Programme Handbook for Artificial Intelligence

(Version No. V2024.0)

Revision Date: March 2024

Effective Date: September 2024

Contents

1. Basic Professional Information 1

2. Professional Orientation and Training Objectives 1

3. Professional Course System and Diagram Structure 7

4. Core Professional Courses, Elective Courses, and Specialized Courses 10

5. Integrated Practical Courses 11

6. Requirements for Professional Graduation and Degree Awarding 11

7. Implementation Plan for Professional Teaching 12

8. Courses offered for international majors (including general elective courses) 21

1. Basic Professional Information

Discipline Category: Engineering	Specialty Category: Electronic Information
Program Name: Artificial Intelligence	Program Code: 080717T
Program Duration: Four years	Degree Awarded: Bachelor of Engineering
CN Credits: 169	Total Lecturing Hours: 2944
ECTS: 200	Total Workload Hours: 5652

2. Professional Orientation and Training Objectives

2.1 Professional Orientation

This program aims to cultivate professionals with socialist core values, strong moral integrity, and comprehensive competencies who meet the demands of socialist modernization. Students achieve well-rounded development in moral, intellectual, physical, aesthetic, and labor education through the "Four Educations and Four Focus Areas" framework (Four Educations: ideological and political education, general education, specialized education, and innovation and entrepreneurship education; Four Focus Areas: adult education, growth education, talent development education, and success education). Graduates master methodologies in data processing, model design and analysis, algorithm development and optimization, system engineering, as well as technologies such as knowledge graphs, natural language processing, computer vision, and machine learning, enabling them to excel in R&D, design, implementation, testing, and maintenance of AI systems. The program prepares students for careers as algorithm engineers, model designers, application system developers/maintainers, or project managers, ultimately fostering "Five Excellence Criteria" talents—those excelling in ethics, academic proficiency, theoretical expertise, practical competence, and international awareness—as high-caliber applied professionals capable of overseeing entire AI development processes.

2.2 The Intended Learning Outcomes

R1. Engineering Knowledge: Able to apply mathematics, natural science, basic engineering knowledge and professional knowledge of Artificial Intelligence to solve

complex engineering problems such as design and optimization of intelligent algorithms, training and deployment of intelligent models, intelligent data mining and decision analysis, development and integration of artificial intelligence systems, and interdisciplinary integrated artificial intelligence.

R2. Problem Analysis: Able to apply the basic principles of mathematics, natural science and engineering science to identify, formulate and analyze complex artificial intelligence engineering problems including accuracy deviation of intelligent algorithms, model overfitting and underfitting, noise interference of massive data, reasoning distortion of large models, and abnormal adaptation in intelligent system deployment through literature research so as to draw valid conclusions.

R3. Design/Development of Solutions: Able to design solutions for complex engineering problems in artificial intelligence, including problem models, functional modules or system workflows that meet specific requirements, demonstrate innovative awareness in the design process, and take social, health, safety, legal, cultural and environmental factors into consideration.

R4. Research: Able to conduct research on complex engineering problems based on artificial intelligence theories and scientific methods, select research routes, design feasible experiments, analyze and interpret experimental data, and draw reasonable and effective conclusions through information synthesis.

R5. Usage of Modern Tools: For complex artificial intelligence engineering problems including intelligent algorithm design, dataset construction and cleaning, training and tuning of AI models, and development and deployment of intelligent systems, able to develop, select and employ appropriate technologies, resources, modern engineering tools and artificial intelligence information technology tools, including prediction and simulation of complex artificial intelligence engineering problems, and understand their limitations.

R6. Engineering and Sustainable Development: When carrying out work such as design of industrial landing schemes for AI, research and development of intelligent recognition models, fusion processing of multi-source heterogeneous data, and engineering deployment of artificial intelligence systems, able to analyze and evaluate the impacts of engineering practices on health, safety, environment, law, economy and social sustainable

development based on relevant engineering background knowledge, and recognize corresponding responsibilities.

R7. Ethics and Professional Norms: Establish correct political stance, world outlook, outlook on life and values, practice Core Socialist Values, possess humanistic and social science literacy and a sense of social responsibility, understand and abide by engineering professional ethics and norms in artificial intelligence engineering practices, and fulfill corresponding responsibilities.

R8. Individual and Teamwork: Able to serve as individuals, team members and team leaders in interdisciplinary and cross-major teams, listen to opinions and suggestions from other team members, give full play to the advantages of team collaboration and carry out relevant work.

R9. Communication: Possess good expressive ability to communicate effectively with industry peers and the general public on complex engineering problems related to artificial intelligence, including writing reports and design documents, delivering presentations, and clearly expressing or responding to instructions; possess a certain international vision, master at least one foreign language to communicate under cross-cultural contexts, and understand and respect linguistic and cultural differences.

