | | | | | | | | | √ | | | | | | | | |
| | | 控制系统仿真与设计 B | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 传感与检测技术 | | | | | | √ | | | | | √ | | | √ | | | | √ | | | | | | | | | | | | | | | | √ |

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| | | 汽车故障诊断与处理 | | | | | √ | | | √ | | | | | | | | | √ | | | | | | | | | | | | | | | | | |
| | √ | 智能汽车规划与控制 | | | √ | | | | | √ | | | | √ | | | | | | | | | | | √ | | | | | | | | | | | |
| | | 智能汽车试验学 | | | | | | | | | | | | | √ | √ | | | √ | | √ | | | | | √ | | | | | | | | | | |
| | | 科技文献检索与写作 | | | | | | | √ | | | | | | | | | | | | | | | | | | | | | | √ | | | | | |
| | | 轨道车辆概论 B | √ | | | | √ | | | | | | | | | | | | | | √ | | √ | | | | | | | | | | | | | |
| | | 汽车企业伦理与社会责任 | | | | | | | | | | | | √ | | | | | | | | | √ | | √ | √ | | | | | | | | | | | |
| | √ | 人工智能概论 | | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | √ | | | | |
| | | 赛车设计与制造 | | √ | | | √ | | | | | √ | | | | | | | | | | | | | | √ | | | | | | | | | | |
| | | 智能汽车概论 | | | | | | | √ | | | | √ | | | | | | | | | | | | | √ | | | | | | | | | | |
| | | 汽车新技术概论 B | | | | | | | | | √ | | | | | | | | | | | | | | | | | | | | | √ | | | | |
| | √ | 汽车创新设计 A | | | | | | | | | √ | | | | √ | | | | | | | | | | | | | | | | √ | | | | | √ |
| | | 先进制造技术概论 B | | | | | | | | | | | | | | | | | | | | | √ | | | | | | | | | | √ | | √ | |
| | | 汽车网络技术 | √ | | | | √ | | | | | | | | √ | | | | | | | | | | | | | | | | | | | | | |
| | | 车辆工程专业认知实习 | | | | | | | | | √ | | | | | | | | | | | √ | | √ | | | | | | | | | | | | |
| | | 机械制造工程实训 C1 | | | | | | | | | √ | | | | | | | | | √ | | | | √ | | | | √ | | | | | | | | √ |
| | | 电工电子实习 A | | | | | | | | | | | | | | | | | | | | | | | | | √ | √ | √ | | | | | | | |
| | | 机械设计基础课程设计 | | | | | | | | √ | | | | √ | | | | | | | | √ | | | | | | | | | | | | | | |
| | | 汽车拆装实习 | | | | | | | | | | | | | | | | | | | | | | | √ | √ | | √ | √ | √ | | | | | | |
| | | 汽车制造工艺课程设计 | | | | | | | | | | | | √ | | | | | | √ | | √ | | | | | | | √ | | √ | | | | | |
| | | 汽车制造工艺课程设计 | | | | | | | | | | | | √ | | | | | | √ | | √ | | | | | | | √ | | √ | | | | | |

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| | | 汽车制造工艺实习 | | | | | | | | | | | | | | | | | | | √ | | √ | | | √ | | | | √ | | | | | | |
| | | 汽车底盘控制系统仿真实践 | | √ | | | | | | | | | | | | | √ | | √ | | | | | | | | | | | | | | | | | |
| | | 汽车底盘控制系统仿真实践 | | √ | | | | | | | | | | | | | √ | | √ | | | | | | | | | | | | | | | | | |
| | | 汽车设计课程设计 | | | | | | | | | √ | √ | | √ | | | | | √ | | | | | | | | | | | √ | | | | | | |
| | | 智能汽车技术综合实践 | | | | √ | | | | | | | | | | | √ | | | √ | | | | | | | | | √ | | √ | | | | | |
| | | 汽车创新综合实践 | | | | | | | | | | √ | | | | | | | | | | | | | | | | √ | | | | | √ | | | √ |
| | | 毕业实习 | | | | | | | | | | | | | | | | | | | √ | | √ | | √ | √ | | √ | √ | | | | | | | |
| | | 毕业设计(论文) | | | | | | √ | | | | | √ | | | | | | √ | | | | | | √ | | | | | | √ | | | | √ | | √ |

