Module Handbook
SE

CATALOG

Ideological and Moral Cultivation and Law

Module Name	Ideological and Moral Cultivation and Law		
The semester in which this module is taught	Semester 1		
Module Leader	Li Yifan		
language	Chinese		
Relationship to the curriculum	General education is a compulsory course		
Teaching methods	Teacher-centered methods: lectures, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized method: The cloud class platform completes after-class homework and video resource learning Method of practice: project practice		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 75 hours Teaching hours: 3 hours per week, 18 weeks in total, 54 hours Self-study hours: 1 hour and 16 minutes per week, a total of 18 weeks, 21 hours, including: after-class homework, exam preparation time, etc		
Credits	3 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	master the main content of the outlook on life and establish a correct outlook on life; the connotation and importance of ideals and beliefs; Correctly understand the relationship between ideals and reality, personal ideals and social ideals, master the principle of unity between personal ideals and social ideals, and understand the basic requirements for establishing lofty ideals and realizing ideals. deeply understand the basic connotation of the Chinese spirit, national spirit and patriotism, and understand the patriotism in the new era; The scientific connotation and significance of socialist core values are significant.	R6

	CLO2	master and speak of the essence and function of morality, the core and principles of socialist morality, and understand the basic connotation of traditional Chinese virtues and Chinese revolutionary morality; establish a correct moral outlook, consciously inherit traditional Chinese virtues and Chinese revolutionary morality, and continuously improve moral quality in the practice of advocating morality and goodness; Understand the meaning of morality, achieve great morality, abide by public morality, strictly enforce private morality, and temper moral character.	R7
	CLO3	Understand and speak of the socialist legal system, the rule of law system and the rule of law path, the rule of law thinking, and the basic content and connotation of legal rights and obligations; Internalize the respect for the rule of law in the heart, externalize exemplary compliance with the law in practice, improve the quality of the rule of law, and become the backbone of the construction of the rule of law in China. Improve legal literacy, cultivate rule of law thinking, respect and maintain legal authority, and exercise power and perform obligations in accordance with the law.	R8

content	Through the study of this course, students master the basic knowledge and theories of outlook on life, values, morality and the rule of law; Possess basic ability to analyze and solve problems; Continuously improve their ideological and moral quality and rule of law literacy, and grow into a new person of the era who consciously shoulders the great task of national rejuvenation. Course Introduction: (Weight 2/54, Level: Memory + Comprehension + Analysis). Chapter 1: Comprehend the true meaning of life and grasp the direction of life (weight: 6/54, level: memory + understanding + analysis). Chapter 2: Pursuing lofty ideals and strengthening lofty beliefs (weight: 6/54, level: memory + understanding + analysis). Chapter 3: Inheriting the Fine Traditions and Promoting the Chinese Spirit (Weight: 12/54, Level: Memory + Understanding + Analysis). Chapter 4: Clarify the pursuit of values and practice the value code (weight: 8/54, level: memory + understanding + analysis). Chapter 5: Comply with moral norms Temper moral character (weight: 12/54, level: memory + understanding + analysis). Chapter 6: Learning the Idea of the Rule of Law and Improving the Rule of Law Literacy (Weight: 8/54, Level: Memory + Understanding + Analysis).
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course