R10. Project Management: Understand and master engineering management principles and decision-making methods in artificial intelligence-related fields, comprehend the life cycle of projects, and apply relevant knowledge in interdisciplinary and cross-intelligent environments.

R11. Lifelong Learning: Have awareness of self-directed and lifelong learning, the ability to continuously learn new knowledge and technologies in artificial intelligence and adapt to the development of the artificial intelligence industry, as well as critical thinking capabilities.

2.3 Support Matrix

Table 1: Matrix Table Demonstrating How the Artificial Intelligence Curriculum System Supports Graduation Requirements

Rs / curriculum system	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
Ethics and the Rule of Law							√	√			√
Outline of Modern Chinese History							√	√			√
Basic Principles of Marxism						√	√			√	√
Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics						√		√	√	√	
Xi Jinping Thought on Chinese Characteristics and Socialism in the New Era						√	√			√	
Situation and Policy I-VIII						√					√
Advanced Mathematics AI-II	√	√									
Linear Algebra	√	√									
Probability and Mathematical Statistics	√	√									
University Physics II	√	√									
Digital Intelligence English I-IV					√				√		√
College Digital Literacy					√						√
Information Retrieval and Utilization				√	√						√
Military Theory							√	√			
University Sports I-IV								√			√
Mental Health Education							√	√	√		

Rs / curriculum system	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
Education on Chinese Excellent Traditional Culture							√	√			√
National Security Education							√	√			
University Students Career Development Planning							√	√	√		√
University Students Career Guidance							√	√	√		√
Introduction to Artificial Intelligence Majors		√				√	√				
C Language Programming	√	√	√		√						
Discrete Mathematics	√	√		√							√
Analog Circuits and Digital Circuits		√		√		√					
Data Structures and Algorithms	√	√	√	√							
Principles of Computer Composition	√	√	√								
Principles of Operating Systems	√	√	√	√							
Principles of Computer Networks	√	√				√					
Python Programming		√	√		√						
Introduction to Artificial Intelligence	√	√				√	√			√	
Pattern Recognition	√			√	√		√				
Principles of Database Systems	√	√	√								
Machine Learning		√		√	√						
Deep Learning	√	√		√							√
Innovative Design Thinking			√					√	√		√
The Foundation of Entrepreneurship								√	√	√	√
Artificial Intelligence Application Development Tools	√		√		√	√				√	

Rs / curriculum system	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
Artificial Intelligence + Innovative Applications			√	√				√	√	√	
Military Skill Training							√	√			
Labor Practice						√	√	√			
Fundamentals of Large Models	√	√	√								
Generative AI Development		√	√		√						
Human-Computer Interaction Design				√	√		√				
Robot Operating System (ROS)			√			√	√				
Unity Virtual Reality Development			√		√	√	√				
Smart Hardware Technology				√	√	√					
Navigation and Positioning Technologies			√		√			√			
Structural Modeling Design					√		√		√		√
Intelligent Control Development			√			√					√
Intelligent Recommendation Technology				√	√	√					
Group Intelligence and Bionic Computing			√				√			√	
Chatbot Development		√	√						√	√	
Reinforcement Learning			√			√					√
Visual Effect VFX		√		√	√	√					√
Graduation Internship	√				√		√	√			√
Graduation Thesis (Design)	√		√	√	√					√	√
Second Classroom Activity								√	√	√	√