## 三、 教学建议进程表

## Ⅲ Course Schedule

(一)公共基础必修课程
1 Public Basic Compulsory Courses

| 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. | | |
| 马克思主义学院 | 4220001210 | 思想道德与法治 | 2.5 | 42 | 42 | 0 | 0 | 0 | 0 | 1 | |
| | | Morality and the rule of law | | | | | | | | | |
| 马克思主义学院 | 4220002180 | 中国近现代史纲要 | 2.5 | 42 | 42 | 0 | 0 | 0 | 0 | 2 | |
| | | Outline of Contemporary and Modern Chinese History | | | | | | | | | |
| 马克思主义学院 | 4220003180 | 毛泽东思想和中国特色社会主义理论体系概论 | 4.5 | 66 | 66 | 0 | 0 | 0 | 0 | 3 | |
| | | Introduction to Mao Zedong Thought and Socialism with Chinese Characteristics | | | | | | | | | |
| 马克思主义学院 | 4220005180 | 马克思主义基本原理 | 2.5 | 42 | 42 | 0 | 0 | 0 | 0 | 4 | |
| | | Marxism Philosophy | | | | | | | | | |
| 外语学院 | 4030001210 | 大学英语 1 | 2 | 48 | 32 | 0 | 0 | 0 | 16 | 1 | |
| | | College English Ⅰ | | | | | | | | | |
| 外语学院 | 4030002210 | 大学英语 2 | 2 | 48 | 32 | 0 | 0 | 0 | 16 | 2 | 大学英语 1, |
| | | College English Ⅱ | | | | | | | | | |
| 外语学院 | 4030003210 | 大学英语 3 | 2 | 48 | 32 | 0 | 0 | 0 | 16 | 3 | 大学英语 2, |
| | | College English Ⅲ | | | | | | | | | |
| 外语学院 | 4030004210 | 大学英语 4 | 2 | 48 | 32 | 0 | 0 | 0 | 16 | 4 | 大学英语 |

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| | | | | | | | | | | | 3, |
| | | College English Ⅳ | | | | | | | | | |
| 计算机智能学院 | 4120002210 | C 程序设计基础 B | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 1 | |
| | | Foundations of C Language Programming A | | | | | | | | | |
| 计算机智能学院 | 4120006210 | 计算机基础与 C 程序设计综合实验 B | 1 | 32 | 0 | 32 | 0 | 0 | 0 | 1 | |
| | | Comprehensive Experiments of Foundation of Computer and C Language Programming B | | | | | | | | | |
| 学工部 | 1050001210 | 军事技能训练 | 2 | 136 | 0 | 0 | 0 | 136 | 0 | 1 | |
| | | Military Skills Training | | | | | | | | | |
| 学工部 | 1050002210 | 军事理论 | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 2 | |
| | | Military Theory | | | | | | | | | |
| 体育学院 | 4210001170 | 体育 1 | 1 | 32 | 32 | 0 | 0 | 0 | 0 | 1 | |
| | | Physical Education Ⅰ | | | | | | | | | |
| 体育学院 | 4210002170 | 体育 2 | 1 | 32 | 32 | 0 | 0 | 0 | 0 | 2 | |
| | | Physical Education Ⅱ | | | | | | | | | |
| 体育学院 | 4210003170 | 体育 3 | 1 | 32 | 32 | 0 | 0 | 0 | 0 | 3 | |
| | | Physical Education Ⅲ | | | | | | | | | |
| 体育学院 | 4210004170 | 体育 4 | 1 | 32 | 32 | 0 | 0 | 0 | 0 | 4 | |
| | | Physical Education Ⅳ | | | | | | | | | |
| 小 计 Subtotal | | | 31.0 | 744 | 512 | 32 | 0 | 136 | 64 | | |
| (二)通识教育选修课程<br>2 General Education Elective Courses | | | | | | | | | | | |
| 核心选修 Core elective courses | 文明与传统 Civilization and Tradition Courses | | 通识课程应修满至少 9 学分。自主选修课程中，至少在艺术与审美、创新与创业两个领域各选修 1 门课程。 Minimum subtotal credits: 9.Self-selected courses， at least 1 course in art and aesthetics and 1 course in innovation and entrepreneurship. | | | | | | | | |
| | 社会与发展类 Society and Development Courses | | | | | | | | | | |
| | 艺术与人文类 Art and Humanities Courses | | | | | | | | | | |
