

Objective-Module Matrix of Industrial Engineering Programme

ASIIN Subject-Specific Criteria (SSC)	Learning Outcomes of the Study Programme	Corresponding Modules
Knowledge and Understanding		
Graduates		
have a broad basic and overview knowledge in theory and practice in selected areas of mathematics, computer science, natural sciences and engineering with in-depth knowledge in an exemplary specialisation (STEM knowledge: mathematics, computer science, natural sciences, technology)	R1.1 Ability to apply mathematics, natural sciences and economic management, master the basic and professional knowledge of industrial engineering and management science, and be able to apply them to the formulation of industrial engineering problems.	University Physics (1)(2), Advanced Mathematics A(1)(2), Linear Algebra, Probability Theory and Mathematical Statistics, Engineering Mechanics B, Engineering Economics, Management, Lean Production, Quality Management and Reliability, Engineering Statistics
know the basics and laws of the selected engineering disciplines as well as the methods of engineering work	R1.4 Able to apply relevant engineering fundamentals and professional knowledge to the comparison and synthesis of solutions for complex engineering and management problems in industrial engineering. R3.5 Able to comprehensively consider restrictive factors such as economy, environment, laws, safety, health and ethics in the intelligent manufacturing process and derive acceptable indicators.	Fundamentals of Mechanical Design A, Fundamentals of Interchangeability and Technical Measurement, Materials for Mechanical Engineering B, Human Factors Engineering, Operations Research, Introduction to Systems Engineering, Production System Modeling and Simulation, Bachelor Thesis, Introduction to Intelligent Manufacturing, Quality Management and Reliability, Course Design of

		Human Factors Engineering, 3D CAD Technology, Facility Planning and Logistics Analysis, Course Design of Fundamentals of Mechanical Design
have acquired a sufficiently broad knowledge of the essential fundamentals of information technology	R1.2 Able to construct and solve suitable mathematical models targeting industrial engineering problems R2.2 Able to correctly express complex engineering problems in industrial Observation Points for the Connotation of Graduation Requirements	Advanced Mathematics A(1)(2), Linear Algebra, C Language Programming, Operations Research, Introduction to Systems Engineering, Matlab Mathematical Modeling and Simulation, Python Language Programming, Production System Modeling and Simulation
have a broad basic and overview knowledge of the essential principles, theories and methods of business administration, economics and management with in-depth knowledge in an exemplary specialisation. They can explain these principles, theories and methods and place them in a company-related context	R1.1 Ability to apply mathematics, natural sciences and economic management, master the basic and professional knowledge of industrial engineering and management science, and be able to apply them to the formulation of industrial engineering problems. R2.3 Able to recognize that there are multiple alternative solutions available for addressing complex industrial engineering problems, and capable of exploring alternative solutions through scheme research.	University Physics (1)(2), Advanced Mathematics A(1)(2), Linear Algebra, Probability Theory and Mathematical Statistics, Engineering Mechanics B, Engineering Economics, Management, Facility Planning and Logistics Analysis, Introduction to Systems Engineering, Production Practice, Graduation Practice, Engineering Economics, Production System

	R3.2 Able to analyze and demonstrate the feasibility of solutions and compile feasibility study reports.	Modeling and Simulation, Comprehensive Course Design of Industrial Engineering Project Optimization, Course Design of Fundamentals of Mechanical Design
know the essential tasks of the different business functions and understand the operational, economic and management-related processes as well as their interactions	R2.3 Able to recognize that there are multiple alternative solutions available for addressing complex industrial engineering problems, and capable of exploring alternative solutions through scheme research. R5.3 Able to develop or select modern tools meeting specific requirements for specific objects, simulate and predict industrial engineering management processes, and analyze their limitations.	Facility Planning and Logistics Analysis, Introduction to Systems Engineering, Production Practice, Graduation Practice, Comprehensive Course Design of Industrial Engineering Project Optimization, Production System Modeling and Simulation
know the legal basics of business administration and management and utilise them for entrepreneurial action	R3.5 Able to comprehensively consider restrictive factors such as economy, environment, laws, safety, health and ethics in the intelligent manufacturing process and derive acceptable indicators. R6.1 Understand the technical standards, intellectual property rights, industrial policies, laws and regulations related to industrial engineering, and comprehend the impacts of different social cultures on engineering activities.	Situation and Policy, Morality and Fundamentals of Law, Cultural Literacy Education (Chinese Culture, Natural Sciences, etc.), Cultural Literacy Education (Public Art), Course Design of Fundamentals of Mechanical Design Introduction to Intelligent Manufacturing, Course Design of Human Factors Engineering