3. Professional Course System and Diagram Structure

3.1 Course System Diagram

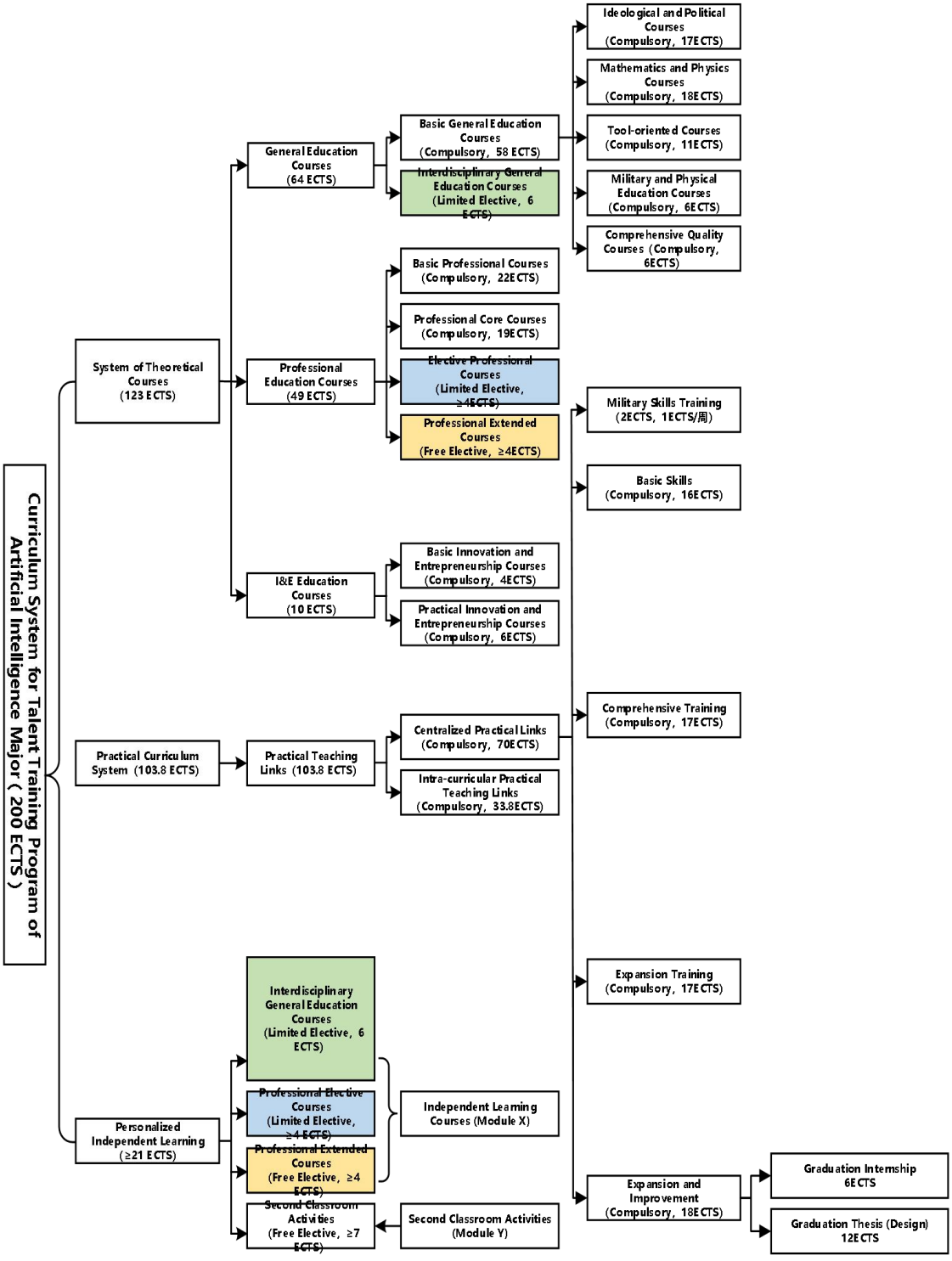


Figure 1: Curriculum System and Credit Structure of the Artificial Intelligence Major