| | 自然与方法类 Nature and methods Courses | | | | | | | | | | |
| 自主选修选修 Core elective courses | 数学与自然科学,哲学与心理学,法学与社会科学,经济与管理,历史与文化,语言与文学,艺术与审美,创新与创业<br>Mathematics and Natural Sciences,Philosophy and Psychology,Science and Social Sciences,Economics and Management,History and Culture,Language and Literature,Art and Aesthetics,Innovation and Entrepreneurship | | | | | | | | | | |
| (三)大类必修课程<br>3 Basic Discipline Required Courses | | | | | | | | | | | |
| 理学院 | 4050001210 | 高等数学 A 上 | 4.5 | 72 | 72 | 0 | 0 | 0 | 0 | 1 | |
| | | Advanced Mathematics AⅠ | | | | | | | | | |
| 机电学院 | 4080371170 | 工程图学 A 上 | 3 | 56 | 48 | 0 | 0 | 0 | 8 | 1 | |
| | | Engineering Graphics Ⅰ | | | | | | | | | |
| 理学院 | 4050002210 | 高等数学 A 下 | 5.5 | 88 | 88 | 0 | 0 | 0 | 0 | 2 | 高等数学 A 上, |
| | | Advanced Mathematics AⅡ | | | | | | | | | |
| 机电学院 | 4080372170 | 工程图学 A 下 | 2.5 | 56 | 40 | 0 | 0 | 0 | 16 | 2 | 工程图学 A 上, |
| | | Engineering Graphics Ⅱ | | | | | | | | | |
| 理学院 | 4050229110 | 线性代数 | 2.5 | 40 | 40 | 0 | 0 | 0 | 0 | 2 | |
| | | Linear Algebra | | | | | | | | | |
| 理学院 | 4050463130 | 大学物理 B | 5 | 80 | 80 | 0 | 0 | 0 | 0 | 2 | |
| | | College Physics | | | | | | | | | |
| 化生学院 | 4200374170 | 工程化学 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 2 | |
| | | Engineering Chemistry | | | | | | | | | |
| 化生学院 | 4200375170 | 工程化学实验 | 0.5 | 16 | 0 | 16 | 0 | 0 | 0 | 2 | |
| | | Experiment of Engineering | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Chemistry | | | | | | | | | |
| 理学院 | 4050224110 | 物理实验 B | 1 | 32 | 0 | 32 | 0 | 0 | 0 | 3 | 大学物理 B, |
| | | Physics Experiment | | | | | | | | | |
| 理学院 | 4050058110 | 概率论与数理统计 B | 3 | 48 | 48 | 0 | 0 | 0 | 0 | 3 | |
| | | Probability and Mathematical Statistics | | | | | | | | | |
| 理学院 | 4050129110 | 理论力学 A | 4.5 | 72 | 72 | 0 | 0 | 0 | 0 | 3 | |
| | | Theoretical Mechanics | | | | | | | | | |
| 自动化学院 | 4100003210 | 电工与电子技术基础 A | 5.5 | 88 | 68 | 20 | 0 | 0 | 0 | 3 | |
| | | Fundamentals of Electrical and Electronic Technology Ⅰ | | | | | | | | | |
| 理学院 | 4050018110 | 材料力学 C | 4 | 64 | 60 | 4 | 0 | 0 | 0 | 4 | 理论力学 A, |
| | | Mechanics of Materials | | | | | | | | | |
| 汽车学院 | 4090003210 | 机械类（车辆）专业导论 | 1 | 16 | 16 | 0 | 0 | 0 | 0 | 1 | |
| | | Introduction to Automotive Engineering | | | | | | | | | |
| 小 计 Subtotal | | | 44.0 | 752 | 656 | 72 | 0 | 0 | 24 | | |
| (四)专业必修课程<br>4 Specialized Required Courses | | | | | | | | | | | |
| 汽车学院 | 4090001210 | 汽车工程材料 | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 3 | |
| | | Engineering Materials of Automobile | | | | | | | | | |
| 汽车学院 | 4090360170 | 机械制造基础 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 4 | |
| | | Mechanical Manufacturing Fundamentals | | | | | | | | | |
| 汽车学院 | 4090218170 | 流体动力学基础 E | 1.5 | 24 | 22 | 2 | 0 | 0 | 0 | 5 | |
| | | Fundamental of Fluid Dynamics | | | | | | | | | |
| 汽车学院 | 4090219170 | 热工基础 B | 1.5 | 24 | 22 | 2 | 0 | 0 | 0 | 5 | |
| | | Elements of Thermodynamics | | | | | | | | | |