have a broad basic and overview knowledge of selected integration subjects that combine economic, technical as well as social aspects and processes	R6.2 Able to conduct rational analysis based on the relevant background knowledge of industrial engineering, objectively evaluate the impacts of professional engineering practices on society, health, safety, laws and culture, as well as the influences of these restrictive factors on project implementation, and understand the corresponding responsibilities to be undertaken.. R8.1 Master the necessary knowledge of humanities and social science literacy, hold correct values, understand the relationship between individuals and society, and have a good grasp of China's national conditions.	Introduction to Intelligent Manufacturing, Engineering Economics, Project Management, Outline of Modern and Contemporary Chinese History, Basic Principles of Marxism, General Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics, Introduction to Xi Jinping Thoughts on Socialism with Chinese Characteristics for a New Era, Cultural Literacy Education (Chinese Culture, Natural Sciences, etc.), Cultural Literacy Education (Public Art), Morality and Fundamentals of Law
are familiar with technical, economic, ecological and social interrelationships and their interactions	R6.2 Able to conduct rational analysis based on the relevant background knowledge of industrial engineering, objectively evaluate the impacts of professional engineering practices on society, health, safety, laws and culture, as well as the influences of these restrictive factors on project implementation, and understand the corresponding responsibilities to be undertaken.	Introduction to Intelligent Manufacturing, Engineering Economics, Project Management, Human Factors Engineering, Human Factors Engineering Course Design, Ethics and Rule of Law, Introduction

	R7.2 Able to understand and evaluate the impacts of industrial engineering management processes on environmental and social sustainable development.	to Intelligent Manufacturing, Metalworking Internship (2)
understand concepts and methods from different disciplines and can combine them	R5.2 Able to select and use appropriate instruments, information resources, engineering tools, and professional simulation software to analyze, calculate, and design complex engineering problems in the field of industrial engineering. R11.2 Understand the relationships among engineering technology, management and economic effects, and be able to apply the principles of engineering management and economic decision-making methods to the process of designing and developing solutions for engineering projects in a multidisciplinary environment.	C language programming, Operations Research, Management, Matlab mathematical modeling and simulation, Python language programming, Innovation and Entrepreneurship Education(1)(2), Project Management, Engineering Economics.Bachelor Thesis
Application and Transfer – Application and Analysis Graduates will be able to		
use the STEM-related basics, theories, methods and tools for technical questions and problems and evaluate, differentiate and categorise them in a company-related context	R1.1 Ability to apply mathematics, natural sciences and economic management, master the basic and professional knowledge of industrial engineering and management science, and be able to apply them to the formulation of industrial engineering problems. R2.1 Able to apply relevant scientific principles to identify and determine the key links in complex industrial engineering problems.	University Physics (1)(2), Advanced Mathematics A(1)(2), Linear Algebra, Probability Theory and Mathematical Statistics, Engineering Mechanics B, Engineering Economics, Management, Lean Production, Quality Management and Reliability, Comprehensive Course Design of Industrial Engineering