3.2 Course topology diagram

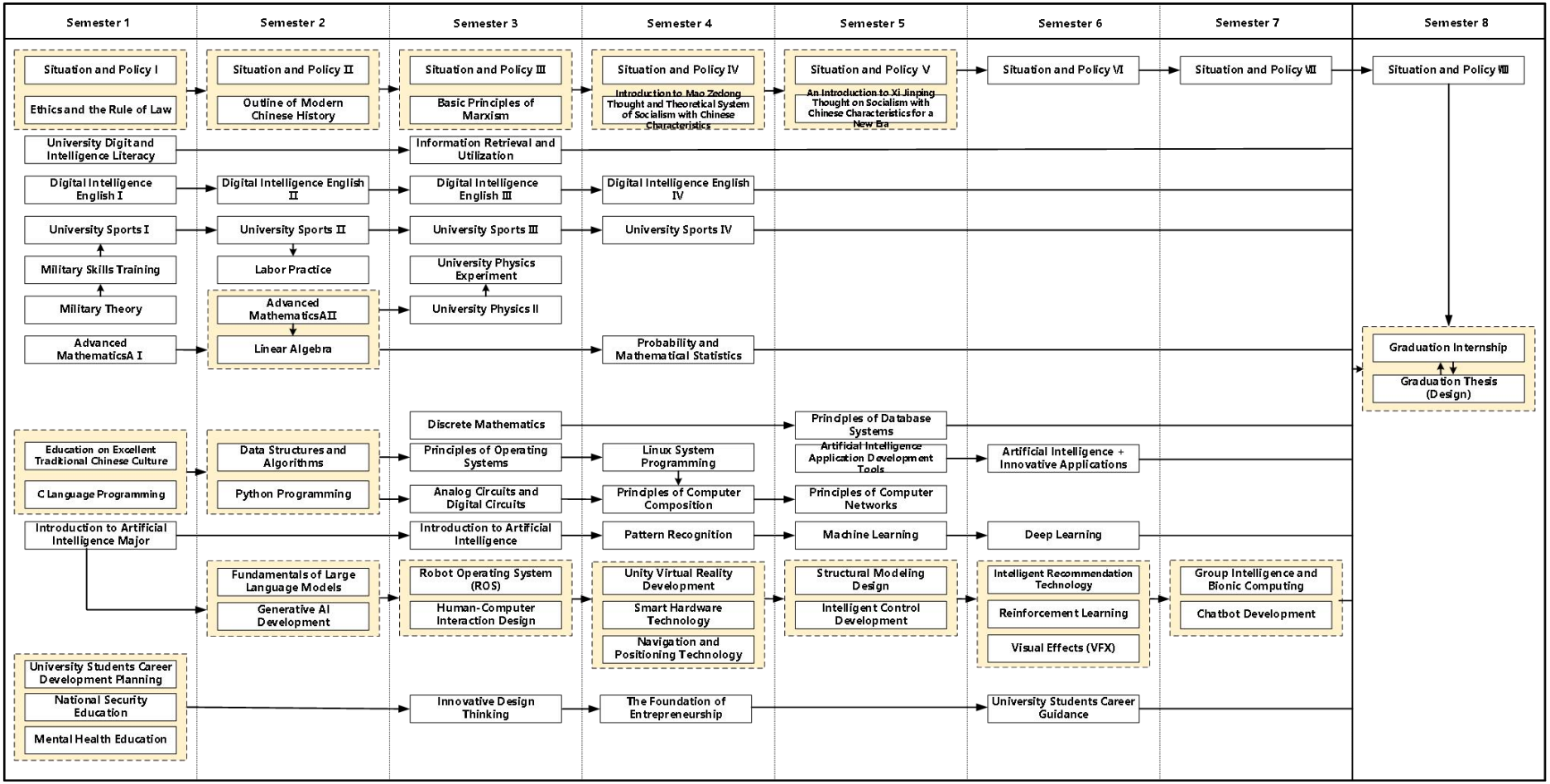


Figure 2: Topological diagram of specialized artificial intelligence courses

3.3 Course Balance Rate

Table 2: Semester Teaching Balance Table for Artificial Intelligence Specialized Courses(ECTS)

Semester Distribution	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8	proportion
Theoretical Compulsory	18.11	19.36	14.86	9.36	9.75	3.25	0.25	0.25	37.60%
Practical Compulsory	8.14	13.89	15.39	13.89	13.5	14	7	18	51.90%
Recommended Elective	0	0	2	1	2	8	8	0	10.50%
Total	**26.25**	**33.25**	**32.25**	**24.25**	**25.25**	**25.25**	**15.25**	**18.25**	**100.00%**

3.4 Course Allocation Ratio

Table 3: Distribution and Proportion of ECTS and WorkLoad Hours for the Artificial Intelligence Major

class	ECTS	Proportion of total ECTS	Workload hours	Proportion of total hours
Basic General Education	58	29.00%	1624	28.73%
Compulsory Professional Education	41	20.50%	1148	20.31%
Entrepreneurship and Innovation Education	10	5.00%	280	4.95%
Individualized Development	21	10.50%	602	10.65%
Integrated Practical	70	35.00%	1998	35.35%
Total	**200**	**100.00%**	**5652**	**100.00%**

Statistical Table on the Distribution and Proportion of ECTS and WorkLoad Hours for the Theoretical Course System in Artificial Intelligence Major(ECTS)

class			ECTS and proportion of total ECTS				Workload hours and proportion of total hours		
General Education	Basic General Education	Basic General Education Courses	41.2	41.2	20.60%	20.60%	1153.6	1153.6	20.41%
Professional Education	Professional Foundational Education	Introduction to Artificial Intelligence Majors	1	17	0.50%	8.50%	28	476	0.50%
		Professional Foundational Courses	16		8.00%		448		7.93%
	Professional Core Education	Professional Core Courses	13	13	6.50%	6.50%	364	364	6.44%
Entrepreneurship and Innovation Education	Entrepreneurship and Innovation Education	Basic Courses of Entrepreneurship and Innovation	4	4	2.00%	2.00%	112	112	1.98%
		Practical Courses of Entrepreneurship and Innovation	0		0.00%		0		0.00%
Personalized Training	Personalized Training	Interdisciplinary General Education Course	6	12	3.00%	6.00%	168	336	2.97%
		Professional Elective Courses	3		1.50%		84		1.49%
		Professional Expansion Courses	3		1.50%		84		1.49%

Total	87.2	87.2	43.60%	43.60 %	2441. 6	2441. 6	43.20%

Statistical Table on the Distribution and Proportion of ECTS and WorkLoad Hours for the Practical Course System in Artificial Intelligence Major(ECTS)

class	ECTS	Proportion of total ECTS	Workload hours	Proportion of total hours
In-class Practice	35.8	17.90%	1002.4	17.74%
Integrated Practical	70	35.00%	1998	35.35%
Personalized Training (Second Classroom Activities)	7	3.50%	210	3.72%
Total	**112.8**	**56.40%**	**3210.4**	**56.80%**

4. Core Professional Courses, Elective Courses, and Specialized Courses

4.1 Basic Major Courses (8 courses, 22 ECTS)

Introduction to Artificial Intelligence Majors (1 ECTS), C Language Programming (3 credits), Discrete Mathematics (2 ECTS), Data Structures and Algorithms (4 ECTS), Principles of Operating Systems (3 ECTS), Analog Circuits and Digital Circuits (3 ECTS), Principles of Computer Composition (3 ECTS), Principles of Computer Networks (3 ECTS).