| 汽车学院 | 4090220170 | 汽车构造 D | 3.5 | 56 | 52 | 0 | 0 | 4 | 0 | 5 | |
| | | Construction of Automobile | | | | | | | | | |
| 汽车学院 | 4090221170 | 汽车理论 E | 3 | 48 | 48 | 0 | 0 | 0 | 0 | 6 | 汽车构造 D, |
| | | The Theory of Automobile | | | | | | | | | |
| 汽车学院 | 4090222170 | 汽车设计 E | 2.5 | 40 | 40 | 0 | 0 | 0 | 0 | 6 | 汽车构造 D, |
| | | Automobile Design | | | | | | | | | |
| 汽车学院 | 4090053110 | 汽车性能实验 | 1.0 | 32 | 0 | 32 | 0 | 0 | 0 | 6 | |
| | | Auto Performance Test | | | | | | | | | |
| 小 计 Subtotal | | | 16.5 | 280 | 240 | 36 | 0 | 4 | 0 | | |
| (五)专业选修课程<br>5 Specialized Elective Courses | | | | | | | | | | | |
| 汽车学院 | 4090232170 | 汽车 CAD/CAE（B） | 1.5 | 24 | 16 | 0 | 8 | 0 | 0 | 4 | |
| | | Computer Aided Design and Engineering of Automobile | | | | | | | | | |
| 汽车学院 | 4090234170 | 汽车振动基础 B | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 5 | |
| | | Fundamentals of Vehicle Vibration | | | | | | | | | |
| 汽车学院 | 4090018210 | 汽车专业英语 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 5 | |
| | | Automotive English | | | | | | | | | |
| 汽车学院 | 4090237170 | 电子控制技术及应用 B | 2 | 32 | 26 | 6 | 0 | 0 | 0 | 5 | |
| | | Technology and Applications of Electronic Control | | | | | | | | | |
| 汽车学院 | 4090037210 | 汽车电器与电控系统 C | 2 | 32 | 26 | 6 | 0 | 0 | 0 | 6 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Automobile Electric Equipment and Control System C | | | | | | | | | |
| 小 计 Subtotal | | | 8.5 | 136 | 116 | 12 | 8 | 0 | 0 | | |
| 整车设计与底盘控制<br>Vehicle Design and Chassis Control | | | | | | | | | | | |
| 理学院 | 4050053110 | 复变函数与积分变换 C * | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 3 | |
| | | Functions of a Complex Variable and Integral Transforms | | | | | | | | | |
| 机电学院 | 4080001210 | 机械设计基础 A * | 3.5 | 56 | 50 | 6 | 0 | 0 | 0 | 4 | |
| | | Fundamentals of Mechanical design A | | | | | | | | | |
| 汽车学院 | 4090032210 | 汽车动力系统原理 * | 2 | 32 | 30 | 0 | 0 | 2 | 0 | 5 | |
| | | Principle of Automotive Power System | | | | | | | | | |
| 汽车学院 | 4090225170 | 车辆控制理论 B * | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 5 | |
| | | Vehicle Control Theory | | | | | | | | | |
| 汽车学院 | 4090115120 | 汽车试验学 B * | 2.0 | 32 | 32 | 0 | 0 | 0 | 0 | 6 | |
| | | Test Technology of Automobile | | | | | | | | | |
| 汽车学院 | 4090227170 | 汽车制造工艺学 B * | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 6 | 汽车构造 D, |
| | | Manufacturing Technology of Automobile | | | | | | | | | |
| 汽车学院 | 4090224170 | 整车开发与项目管理 * | 1.5 | 24 | 16 | 0 | 0 | 8 | 0 | 6 | |
| | | Vehicle Development and Project Management | | | | | | | | | |
| 汽车学院 | 4090365170 | 新能源汽车结构与原理 B | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 5 | |
| | | Structures and Theory of New Energy Vehicle | | | | | | | | | |
| 汽车学院 | 4090038210 | 汽车自动变速技术 | 1.5 | 24 | 20 | 4 | 0 | 0 | 0 | 6 | |
| | | Technology of Automobile Automatic Transmission | | | | | | | | | |
| 汽车学院 | 4090240170 | 汽车优化设计 B | 1.5 | 24 | 14 | 0 | 10 | 0 | 0 | 7 | |