	R5.3 Able to develop or select modern tools meeting specific requirements for specific objects, simulate and predict industrial engineering management processes, and analyze their limitations.	Project Optimization, Production System Modeling and Simulation
use business, economic and management-related basics, theories, methods and tools for company-related questions and problems and evaluate, differentiate and categorise them in a company-related context	R1.1 Ability to apply mathematics, natural sciences and economic management, master the basic and professional knowledge of industrial engineering and management science, and be able to apply them to the formulation of industrial engineering problems. R2.1 Able to apply relevant scientific principles to identify and determine the key links in complex industrial engineering problems.	University Physics (1)(2), Advanced Mathematics A(1)(2), Linear Algebra, Probability Theory and Mathematical Statistics, Engineering Mechanics B, Engineering Economics, Management, Lean Production, Quality Management and Reliability, Engineering Statistics
use legal basics for company-related questions	R6.1 Understand the technical standards, intellectual property rights, industrial policies, laws and regulations related to industrial engineering, and comprehend the impacts of different social cultures on engineering activities.	Situation and Policy, Morality and Fundamentals of Law, Cultural Literacy Education (Chinese Culture, Natural Sciences, etc.), Cultural Literacy Education (Public Art)
make effective use of modern information technologies	R1.2 Able to construct and solve suitable mathematical models targeting industrial engineering problems R5.2 Able to select and apply appropriate instruments, information resources, engineering tools and professional	Advanced Mathematics A(1)(2), Linear Algebra, C Language Programming, Operations Research, Introduction to Systems Engineering, Matlab Mathematical Modeling and

	simulation software to analyze, calculate and design complex engineering problems in the field of industrial engineering.	Simulation, Python Language Programming, Operations Research, Engineering Statistics
identify and classify economic-technical problems and to interpret and analyse interrelationships and interactions in complex economic, technical and social fields of application	R1.1 Ability to apply mathematics, natural sciences and economic management, master the basic and professional knowledge of industrial engineering and management science, and be able to apply them to the formulation of industrial engineering problems. R6.2 Able to conduct rational analysis based on the relevant background knowledge of industrial engineering, objectively evaluate the impacts of professional engineering practices on society, health, safety, laws and culture, as well as the influences of these restrictive factors on project implementation, and understand the corresponding responsibilities to be undertaken.	University Physics (1)(2), Advanced Mathematics A(1)(2), Linear Algebra, Probability Theory and Mathematical Statistics, Engineering Mechanics B, Engineering Economics, Management, Introduction to Intelligent Manufacturing, Engineering Economics, Project Management, Human Factors Engineering, Course Design of Human Factors Engineering
systematically analyse and evaluate structures and processes	R2.2 Able to correctly express complex engineering problems in industrial engineering based on relevant scientific principles and mathematical modeling methods.	Advanced Mathematics A(1)(2), Linear Algebra, Probability Theory and Mathematical Statistics, Operations Research, Introduction to Systems Engineering
apply integrative, cross-functional and cross-disciplinary concepts and models in the	R3.1 Able to analyze complex engineering problems such as the design, simulation and optimization of intelligent manufacturing	Lean Production, Human Factors Engineering, Facility Planning and

development of integrated solutions to interdisciplinary problems	systems in industrial engineering for specific requirements, and put forward corresponding solutions.	Logistics Analysis, Production Planning and Control, Production System Modeling and Simulation, C Language Programming, Mapping of Mechanical Parts and Components, Bachelor Thesis
Application and Transfer – Evaluation and Design Graduates will be able to		
interpret and evaluate economic and/or technical problems in a business-related context	R1.1 Ability to apply mathematics, natural sciences and economic management, master the basic and professional knowledge of industrial engineering and management science, and be able to apply them to the formulation of industrial engineering problems. R3.2 Able to analyze and demonstrate the feasibility of solutions and compile feasibility study reports.	University Physics (1)(2), Advanced Mathematics A(1)(2), Linear Algebra, Probability Theory and Mathematical Statistics, Engineering Mechanics B, Engineering Economics, Management, Production System Modeling and Simulation, Course Design of C Language Programming, Comprehensive Course Design of Industrial Engineering Project Optimization, Course Design of Fundamentals of Mechanical Design
assess, plan and select complex economic and/or technical systems	R2.3 Able to recognize that there are multiple alternative solutions available for addressing complex industrial engineering	Facility Planning and Logistics Analysis, Introduction to Systems