Read the list	(1) Recommended textbook "Ideological and Moral Cultivation and Law ", editor-in-chief of the writing team, Higher Education Press, February 2023. (2) References [1] Political Science and Life, by Ruskin, translated by Lin Zhen, Renmin College Press, 2014 edition. [2] "On the Spirit of Law", by Montesquieu, translated by Zhang Yanshen, Commercial Press, 2012 edition. [3] Walden, by Thoreau, translated by Li Jihong, Tianjin People's Publishing House, 2018 edition. [4] "1984", written by Orwell, translated by Fu Xia, Times Literature and Art Publishing House, 2018 edition. [5] "Xi Jinping's Seven Years of Educated Youth", Party School Publishing House of the Central Committee of the Communist Party of China, 2017 edition. [6] Excerpts from Xi Jinping's Exposition on the Overall National Security Concept, Central Literature Publishing House, 2018 edition. [7] "On Adhering to the Comprehensive Rule of Law", Central Literature Publishing House, 2020 edition. [8] Xi Jinping on Governing the Country, Volume 3, China Foreign Languages Publishing House, 2020 edition. [9] "Compilation of Documents of the 20th National Congress of the Communist Party of China", Party Building Books Publishing House, 2022 edition. [10] "100 Questions on Study and Counseling of the 20th National Congress of the Communist Party of China", Party Building Reading Publishing House, 2022 edition. [11] "Special Excerpts from Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era", Party Building Reading Publishing House, 2024 edition.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

An Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era

Module Name	An Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era		
The semester in which this module is taught	Semester 1		
Module Leader	Li Yayuan		
language	Chinese		
Relationship to the curriculum	General education is a compulsory course		
Teaching methods	Teacher-centered methods: lectures, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized method: complete after-school homework and video resource learning on the cloud class platform; Practical method: practical teaching.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 75 hours Teaching hours: 3 hours per week, 18 weeks in total, 54 hours Self-study hours: 1.2 hours per week, a total of 18 weeks, 21 hours, including: after-school homework, exam preparation time, etc		
Credits	3 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements

CLO1	Be able to speak of the latest theoretical achievements of the Sinicization of Marxism, and fully understand the historical background, development process, scientific system, historical status, and guiding significance of the new leap of Marxism in the Sinicization of the times. Be able to elaborate on the general task of upholding and developing socialism with Chinese characteristics, know the strategic arrangements for building a modern socialist country in an all-round way, and know the lines, principles and policies of socialist modernization with Chinese characteristics in the new era. Learn the relevant content of Chinese-style modernization to comprehensively promote the great rejuvenation of the Chinese nation, and understand that Chinese-style modernization is the only correct way to build a strong country and rejuvenate the nation. Understand that the leadership of the Communist Party of China is the most essential feature of socialism with Chinese characteristics, and agree that adhering to the party's overall leadership is the only way to uphold and develop socialism with Chinese characteristics. Experience the fundamental position of being people-centered, and establish the lofty ideal of serving the people and striving for the socialist cause.	R6

CLO2	Be able to expound the main content of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, say the overall layout of the "five-in-one" and the "four comprehensive" strategic layout, master the strategic support for realizing socialist modernization, understand the country's major policies, and know what the national development strategy is and why. Comprehensively understand the theoretical character and ideological style of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, such as the supremacy of the people, lofty faith, historical consciousness, problem-oriented, fighting spirit, and feelings of the world, and enhance the political, theoretical, ideological and emotional identity of this thought.	R7
CLO3	I can list the important guarantees for realizing the great rejuvenation of the Chinese nation, deeply understand the great significance of adhering to "one country, two systems" and promoting the complete reunification of the motherland, know China's current diplomatic characteristics and international role, and have a deep understanding of the key to comprehensively building a modern socialist country and comprehensively promoting the great rejuvenation of the Chinese nation in the new era. Those who can initially understand the basic principles behind the international situation and national policies, see the policy orientation and development purpose, work the unity of knowledge and action, apply what they have learned, and vigorously promote the fine academic style of linking theory with practice, can more consciously use this ideology to guide and solve practical problems.	R8