| | | Optimization Design of Automobile | | | | | | | | | |
| 汽车学院 | 4090024210 | 汽车底盘控制 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Automobile Chassis Control | | | | | | | | | |
| 汽车学院 | 4090025210 | 汽车振动与噪声控制 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Vehicle Vibration and Noise Control | | | | | | | | | |
| 汽车学院 | 4090246170 | 专用车结构与设计 B | 1.5 | 24 | 22 | 0 | 0 | 2 | 0 | 7 | |
| | | Construction and Design of Special Automobile | | | | | | | | | |
| 汽车学院 | 4090247170 | 汽车结构有限元分析 B | 1.5 | 24 | 14 | 0 | 10 | 0 | 0 | 7 | |
| | | Finite Element Analysis of Automotive Configuration | | | | | | | | | |
| 汽车学院 | 4090026210 | 汽车性能仿真与评价 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Automobile Performance Simulation and Evaluation | | | | | | | | | |
| 汽车学院 | 4090027210 | 汽车电动与液压传动 | 1.5 | 24 | 22 | 0 | 0 | 2 | 0 | 7 | |
| | | Electric and hydraulic transmission | | | | | | | | | |
| 小 计 Subtotal | | | 28.0 | 448 | | 10 | 20 | 14 | 0 | | |
| 车身工程与智能制造<br>Automotive Body Engineering and Intelligent Manufacturing | | | | | | | | | | | |
| 理学院 | 4050669160 | 数值计算 * | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 3 | |
| | | Numerical Calculation | | | | | | | | | |
| 机电学院 | 4080001210 | 机械设计基础 A * | 3.5 | 56 | 50 | 6 | 0 | 0 | 0 | 4 | |
| | | Fundamentals of Mechanical | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | design A | | | | | | | | | |
| 汽车学院 | 4090033210 | 汽车智能制造系统及机器人技术 * | 1.5 | 24 | 20 | 4 | 0 | 0 | 0 | 5 | |
| | | Intelligent Manufacturing System and Robotics of Automobile | | | | | | | | | |
| 汽车学院 | 4090241170 | 汽车车身结构与设计 B * | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 5 | |
| | | Automobile Body Structure and Design | | | | | | | | | |
| 汽车学院 | 4090229170 | 汽车制造工艺学 A * | 3 | 48 | 48 | 0 | 0 | 0 | 0 | 6 | 汽车构造 D, |
| | | Manufacturing Technology of Automobile | | | | | | | | | |
| 汽车学院 | 4090115120 | 汽车试验学 B * | 2.0 | 32 | 32 | 0 | 0 | 0 | 0 | 6 | |
| | | Test Technology of Automobile | | | | | | | | | |
| 汽车学院 | 4090224170 | 整车开发与项目管理 * | 1.5 | 24 | 16 | 0 | 0 | 8 | 0 | 6 | |
| | | Vehicle Development and Project Management | | | | | | | | | |
| 汽车学院 | 4090043210 | 汽车内外饰设计与制造技术 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 6 | |
| | | Design and Manufacturing Technology for Automotive Interior and Exterior Trim | | | | | | | | | |
| 汽车学院 | 4090044210 | 汽车车身艺术设计 | 1.5 | 24 | 14 | 0 | 0 | 10 | 0 | 6 | |
| | | Automobile Body Art Design | | | | | | | | | |
| 汽车学院 | 4090028210 | 汽车轻量化技术 | 1.5 | 24 | 22 | 0 | 0 | 2 | 0 | 7 | |
| | | Automotive Lightweight Technology | | | | | | | | | |
| 汽车学院 | 4090245170 | 汽车碰撞与安全 C | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Collision and Safety of Vehicle | | | | | | | | | |
| 汽车学院 | 4090046210 | 汽车虚拟现实 | 1.5 | 24 | 16 | 0 | 0 | 8 | 0 | 7 | |
| | | Automobile Virtual Reality | | | | | | | | | |
| 汽车学院 | 4090247170 | 汽车结构有限元分析 B | 1.5 | 24 | 14 | 0 | 10 | 0 | 0 | 7 | |