4.2 Core Major Courses (6 courses, totaling 19 ECTS)

Python Programming (3 ECTS), Introduction to Artificial Intelligence (3 ECTS), Pattern Recognition (3 ECTS), Machine Learning (3 ECTS), Principles of Database Systems (3 ECTS), Deep Learning (3 ECTS).

4.3 Major Elective Courses (10 courses, 20 ECTS)

Natural Language Processing (2 ECTS), Circuit Principles (2 ECTS), Signals and Systems (2 ECTS), Linux System Programming (2 ECTS), Digital Signal Processing (2 ECTS), Construction and Application of Knowledge Graphs (2 ECTS), Data Mining and Analysis (2 credits), Principles and Applications of Microcontrollers (2 ECTS), Computer Vision (2 ECTS), Internet of Things and Smart Sensor Technology (2 ECTS).

4.4 Characteristic Major Course(1 course, 2 ECTS)

Artificial Intelligence Comprehensive Design (2 ECTS): This course is developed to meet the development demands of the Artificial Intelligence industry. It aims to cultivate students' ability to comprehensively apply professional knowledge to develop artificial intelligence application systems or intelligent systems. The course is taught by dual-qualified professional teachers together with enterprise experts. Enterprise projects and professional

competition topics are adopted as teaching materials to enhance the practical capabilities of Artificial Intelligence professionals. On-campus and off-campus AI training bases are utilized to help students thoroughly understand and master theoretical knowledge, and school-enterprise cooperation is adopted for on-site teaching to strengthen students' practical engineering capabilities. After completing this course, students will be proficient in using AI platforms, frameworks, algorithm libraries and other software tools, carry out team training in accordance with engineering specifications, and develop artificial intelligence application systems or intelligent systems. Meanwhile, combining enterprise demands and AI-related professional competitions, the current situation and characteristics of major development are jointly studied, and training modes for application-oriented talents are deeply explored to realize seamless employment for students upon graduation.

5. Integrated Practical Courses

5.1 Military Skills Training (1 course, 2 ECTS)

5.2 Basic Skills (5 courses, 16 ECTS)

Labor Practice (1 ECTS), Fundamentals of Large Models (4 ECTS), Generative AI Development (4 ECTS), Human-Computer Interaction Design (4 ECTS), Robot Operating System (ROS) (3 ECTS).

5.3 Comprehensive Training (5 courses, 17 ECTS)

Unity Virtual Reality Development (4 ECTS), Smart Hardware Technology (3 ECTS), Navigation and Positioning Technologies (3 ECTS), Structural Modeling Design (3 ECTS), Intelligent Control Development (4 ECTS)

5.4 Expansion Training (5 courses, 17 ECTS)

Intelligent Recommendation Technology (3 ECTS), Group Intelligence and Bionic Computing (4 ECTS), Chatbot Development (3 ECTS), Reinforcement Learning (3 ECTS), Visual Effect VFX (4 ECTS)

5.5 Extension Enhancement (2 courses, 18 ECTS)

Graduation Internship (6 ECTS), Graduation Thesis (Design) (12 ECTS).

6. Requirements for Professional Graduation and Degree Awarding

6.1 Professional Graduation Requirements

Students who complete the 200 ECTS stipulated in this talent development program, achieve satisfactory grades, and meet the requirements of the Hengxing University Academic Record Management Regulations will be awarded the Bachelor's Degree Certificate in Artificial Intelligence from Hengxing University .

6.2 Requirements for Professional Degree Awarding

Students who meet the graduation requirements and satisfy the stipulations of the "Implementation Rules for Bachelor's Degree Awarding at Hengxing University " may be awarded the Bachelor of Engineering degree upon review and approval by the university's Academic Degrees Committee.