CLO4	Carry out practical activities. Through online learning practice and on-site practical teaching inside and outside the school, the perception of vivid historical materials, the creation of specific historical or realistic scenarios, the deepening of the cognition of teaching content, the sense of history and the times, and the establishment of correct political direction, outlook on life and values; explore practical problems and solve the confusion of contemporary college students; It can arouse ideological shock and resonance, help form a simple sense of patriotism and love for the people and a sense of being prepared for danger in times of peace, and enhance its sense of historical mission, national self-esteem and sense of responsibility for life. Students can consciously integrate patriotism, national ambition, and service to the country into their study and practice, carry forward the fine academic style of linking theory with practice, and more consciously use Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era to guide and solve practical problems, and effectively transform theoretical learning into vivid practice of being a striver in the new era.	R12

content	"An Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era" is the core course in the political theory course of ordinary colleges and universities across the country. The basic content of the course is to systematically discuss the scientific theoretical system of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, through the new leap of Marxism in Sinicization, adhere to and develop the general task of socialism with Chinese characteristics, adhere to the party's overall leadership, adhere to the people-centered, lead high-quality development with the new development concept, comprehensively deepen reform, develop people's democracy in the whole process, comprehensively rule the country according to law, build a socialist cultural power, strengthen social construction focusing on people's livelihood, build socialist ecological civilization, To build the people's army into a world-class army in an all-round way, fully implement the overall national security concept, adhere to the "one country, two systems" and promote the reunification of the motherland, promote the construction of a community with a shared future for mankind, comprehensively and strictly govern the party, be a pioneer in the new journey, and strive to be a career leader, students can fully grasp and effectively apply this latest theoretical achievement of Marxism in Sinicization, and establish a correct world view, outlook on life and values. Students can consciously use Marxist positions, viewpoints and methods to improve their ability to analyze and solve practical problems in the process of building socialism with Chinese characteristics in the new era; Students can establish common ideals and beliefs in socialism with Chinese characteristics in the new era. Teaching content: Introduction (weight 3/54, level: memory + understanding + analysis). Chapter 1 Upholding and Developing Socialism with Chinese Characteristics in the New Era (Weight 3/54, Level: Memory + Understanding + Analysis). Chapter 2 Comprehensively promote the great rejuvenation of the Chinese nation with Chinese-style modernization (weight 3/54, level: memory + understanding + analysis). Chapter 3 Adhere to the party's overall leadership (weight 3/54, level: memory + understanding + analysis). Chapter 4 Adhere to the people-centered approach (weight 3/54, level: memory + understanding + analysis). Chapter 5 Comprehensively deepening reform (weight 3/54, level: memory + understanding + analysis). Chapter 6 Promote high-quality development (weight 3/54, level: memory + understanding + analysis). Chapter 7 Education, Science and Technology, and Talent Strategies for Socialist Modernization (Weight 3/54, Level: Memory + Understanding + Analysis). Chapter 8 Developing Whole-process People's Democracy (Weight 3/54, Level: Memory + Understanding + Analysis). Chapter 9 Comprehensive rule of law (weight 3/54, level: memory + understanding + analysis). Chapter 10 Building a Socialist Cultural Power (Weight 3/54, Level:

	Memory + Understanding + Analysis). Chapter 11 Strengthening social construction with a focus on protecting and improving people's livelihood (weight 3/54, level: memory + understanding + analysis). Chapter 12 Building a Socialist Ecological Civilization (Weight 3/54, Level: Memory + Understanding + Analysis). Chapter 13 Maintaining and Shaping National Security (Weight 3/54, Level: Memory + Understanding + Analysis). Chapter 14 Building and Consolidating National Defense and Strengthening the People's Army (Weight 3/54, Level: Memory + Understanding + Analysis). Chapter 15 Adhere to "one country, two systems" and promote the complete reunification of the motherland (weight 3/54, level: memory + understanding + analysis). Chapter 16 Major Power Diplomacy with Chinese Characteristics and Promoting the Construction of a Community with a Shared Future for Mankind (Weight 3/54, Level: Memory + Understanding + Analysis). Chapter 17 Comprehensively and strictly administering the party (weight 3/54, level: memory + understanding + analysis).
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Process assessment, scored on a percentage scale, accounting for 40% of the total evaluation score, including classroom performance, independent learning, phased testing, practical teaching, etc. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	1. "An Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era", Higher Education Press, People's Publishing House, August 2023 edition 2. Counseling Reader of the Report of the 20th National Congress of the Communist Party of China, People's Publishing House, October 2022 edition 3. The report of the 20th National Congress of the Communist Party of China, Learning Publishing House, Party Building Reading Publishing House, October 2022 edition
Version number	V2022, the major version will take effect in September 2022 V2022.1, Update point: Credits and workload are calculated according to ECTS