| | | Finite Element Analysis of Automotive Configuration | | | | | | | | | |
| 汽车学院 | 4090251170 | 汽车空气动力学 B | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Automobile Aerodynamics | | | | | | | | | |
| 汽车学院 | 4090029210 | 汽车车身智能检测技术 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Intelligent Detection Technology for Automotive Body | | | | | | | | | |
| 汽车学院 | 4090253170 | 汽车增材制造技术概论 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Introduction to Additive Manufacturing in Automobile | | | | | | | | | |
| 汽车学院 | 4090254170 | 现代汽车生产与管理 B | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Modern Automobile Production and Management | | | | | | | | | |
| 小 计 Subtotal | | | 30.0 | 480 | | 10 | 10 | 28 | 0 | | |
| 汽车电子与智能汽车<br>Automotive Electronics and Intelligent Automobile | | | | | | | | | | | |
| 理学院 | 4050053110 | 复变函数与积分变换 C * | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 3 | |
| | | Functions of a Complex Variable and Integral Transforms | | | | | | | | | |
| 计算机智能学院 | 4120012210 | 面向对象程序设计 * | 2.5 | 40 | 32 | 8 | 0 | 0 | 0 | 3 | |
| | | Object-Oriented | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Programming | | | | | | | | | |
| 汽车学院 | 4090034210 | 数据结构与算法 * | 4 | 64 | 64 | 0 | 0 | 0 | 0 | 4 | |
| | | Data Structures and Algorithms | | | | | | | | | |
| 机电学院 | 4080457170 | 机械设计基础 B * | 2.5 | 40 | 40 | 0 | 0 | 0 | 0 | 4 | |
| | | Fundamentals of Mechanical Design | | | | | | | | | |
| 汽车学院 | 4090230170 | 车辆控制理论 A * | 2.5 | 40 | 40 | 0 | 0 | 0 | 0 | 5 | |
| | | Vehicle Control Theory | | | | | | | | | |
| 汽车学院 | 4090035210 | 汽车制造工艺学 * | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 6 | 汽车构造 D, |
| | | Manufacturing Technology of Automobile | | | | | | | | | |
| 汽车学院 | 4090310170 | 电子控制技术及应用 C | 2.5 | 40 | 32 | 8 | 0 | 0 | 0 | 5 | |
| | | Technology and Applications of Electronic Control | | | | | | | | | |
| 汽车学院 | 4090238170 | 汽车电器与电控系统 B | 2.5 | 40 | 32 | 8 | 0 | 0 | 0 | 6 | |
| | | Automobile Electric Equipment and Control System | | | | | | | | | |
| 计算机智能学院 | 4120369170 | 软件工程基础 | 2.5 | 40 | 40 | 0 | 0 | 0 | 0 | 5 | |
| | | Software Engineering | | | | | | | | | |
| 汽车学院 | 4090003110 | 电机学基础 | 2.0 | 32 | 30 | 2 | 0 | 0 | 0 | 6 | |
| | | Fundamentals of Electrical Machinery | | | | | | | | | |
| 汽车学院 | 4090048210 | 信号与系统 | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 6 | |
| | | Signal and System | | | | | | | | | |
| 汽车学院 | 4090023210 | 智能汽车环境感知技术 | 2 | 32 | 32 | 0 | 0 | 0 | 0 | 6 | |
| | | Perception of Intelligent Vehicle | | | | | | | | | |
| 汽车学院 | 4090256170 | 控制系统仿真与设计 B | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Simulation and Design of Control System | | | | | | | | | |
| 汽车学院 | 4090030210 | 传感与检测技术 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Sensing and Detection Technology | | | | | | | | | |