7. Implementation Plan for Professional Teaching

Table 4: Implementation Plan for Artificial Intelligence Major Teaching

Type	Level	Course Module	Course Name	Course Code	Course Nature	Chinese Credits	ECTS	Lecturing Hours	Workload Hours	Semester in which the course begins, and the number of weekly class hours:								Assessment Method	Course Provider
										First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year			
										1	2	3	4	5	6	7	8		
General Education Courses	Basic General Education Course	Ideological and political courses	Ethics and the Rule of Law	3000000101	C	3	3	48	84	√								Ex	School of Marxism
			Outline of Modern Chinese History	3000000102	C	3	3	48	84		√							Ex	
			Basic Principles of Marxism	3000000103	C	3	3	48	84			√						Ex	
			Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	3000000104	C	3	3	48	84				√					Ex	
			Xi Jinping Thought on Chinese Characteristics and Socialism in the New Era	3000000147	C	3	3	48	84					√				Ex	
			Situation and PolicyI	3000000105	C	0.25	0.25	8	7	√								As	
			Situation and PolicyII	3000000182	C	0.25	0.25	8	7		√							As	
			Situation and PolicyIII	3000000106	C	0.25	0.25	8	7			√						As	
			Situation and PolicyIV	3000000183	C	0.25	0.25	8	7				√					As	
			Situation and PolicyV	3000000107	C	0.25	0.25	8	7					√				As	
			Situation and PolicyVI	3000000184	C	0.25	0.25	8	7						√			As	
			Situation and PolicyVII	3000000108	C	0.25	0.25	8	7							√		As	
			Situation and PolicyVIII	3000000185	C	0.25	0.25	8	7								√	As	
			Subtotal 1			**17**	**17**	**304**	**476**									**5 Exam-Based Courses**	
		Mathematics and Physics	Advanced Mathematics A I	3000000160	C	5	5	80	140	√								Ex	School of Education
			Advanced Mathematics A II	3000000161	C	5	5	80	140		√							Ex	
			Linear Algebra	3000000113	C	2	2	32	56		√							Ex	

Type	Level	Course Module	Course Name	Course Code	Course Nature	Chinese Credits	ECTS	Lecturing Hours	Workload Hours	Semester in which the course begins, and the number of weekly class hours:								Assessment Method	Course Provider
										First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year			
										1	2	3	4	5	6	7	8		
			Probability and Mathematical Statistics	3000000114	C	2	2	32	56				√					Ex	
General Education Courses	Basic General Education Course	Mathematics and Physics	University Physics II	3000000140	C	2	2	32	56		√							Ex	School of Education
			University Physics Laboratory	3000000401	C	2	2	32	56			√						As	
			Subtotal 2			**18**	**18**	**288**	**504**									**5 Exam-Based Courses**	
		Tools	Digital Intelligence EnglishI	300000010B	C	2	2	64	56	√								Ex	International Education College
			Digital Intelligence EnglishII	300000010C	C	2	2	64	56		√							Ex	
			Digital Intelligence EnglishIII	300000010D	C	2	2	64	56			√						Ex	
			Digital Intelligence EnglishIV	300000010E	C	2	2	64	56				√					Ex	
			College Digital Literacy	3000000186	C	2	2	32	56	√								As	School of Big Data and Intelligent Information Engineering
			Information Retrieval and Utilization	3000000134	C	1	1	16	28			√						As	
			Subtotal 3			**11**	**11**	**304**	**308**									**4 Exam-Based Courses**	
		Military and sports	Military Theory	3000000131	C	2	2	32	56	√								As	Student Development Department
			University SportsI	3000000192	C	1	1	36	28	√								As	Institute of Physical Education
			University SportsII	3000000193	C	1	1	36	28		√							As	
			University SportsIII	3000000194	C	1	1	36	28			√						As	
			University SportsIV	3000000195	C	1	1	36	28				√					As	
			Subtotal 4			**6**	**6**	**176**	**168**										
	Basic Genera	Comprehen	Mental Health Education	3000000129	C	2	2	32	56	√								As	School of Education

Type	Level	Course Module	Course Name	Course Code	Course Nature	Chinese Credits	ECTS	Lecturing Hours	Workload Hours	Semester in which the course begins, and the number of weekly class hours:								Assessment Method	Course Provider
										First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year			
										1	2	3	4	5	6	7	8		
General Education Courses	l Education Course	sive Quality Course	Education on Chinese Excellent Traditional Culture	3000000197	C	1	1	16	28	√								As	a college of humanities
			National Security Education	3000000187	C	1	1	16	28	√								As	
			University Students Career Development Planning	3000000132	C	1	1	16	28	√								As	business college
			University Students Career Guidance	3000000133	C	1	1	16	28						√			As	
			Subtotal 5			**6**	**6**	**96**	**168**										
	Interdisciplinary General Education Course	Interdisciplinary General Education Course	Art Literacy Courses		E	2	2	32	56									As	All Colleges
			International Literacy Courses		E	1	1	16	28									As	
			International Literacy Activities		E	1	1	16	28									As	
			Social Science Courses		E	2	2	32	56									As	
			Natural Science Courses		E	0	0	0	0									As	
			Subtotal 6			**6**	**6**	**96**	**168**										
	Total 1 = Subtotal 1 + Subtotal 2 + Subtotal 3 + Subtotal 4 + Subtotal 5 + Subtotal 6					**64**	**64**	**1264**	**1792**										
Professional Education Courses	Professional Foundational Courses	Professional Foundational Courses	Introduction to Artificial Intelligence Majors	3080717270	C	1	1	16	28	√								As	School of Big Data and Intelligent Information Engineering
			C Language Programming	3080900242	C	3	3	48	84	√								Ex	
			Discrete Mathematics	3080900204	C	2	2	32	56		√							Ex	
			Data Structures and Algorithms	3080900230	C	4	4	64	112		√							Ex	
			Principles of Operating Systems	3080903255	C	3	3	48	84			√						Ex	
			Analog Circuits and Digital Circuits	3080717271	C	3	3	48	84			√						Ex	