	problems, and capable of exploring alternative solutions through scheme research.	Engineering, Production Practice, Graduation Practice
interpret and evaluate legal problems in a business-related context	R6.1 Understand the technical standards, intellectual property rights, industrial policies, laws and regulations related to industrial engineering, and comprehend the impacts of different social cultures on engineering activities.	Situation and Policy, Morality and Fundamentals of Law, Cultural Literacy Education (Chinese Culture, Natural Sciences, etc.), Cultural Literacy Education (Public Art), Quality Management and Reliability, Course Design of Fundamentals of Mechanical Design
interpret, evaluate and prioritise interrelationships in complex economic-technical and social fields of application	R6.2 Able to conduct rational analysis based on the relevant background knowledge of industrial engineering, objectively evaluate the impacts of professional engineering practices on society, health, safety, laws and culture, as well as the influences of these restrictive factors on project implementation, and understand the corresponding responsibilities to be undertaken.	Introduction to Intelligent Manufacturing, Engineering Economics, Project Management, Human Factors Engineering, Course Design of Human Factors Engineering
develop, implement and evaluate scientifically sound models, concepts and approaches for cross-functional and cross-disciplinary problems	R3.5 Able to comprehensively consider restrictive factors such as economy, environment, laws, safety, health and ethics in the intelligent manufacturing process and derive acceptable indicators.	Introduction to Intelligent Manufacturing, Quality Management and Reliability, Course Design of Human Factors Engineering
recognise complex problems in a technical and economic context and to derive initial measures	R6.2 Able to conduct rational analysis based on the relevant background knowledge of industrial engineering, objectively	Introduction to Intelligent Manufacturing, Engineering

for improvement in an interdisciplinary, holistic and methodical manner (problem-solving and action competence)	evaluate the impacts of professional engineering practices on society, health, safety, laws and culture, as well as the influences of these restrictive factors on project implementation, and understand the corresponding responsibilities to be undertaken. 11.1 Understand and master the management and economic decision-making methods involved in engineering projects.	Economics, Project Management, Human Factors Engineering, Course Design of Human Factors Engineering, Project Management, Engineering Economics, Management, Production Planning and Control
prepare project documents for cost planning as well as for the determination of area and volume, to draw up technical terms of a contract, to participate in the drafting of planning and construction contracts	3.4 Able to design process flows that meet product requirements and prepare technical documents such as manufacturing process specifications.	Mechanical Drawing (1)(2), Fundamentals of Mechanical Design A, Fundamentals of Interchangeability and Technical Measurement, Materials for Mechanical Engineering B, Fundamentals of Mechanical Manufacturing A, Course Design of Fundamentals of Industrial Engineering, Course Design of Facility Planning and Design, Course Design of Production Planning and Control
develop and implement application-oriented solutions based on the specific analysis of data	R3.1 Able to analyze complex engineering problems such as the design, simulation and optimization of intelligent manufacturing	Lean Production, Human Factors Engineering, Facility Planning and

and processes	systems in industrial engineering for specific requirements, and put forward corresponding solutions.	Logistics Analysis, Production Planning and Control, Production System Modeling and Simulation, C Language Programming, Mapping of Mechanical Parts and Components, Bachelor Thesis
Application and Transfer – Organisation and Management		
Graduates will be able to		
make rational and ethical decisions and think critically to find innovative and effective solutions to cross-cutting qualitative and quantitative problems (critical thinking skills)	R3.5 Able to comprehensively consider restrictive factors such as economy, environment, laws, safety, health and ethics in the intelligent manufacturing process and derive acceptable indicators. R8.1 Master the necessary knowledge of humanities and social science literacy, hold correct values, understand the relationship between individuals and society, and have a good grasp of China's national conditions.	Introduction to Intelligent Manufacturing, Quality Management and Reliability, Course Design of Human Factors Engineering, Cultural Literacy Education (Chinese Culture, Natural Sciences, etc.), Cultural Literacy Education (Public Art), Morality and Fundamentals of Law
adopt different perspectives in the development and implementation of solutions in a company-related context	R2.3 Able to recognize that there are multiple alternative solutions available for addressing complex industrial engineering problems, and capable of exploring alternative solutions through scheme research.	Facility Planning and Logistics Analysis, Introduction to Systems Engineering, Production Practice, Graduation Practice
realise synergies through collaboration with stakeholders in a technical, economic and social	R6.2 Able to conduct rational analysis based on the relevant background knowledge of industrial engineering, objectively	Introduction to Intelligent Manufacturing, Engineering