| 汽车学院 | 4090051210 | 汽车故障诊断与处理 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Vehicle Fault Diagnosis and Treatment | | | | | | | | | |
| 汽车学院 | 4090031210 | 智能汽车规划与控制 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Planning and Control of Intelligent Vehicle | | | | | | | | | |
| 汽车学院 | 4090053210 | 智能汽车试验学 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Intelligent Vehicle Test Technology | | | | | | | | | |
| 小 计 Subtotal | | | 36.0 | 576 | | 26 | 0 | 0 | 0 | | |
| 专业教育选修课程要求至少选修 25 学分，其中限选课程至少选修 15 学分，任选课程至少选修 10 学分。学生在各专业方向任选课程中需至少选修 5 门，其中汽车电子与智能汽车方向电子控制技术及应用 C 和汽车电器与电控系统 B 课程必选。<br>Minimum subtotal credits of Specialized Elective Courses :25. Minimum subtotal credits of Restriction Optional Modules :15. Minimum subtotal credits optional elective modules :10. Students need to take at least 5 optional courses in each major direction. | | | | | | | | | | | |
| (六)个性课程<br>6 Personalized Elective Courses | | | | | | | | | | | |
| 汽车学院 | 4090164130 | 科技文献检索与写作 | 1 | 16 | 16 | 0 | 0 | 0 | 0 | 4 | |
| | | Technical Document Retrieval and Writing | | | | | | | | | |
| 汽车学院 | 4090233170 | 轨道车辆概论 B | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 4 | |
| | | Introduction to Railway Vehicle | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 汽车学院 | 4090165130 | 汽车企业伦理与社会责任 | 1 | 16 | 16 | 0 | 0 | 0 | 0 | 5 | |
| | | Automotive Business Ethics and Social Responsibility | | | | | | | | | |
| 汽车学院 | 4090097210 | 人工智能概论 | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 5 | |
| | | Introduction to Artificial Intelligence | | | | | | | | | |
| 汽车学院 | 4090349170 | 赛车设计与制造 | 1 | 16 | 16 | 0 | 0 | 0 | 0 | 5 | |
| | | Racing Car Design and Manufacture | | | | | | | | | |
| 汽车学院 | 4090263170 | 智能汽车概论 | 1 | 16 | 16 | 0 | 0 | 0 | 0 | 5 | |
| | | Introduction to Intelligent Automobile | | | | | | | | | |
| 汽车学院 | 4090261170 | 汽车新技术概论 B | 1 | 16 | 16 | 0 | 0 | 0 | 0 | 6 | |
| | | Automobile New Technology Introduction | | | | | | | | | |
| 汽车学院 | 4090333170 | 汽车创新设计 A | 1 | 16 | 16 | 0 | 0 | 0 | 0 | 6 | |
| | | Automotive Innovation Design | | | | | | | | | |
| 汽车学院 | 4090262170 | 先进制造技术概论 B | 1.5 | 24 | 24 | 0 | 0 | 0 | 0 | 7 | |
| | | Introduction to Advanced Manufacturing | | | | | | | | | |
| 汽车学院 | 4090057210 | 汽车网络技术 | 1 | 16 | 16 | 0 | 0 | 0 | 0 | 7 | |
| | | Vehicle Network Technology | | | | | | | | | |
| 小 计 Subtotal | | | 11.5 | 184 | 184 | 0 | 0 | 0 | 0 | | |
| 学生从以上个性课程和学校发布的其它个性课程目录中选课，要求至少选修 6 学分。<br>Students can select courses from above and the other personalized courses in catalog, and are required to obtain at least 6 credits. | | | | | | | | | | | |
| (七)专业教育集中性实践教育环节<br>7 Specialized Practice Schedule | | | | | | | | | | | |
| 汽车学院 | 4090266170 | 车辆工程专业认知实习 | 1 | 16 | 0 | 0 | 0 | 16 | 0 | 3 | 机械类（车辆）专业导论, |
| | | Professional Cognition Practice | | | | | | | | | |
| 机电学院 | 4080003210 | 机械制造工程实训 C1 | 2 | 32 | 0 | 0 | 0 | 32 | 0 | 4 | |
| | | Training on Mechanical Manufacturing Engineering | | | | | | | | | |