Type	Level	Course Module	Course Name	Course Code	Course Nature	Chinese Credits	ECTS	Lecturing Hours	Workload Hours	Semester in which the course begins, and the number of weekly class hours:								Assessment Method	Course Provider
										First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year			
										1	2	3	4	5	6	7	8		
			Principles of Computer Composition	3080900209	C	3	3	48	84			√						Ex	
			Principles of Computer Networks	3080900237	C	3	3	48	84					√				Ex	
			Subtotal 1			**22**	**22**	**352**	**616**									**7 Exam-Based Courses**	
Professional Education Courses	**Professional Core Courses**	**Professional Core Courses**	Python Programming	3080717219	C	3	3	48	84		√							Ex	School of Big Data and Intelligent Information Engineering
			Introduction to Artificial Intelligence	3080717245	C	3	3	48	84			√						Ex	
			Pattern Recognition	3080717246	C	3	3	48	84				√					Ex	
			Machine Learning	3080717351	C	4	4	64	112					√				Ex	
			Principles of Database Systems	3080900211	C	3	3	48	84					√				Ex	
			Deep Learning	3080717268	C	3	3	48	84						√			Ex	
			Subtotal 2			**19**	**19**	**304**	**532**									**6 Exam-Based Courses**	
	Professional Elective Courses	**Professional Elective Courses**	Natural Language Processing	3080717272	E	2	2	32	56			√						As	School of Big Data and Intelligent Information Engineering
			Circuit Principles	3080717353	E	2	2	32	56			√						As	
			Signals and Systems	3080717254	E	2	2	32	56			√						As	
			Linux System Programming	3080717356	E	2	2	32	56			√						As	
			Digital Signal Processing	3080717255	E	2	2	32	56			√						As	
			Construction and Application of Knowledge Graphs	3080717248	E	2	2	32	56						√			As	
			Data Mining and Analysis	3080717251	E	2	2	32	56						√			As	
			Principles and Applications of Microcontrollers	3080717256	E	2	2	32	56						√			As	

Type	Level	Course Module	Course Name	Course Code	Course Nature	Chinese Credits	ECTS	Lecturing Hours	Workload Hours	Semester in which the course begins, and the number of weekly class hours:								Assessment Method	Course Provider
										First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year			
										1	2	3	4	5	6	7	8		
			Computer Vision	3080717222	E	2	2	32	56						√			As	
			Internet of Things and Smart Sensor Technology	3080717275	E	2	2	32	56						√			As	
			Subtotal 3			**≥ 4**	**≥ 4**	**≥ 64**	**≥ 112**										
Professional Education Courses	**Professional Expansion Courses**	**Professional Expansion Courses**	Principles and Applications of Non-Relational Databases	3080717258	E	2	2	32	56					√				As	School of Big Data and Intelligent Information Engineering
			Embedded System Design	3080717261	E	2	2	32	56					√				As	
			Java Programming	3080900261	E	2	2	32	56					√				As	
			C++ Object-Oriented Programming	3080717264	E	2	2	32	56					√				As	
			Computer Science English	3080900245	E	2	2	32	56						√			As	
			Big Data Collection and Processing	3080717260	E	2	2	32	56						√			As	
			Software Engineering	3080903245	E	2	2	32	56						√			As	
			※Artificial Intelligence Comprehensive Design	3080717274	E	2	2	32	56						√			As	
			Subtotal 4			**≥ 4**	**≥ 4**	**≥ 64**	**≥ 112**										
	Total 2 = Subtotal 1 + Subtotal 2 + Subtotal 3 + Subtotal 4					**≥ 49**	**≥ 49**	**≥ 784**	**≥ 1372**										
Entrepreneurship and Innovation Education Courses	**Entrepreneurship and Innovation Education Courses**	**Basic Courses of Entrepreneurship and Innovation**	Innovative Design Thinking	3000000305	C	2	2	32	56			√						As	Innovation and Entrepreneurship College
			The Foundation of Entrepreneurship	3000000306	C	2	2	32	56				√					As	
			Subtotal 1			**4**	**4**	**64**	**112**										
		Practical	Artificial Intelligence Application Development Tools	3080903333	C	2	3	32	84					√				As	School of Big Data and Intelligent