context.	evaluate the impacts of professional engineering practices on society, health, safety, laws and culture, as well as the influences of these restrictive factors on project implementation, and understand the corresponding responsibilities to be undertaken. R11.2 Understand the relationships among engineering technology, management and economic effects, and be able to apply the principles of engineering management and economic decision-making methods to the process of designing and developing solutions for engineering projects in a multidisciplinary environment.	Economics, Project Management, Human Factors Engineering, Course Design of Human Factors Engineering, Innovation and Entrepreneurship Education(1)(2), Project Management, Engineering Economics, Bachelor Thesis
select and apply strategies in business practice (competence to think, act and lead strategically)	9.2 Clarify the different responsibilities of team members and the person in charge corresponding to their roles, be able to listen to, synthesize and make rational decisions on the opinions of team members, and organize, coordinate or direct team members to carry out work.	Project Management, Management, Metalworking Practice (2)Course Design of Fundamentals of Industrial Engineering, Graduation Practice
work both individually and as a member of international and/or interdisciplinary groups, to organise and carry out projects effectively and to grow into appropriate leadership responsibility	R9.1 Able to communicate effectively with team members of other disciplines in a multidisciplinary team, and carry out work independently or in cooperation with team members.	Practice of English Application Ability, Comprehensive Course Design of Industrial Engineering Project Optimization, Industrial Engineering Professional English
Scientific Innovation Graduates		

know research approaches and perspectives in the technical, economic and integrative context and can use them	R3.5 Able to comprehensively consider restrictive factors such as economy, environment, laws, safety, health and ethics in the intelligent manufacturing process and derive acceptable indicators. R11.2 Understand the relationships among engineering technology, management and economic effects, and be able to apply the principles of engineering management and economic decision-making methods to the process of designing and developing solutions for engineering projects in a multidisciplinary environment.	Introduction to Intelligent Manufacturing, Quality Management and Reliability, Course Design of Human Factors Engineering, Innovation and Entrepreneurship Education(1)(2), Project Management, Engineering Economics, Bachelor Thesis
are able to develop, optimise and implement application-oriented solutions based on the specific analysis of data and processes	R2.3 Able to recognize that there are multiple solutions to solve complex engineering problems in industrial engineering, and will seek alternative solutions through solution research. R3.1 Able to analyze complex engineering problems such as the design, simulation and optimization of intelligent manufacturing systems in industrial engineering for specific requirements, and put forward corresponding solutions.	Facility Planning and Logistics Analysis, Introduction to Systems Engineering, Production Practice, Graduation Practice, Lean Production, Human Factors Engineering, Facility Planning and Logistics Analysis, Production Planning and Control, Production System Modeling and Simulation, C Language Programming, Mapping of Mechanical Parts and Components, Bachelor Thesis

can conduct literature research and use specialist information sources for their work	R2.4 Able to apply basic principles and obtain technical routes and influencing factors for solving complex engineering problems in industrial engineering through literature research. R4.1 Able to investigate and analyze solutions to complex engineering problems in the field of industrial engineering based on scientific principles, through literature research or related methods.	Fundamentals of Industrial Engineering, Production Planning and Control, Comprehensive Course Design of Industrial Engineering Project Optimization, Bachelor Thesis, Course Design of Fundamentals of Industrial Engineering, Course Design of Production Planning and Control
are able to collect, structure, evaluate and interpret relevant secondary and primary data in the technical and economic field according to scientific methods (basic knowledge of empirical research)	R4.1 Able to investigate and analyze solutions to complex engineering problems in the field of industrial engineering based on scientific principles, through literature research or related methods.	Literature Review and Thesis Writing, Course Design of Fundamentals of Industrial Engineering, Course Design of Production Planning and Control, Comprehensive Course Design of Industrial Engineering Project Optimization, Graduation Practice, Bachelor Thesis
have the ability to comprehend and communicate research results and to take them into account in practical work, as well as to plan, carry out and evaluate their own experiments	4.4 Able to analyze and interpret experimental results, and draw reasonable and valid conclusions through information synthesis.	Engineering Mechanics B, Course Design of Production Planning and Control, Course Design of Facility Planning and Design, Management Information Systems