| 自动化学院 | 4100068110 | 电工电子实习 A | 2 | 32 | 0 | 0 | 0 | 32 | 0 | 4 | 电工与电子技术基础 A, |
| | | Practice of Electrical Engineering & Electronics | | | | | | | | | |
| 机电学院 | 4080146110 | 机械设计基础课程设计 | 2 | 32 | 0 | 0 | 0 | 32 | 0 | 5 | 机械设计基础 B, |
| | | Course Design on Fundamentals of Mechanical Design | | | | | | | | | |
| 汽车学院 | 4090084110 | 汽车拆装实习 | 2 | 32 | 0 | 0 | 0 | 32 | 0 | 6 | 汽车构造 D, |
| | | Automobile Dismounting Practice | | | | | | | | | |
| 汽车学院 | 4090087110 | 汽车设计课程设计 | 3 | 48 | 0 | 0 | 0 | 48 | 0 | 7 | 汽车设计 E, |
| | | Course Design of Automobile Design | | | | | | | | | |
| 汽车学院 | 4090123210 | 汽车创新综合实践 | 3 | 48 | 0 | 0 | 0 | 48 | 0 | 7 | 汽车设计 E, |
| | | Automotive Innovation Integrated Practice | | | | | | | | | |
| 汽车学院 | 4090081110 | 毕业实习 | 2 | 32 | 0 | 0 | 0 | 32 | 0 | 7 | 汽车设计 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | E, |
| | | Graduation Practice | | | | | | | | | |
| 汽车学院 | 4090131210 | 毕业设计(论文) | 8.5 | 272 | 0 | 0 | 0 | 272 | 0 | 8 | 毕业实习, |
| | | Graduation Design(Thesis) | | | | | | | | | |
| 小 计 Subtotal | | | 25.5 | 544 | 0 | 0 | 0 | 544 | 0 | | |
| 整车设计与底盘控制<br>Vehicle Design and Chassis Control | | | | | | | | | | | |
| 汽车学院 | 4090119210 | 汽车制造工艺课程设计 | 2 | 32 | 0 | 0 | 0 | 32 | 0 | 6 | 汽车制造工艺学 B, |
| | | Course Design of Automobile Manufacturing Technology | | | | | | | | | |
| 汽车学院 | 4090120210 | 汽车底盘控制系统仿真实践 | 1 | 16 | 0 | 0 | 0 | 16 | 0 | 6 | 汽车理论 E, |
| | | Automobile Chassis Control System Practice | | | | | | | | | |
| 小 计 Subtotal | | | 3.0 | 48 | | 0 | 0 | 48 | 0 | | |
| 车身工程与智能制造<br>Automotive Body Engineering and Intelligent Manufacturing | | | | | | | | | | | |
| 汽车学院 | 4090119210 | 汽车制造工艺课程设计 | 2 | 32 | 0 | 0 | 0 | 32 | 0 | 6 | 汽车制造工艺学 A, |
| | | Course Design of Automobile Manufacturing Technology | | | | | | | | | |
| 汽车学院 | 4090133120 | 汽车制造工艺实习 | 1.0 | 16 | 0 | 0 | 0 | 16 | 0 | 6 | 汽车制造工艺学 A, |
| | | Automobile Manufacturing Technology Practice | | | | | | | | | |
| 小 计 Subtotal | | | 3.0 | 48 | | 0 | 0 | 48 | 0 | | |
| 汽车电子与智能汽车<br>Automotive Electronics and Intelligent Automobile | | | | | | | | | | | |
| 汽车学院 | 4090120210 | 汽车底盘控制系统仿真实践 | 1 | 16 | 0 | 0 | 0 | 16 | 0 | 6 | 汽车理论 E, |
| | | Automobile Chassis Control System Practice | | | | | | | | | |
| 汽车学院 | 4090121210 | 智能汽车技术综合实践 | 2 | 32 | 0 | 0 | 0 | 32 | 0 | 7 | |
| | | General Practice of Intelligent Automobile Technology | | | | | | | | | |
| 小 计 Subtotal | | | 3.0 | 48 | | 0 | 0 | 48 | 0 | | |

## 四、 修读指导

## Ⅳ Recommendations on Course Studies

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》。《形势与政策》和《心理健康教育》课程为课外必修课程，分别计 2 个课外学分。

Please refer to the cultivation plan of the second class-Implementation Measures for Extracurricular Credits of the Second Class of Wuhan University of Technology. Situation & Policy (2 credits) and Mental Health Education (2 credits) are the required extracurricular courses.

**学院教学负责人：侯献军**

**专业培养方案负责人：余晨光**