Type	Level	Course Module	Course Name	Course Code	Course Nature	Chinese Credits	ECTS	Lecturing Hours	Workload Hours	Semester in which the course begins, and the number of weekly class hours:								Assessment Method	Course Provider
										First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year			
										1	2	3	4	5	6	7	8		
		Courses of Entrepreneurship and Innovation	Artificial Intelligence + Innovative Applications	3080903334	C	2	3	32	84						√			As	Information Engineering
			Subtotal 2			**4**	**6**	**64**	**168**										
	Total 3 = Subtotal 1 + Subtotal 2					**8**	**10**	**128**	**280**										
Integrated Practical Courses			**Military Skills Training**	**3000000196**	**C**	**2**	**2**	**32**	**56**	√								**As**	**Student Development Department**
	Integrated Practical Courses	**Basic Skills**	Labor Practice	3080717357	C	1	1	16	30		√							As	School of Big Data and Intelligent Information Engineering
			Fundamentals of Large Models	3080717358	C	3	4	48	112		√							As	
			Generative AI Development	3080717359	C	3	4	48	112		√							As	
			Human-Computer Interaction Design	3080717360	C	3	4	48	112			√						As	
			Robot Operating System (ROS)	3080717361	C	2	3	32	84			√						As	
		Comprehensive Training	Unity Virtual Reality Development	3080717362	C	3	4	48	112				√					As	
			Smart Hardware Technology	3080717363	C	2	3	32	84				√					As	
			Navigation and Positioning Technologies	3080717364	C	2	3	32	84				√					As	
			Structural Modeling Design	3080717365	C	2	3	32	84					√				As	
			Intelligent Control Development	3080717366	C	3	4	48	112					√				As	
		Extension Training	Intelligent Recommendation Technology	3080717367	C	2	3	32	84						√			As	
			Group Intelligence and Bionic Computing	3080717368	C	3	4	48	112						√			As	
			Chatbot Development	3080717369	C	2	3	32	84						√			As	

Type	Level	Course Module	Course Name	Course Code	Course Nature	Chinese Credits	ECTS	Lecturing Hours	Workload Hours	Semester in which the course begins, and the number of weekly class hours:								Assessment Method	Course Provider
										First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year			
										1	2	3	4	5	6	7	8		
			Reinforcement Learning	3080717370	C	2	3	32	84							√		As	
			Visual Effect VFX	3080717371	C	3	4	48	112							√		As	
		Extension and Enhance	Graduation Internship	3120105527	C	2	6	32	180								√	As	
			Graduation Thesis (Design)	3120105602	C	4	12	64	360								√	As	
	Total: 4					**44**	**70**	**704**	**1998**										
Second Classroom Activity	Second Classroom Activity	Second Classroom Activity	Labor Activities	3000000907	E	1	1	16	30									As	Youth League Committee
			Reading of 100 Selected Classics from Chinese and Foreign Literature	3000000901	E	1	3	3	18									As	
			Freshman Orientation	3000000902	E			3	18									As	
			Student Associations	3000000904	E			3	18									As	
			Sports Activities	3000000905	E			4	18									As	
			Aesthetic Education Activities	3000000906	E			3	18									As	
			Ideological and Political Development	3000000908	E	2	3	32	90									As	
			Club and Cultural Activities	3000000909	E													As	
			Volunteer and Public Service	3000000910	E													As	
			Innovation, Entrepreneurship, and Creativity	3000000911	E													As	
			Practical Training, Internship, and Hands-On Activities	3000000912	E													As	
			Skill and Talent Development	3000000913	E													As	
	Total: 5					**≥ 4**	**≥ 7**	**≥ 64**	**≥ 210**										

Type	Level	Course Module	Course Name	Course Code	Course Nature	Chinese Credits	ECTS	Lecturing Hours	Workload Hours	Semester in which the course begins, and the number of weekly class hours:								Assessment Method	Course Provider
										First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year			
										1	2	3	4	5	6	7	8		
Total = Total 1 + Total 2 + Total 3 + Total 4 + Total 5						**≥ 169**	**≥ 200**	**≥ 2944**	**≥ 5652**										

Course Nature：C (Compulsory) or E (Elective)

Assessment Type: Ex (Examination), As (Assessment)

8. Courses offered for international majors (including general elective courses)

Introduction to Artificial Intelligence Majors (1 credit), General Knowledge of Artificial Intelligence (1 credit), Large Language Models (2 credits)

Revision	Head of Teaching and Research Office Signature:	Yu Xiaoyan		
	Administrative Program Director Signature:	Zhang Xiaohong	Academic Program Leader Signature:	Li Jinhua
Review	Dean of Industry College Signature:	Zhou Xuan	Academic Dean Signature:	Jiang Zhijun
	Executive Dean Signature and Date:	Xu Ying		