can apply relevant scientific methods and new findings of engineering and economics to practical problems, taking into account economic, ecological, technical and social requirements (scientific transfer competence),	R1.4 Ability to apply relevant engineering foundations and professional knowledge to compare and synthesize solutions for complex engineering and management problems in industrial engineering. R2.3 Able to recognize that there are multiple solutions to solve complex engineering problems in industrial engineering, and will seek alternative solutions through solution research.	Fundamentals of Mechanical Design A, Fundamentals of Interchangeability and Technical Measurement, Materials for Mechanical Engineering B, Human Factors Engineering, Operations Research, Introduction to Systems Engineering, Bachelor Thesis, Production Practice, Graduation Practice
are able to select and apply suitable modelling, simulation, planning and design methods in a well-founded manner	R2.2 Able to correctly express complex engineering problems in industrial engineering based on relevant scientific principles and mathematical modeling methods. R3.1 Able to analyze complex engineering problems such as the design, simulation and optimization of intelligent manufacturing systems in industrial engineering for specific requirements, and put forward corresponding solutions.	C Language Programming, Operations Research, Production System Modeling and Simulation, Introduction to Systems Engineering, Matlab Mathematical Modeling and Simulation, Python Language Programming, Lean Production, Human Factors Engineering, Facility Planning and Logistics Analysis, Production Planning and Control, Production System Modeling and Simulation, C Language Programming, Mapping of Mechanical Parts and Components, Bachelor Thesis

Communication and Cooperation		
Graduates		
are familiar with oral and written communication techniques and can apply them in case studies and project work	R9.2 Clearly define the different responsibilities of team members and leaders, be able to listen to, synthesize, and make reasonable decisions based on the opinions of team members, and organize, coordinate, or direct team members to carry out their work.	Project Management, Management, Metalworking Practice (2)Course Design of Fundamentals of Industrial Engineering, Graduation Practice
are able to articulate themselves logically and rationally in oral and written form as well as to communicate about contents and problems of the respective discipline with specialist colleagues also in foreign languages and interculturallly (communication competence)	R9.1 Able to effectively communicate with team members from other disciplines in a multidisciplinary team, and able to work independently or collaboratively with team members. R10.1 Able to communicate and exchange ideas effectively with industry peers and the general public on professional issues related to industrial engineering by means of oral presentations, written documents, charts and diagrams, and understand the differences in communication with industry peers and the general public.	Practice of English Application Ability, Comprehensive Course Design of Industrial Engineering Project Optimization, Industrial Engineering Professional English , Literature Review and Thesis Writing, Professional Cognitive Education, Innovation and Entrepreneurship Education(1)(2), Development and Employment Guidance for University Students(1)(2), Management, Production Practice, Graduation Practice

have the ability to communicate in a foreign language (usually English) about technological and economic matters both within and outside the company	R10.2 Understand the international development trends and research hotspots of this major, understand and respect the differences and diversity of different cultures in the world; Have the language and written expression skills for cross-cultural communication, and be able to conduct basic communication and exchange on professional issues in a cross-cultural context.	College English, Practice of English Application Ability, Bachelor Thesis, Literature Review and Thesis Writing, Professional Cognitive Education
have basic knowledge in team organisation and teamwork and understand the process of team building	R9.2 Clearly define the different responsibilities of team members and leaders, be able to listen to, synthesize, and make reasonable decisions based on the opinions of team members, and organize, coordinate, or direct team members to carry out work.	Project Management, Management
can work effectively and constructively with other people in different situations and in an international environment (competence in cooperation and teamwork)	R9.1 Able to communicate effectively with team members of other disciplines in a multidisciplinary team, and carry out work independently or in cooperation with team members. R9.2 Clearly define the different responsibilities of team members and leaders, be able to listen to, synthesize, and make reasonable decisions based on the opinions of team members, and organize, coordinate, or direct team members to carry out their work.	Practice of English Application Ability, Industrial Engineering Professional English Project Management

are able to work in an international team	R9.2 Clearly define the different responsibilities of team members and leaders, be able to listen to, synthesize, and make reasonable decisions based on the opinions of team members, and organize, coordinate, or direct team members to carry out their work.	Project Management, Management
have the prerequisites to take on management responsibility	R6.2 Able to conduct rational analysis based on the relevant background knowledge of industrial engineering, objectively evaluate the impacts of professional engineering practices on society, health, safety, laws and culture, as well as the influences of these restrictive factors on project implementation, and understand the corresponding responsibilities to be undertaken.	Introduction to Intelligent Manufacturing, Engineering Economics, Project Management, Human Factors Engineering, Course Design of Human Factors Engineering
Scientific Self-conception / Professionalism Graduates		
base their professional actions on a sound theoretical and methodological knowledge in the core areas of engineering and management	R6.2 Able to conduct rational analysis based on the relevant background knowledge of industrial engineering, objectively evaluate the impacts of professional engineering practices on society, health, safety, laws and culture, as well as the influences of these restrictive factors on project implementation, and understand the corresponding responsibilities to be undertaken.	Introduction to Intelligent Manufacturing, Engineering Economics, Project Management, Human Factors Engineering, Course Design of Human Factors Engineering
build their professional self-conception on goal orientation, interdisciplinarity and a pronounced awareness of problem-solving	R8.2 Understand the engineering professional ethics and norms of honesty, impartiality, integrity and compliance with codes, and consciously abide by them in engineering practice.	National Defense and Entrance Education, Professional Ethics and Responsibilities of Engineers, Mental

		Health Education for College Students, Voluntary Labor, Graduation Practice
take into account principles and values of business and corporate ethics in their decisions and are able to understand and assess the economic, political, social and legal context of business operations (evaluation competence in the social environment)	R3.5 Able to comprehensively consider restrictive factors such as economy, environment, laws, safety, health and ethics in the intelligent manufacturing process and derive acceptable indicators. R6.1 Understand the technical standards, intellectual property, industrial policies, and laws and regulations related to industrial engineering, and comprehend the impact of different social and cultural factors on engineering activities.	Introduction to Intelligent Manufacturing, Quality Management and Reliability, Course Design of Human Factors Engineering, Situation and Policy, Morality and Fundamentals of Law, Cultural Literacy Education (Chinese Culture, Natural Sciences, etc.), Cultural Literacy Education (Public Art), Course Design of Fundamentals of Mechanical Design
are able to integrate themselves directly into the professional environment through sufficient practical relevance of their studies and to cooperate with partners at different levels (social competence)	R9.1 Able to communicate effectively with team members of other disciplines in a multidisciplinary team, and carry out work independently or in cooperation with team members. R10.2 Understand the international development trends and research hotspots of this major, understand and respect the differences and diversity of different cultures in the world; Have the language and written expression skills for cross-cultural communication, and be able to conduct basic communication and exchange on professional issues in a cross-cultural context.	Practice of English Application Ability, Comprehensive Course Design of Industrial Engineering Project Optimization, Industrial Engineering Professional English, College English, Practice of English Application Ability, Bachelor Thesis, Literature Review and Thesis Writing

learn and further educate themselves independently on the basis of their education (competence for independent, lifelong learning)	R12.1 Understand the necessity of independent learning and lifelong learning in the context of social development. R12.2 Possess the ability of independent learning, including the ability to comprehend technical issues in industrial engineering, the ability to summarize and conclude, and the ability to raise questions.	Basic Principles of Marxism, Outline of Modern and Contemporary Chinese History, Introduction to Xi Jinping Thoughts on Socialism with Chinese Characteristics for a New Era, Development and Employment Guidance for University Students(1)(2), Innovation and Entrepreneurship Education(1)(2), Literature Review and Thesis Writing, Cultural Literacy Education (Chinese Culture, Natural Sciences, etc.), Cultural Literacy Education (Public Art), Bachelor Thesis
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