Basic Principles of Marxism

Module Name	Basic Principles of Marxism		
The semester in which this module is taught	Semester 2		
Module Leader	Shen Shiqiang		
language	Chinese		
Relationship to the curriculum	General education courses		
Teaching methods	Teacher-centered methods: lectures, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Method of practice: project practice		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 75 hours Teaching hours: 3 hours per week, 18 weeks in total, 54 hours Practical hours: 1.17 hours per week, a total of 18 weeks, 21 hours, including: after-class homework, exam preparation time, etc		
Credits	3 credits		
Prerequisites required and recommended for joining this module	Ideology, morality and the rule of law, Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	8.1 Have good morals, have a correct worldview, outlook on life and values, and understand the relationship between individuals and society;	R8、R12

content	This course is a course that systematically teaches the basic theories of Marxism, and organically integrates the three main components of Marxism: Marxist philosophy, political economy and scientific socialism. It aims to help students correctly understand the basic laws of human social development, correctly understand the historical process of capitalist development, establish a correct world view, outlook on life and values, cultivate and improve students' ability to use Marxist theory to analyze and solve practical problems, and strengthen the ideals and beliefs of striving for the great cause of socialism with Chinese characteristics. The specific objectives are as follows: Course objective 1: Be able to explain the development laws of nature, thinking and human society, be able to use the basic Marxist views, positions and methods to understand and analyze various situations and problems faced by electrical engineering and its automation major, and guide students with positive, scientific and correct values, so as to help students establish a correct world view, outlook on life and values. Course objective 2: Be able to explain the basic methods of Marxism to understand and transform the world, use the basic views and methods of Marxism to analyze various problems and scenarios faced by electrical engineering and its automation, and be able to formulate realistic work plans according to different engineering situations faced to improve pertinence and effectiveness. Course objective 3: Be able to explain the world view and methodology of Marxist science, master the critical way of thinking, recognize the context and main line of world development through the relationship between the existence of the existing world and thinking, continuously improve their ability to understand the world, have the ability to think and reflect on different situations of electrical engineering and its automation, and constantly improve their logical thinking ability to adapt to the needs of different complex scenarios and situations. Teaching content: Introduction (Weight 2/54, Level: Memory) Chapter 1 The materiality of the world and its development law (weight 10/54, level: memory, understanding, evaluation, etc.) Chapter 2 Practice and Understanding and Its Development Law (Weight: 8/54, Level: Memory, Understanding, Evaluation) Chapter 3 Human Society and Its Development Laws (Weight: 14/54, Level: Memory, Understanding, Evaluation, Including Social Practice) Chapter 4 The Essence and Laws of Capitalism (Weight: 8/54, Level: Memory, Understanding) Chapter 5 The Development of Capitalism and Its Trends (Weight 4/54, Level: Memory, Understanding) Chapter 6 The Development of Socialism and Its Laws (Weight 6/54, Level: Memory, Understanding) Chapter 7 The Noble Ideals of Communism and Its Ultimate Realization (Weight 2/54, Level: Memory, Understanding)

Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course

Read the list	1 Marx: "Manuscript of the Philosophy of Economics of 1844", "Theses on Feuerbach", "Introduction to the Critique of Hegel's Philosophy of Law", "Capital", "Critique of the Gotha Program", "German Ideology". 2 Engels: "Speech at the Tomb of Marx", "Ludwig. Feuerbach and the End of German Classical Philosophy", "The Origin of the Family, Private Property and the State", "Anti-Dühring" Philosophy, and "Dialectics of Nature" related chapters. 3 Marx and Engels: "The Communist Manifesto", "Nine Correspondences on Historical Materialism" 4 Lenin: "Karl. Marx", "Friedrich Engels", "On Several Characteristics in the Historical Development of Marxism", "Three Sources and Three Components of Marxism", "Talking about Dialectics", "Elements of Dialectics". 5 Mao Zedong: "Caring for the lives of the masses and paying attention to working methods", "Theory of Practice", "Theory of Contradiction", "Where does people's correct thinking come from?" ", "Transform Our Learning", "Serve the People". 6 Stalin: "On the Foundations of Leninism", "On Dialectical Materialism and Historical Materialism". 7 Deng Xiaoping: "Emancipating the Mind, Seeking Truth from Facts, Looking Forward in Unity", "Building Socialism with Chinese Characteristics", "Relying on Ideals and Discipline to Unite", "Key Points of Conversation in Wuchang, Shenzhen, Zhuhai, Shanghai and Other Places". 8 Jiang Zemin, "On the 'Three Represents'", "Speech at the Conference to Celebrate the 80th Anniversary of the Founding of the Communist Party of China", "President Jiang Zemin's Speech at the United Nations Millennium Summit Breakout Session". 9 Hu Jintao: "Speech at the Seminar on the Important Ideology and Theory of the "Three Represents", "Unswervingly Advancing along the Road of Socialism with Chinese Characteristics and Striving to Build a Moderately Prosperous Society in an All-round Way - Report at the 18th National Congress of the Communist Party of China", "Speech at the Seminar on Improving the Ability of Major Leading Cadres at the Provincial and Ministerial Levels to Build a Socialist Harmonious Society". 10 Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Propaganda Department of the Central Committee of the Communist Party of China, Learning Publishing House, People's Publishing House, June 2019 edition. 11 Thirty Lectures on Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Propaganda Department of the Central Committee of the Communist Party of China, Learning Publishing House, May 2018 edition. 12 Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, 2023 edition, Learning Publishing House and People's Publishing House, 2023 edition. 13 Selected Readings of Xi Jinping's Works, Volume 1, Volume 2, People's Publishing House, 2023 edition.

Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

An Outline of Modern and Contemporary Chinese History

Module Name	An Outline of Modern and Contemporary Chinese History		
The semester in which this module is taught	Semester 2		
Module Leader	Thank you, Li Lei		
language	Chinese		
Relationship to the curriculum	General studies are compulsory courses		
Teaching methods	Teacher-centered methods: teaching method, case analysis method; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Practical method: practical teaching		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 75 hours Teaching hours: 3 hours per week, 18 weeks in total, 54 hours Self-study hours: 1.2 hours per week, a total of 18 weeks, 21 hours, including: after-school homework, exam preparation time, etc		
Credits	3 credits		
Prerequisites required and recommended for joining this module	Ideological and Moral Cultivation and Law, An Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Explain why the Opium War was the beginning of China's modern history, as well as foreign military aggression, economic plunder, political control and cultural enslavement of China after the Opium War, understand the peasant class, the landlord class ruling group, and the bourgeois reformists and revolutionaries in their exploration of the country's way out, and tell the reasons and lessons of failure. Understand the two historical tasks facing modern China: striving for national independence, people's liberation, and realizing national prosperity and modernization. Use Marxist historical materialism to solve China's practical problems.	R8

CLO2	Tell the historical inevitability and importance of the founding of the Communist Party of China, and understand the theme and main line of Chinese history since the founding of the Communist Party of China. Understand the great historical significance of the founding of the People's Republic of China. Master the efforts and achievements of the Communist Party of China in exploring the path of socialist construction in China. Speak of the inevitability and necessity of the Communist Party of China in carrying out reform, opening up and socialist modernization. Deeply understand how history and the people chose Marxism, the Communist Party of China, the socialist road, and reform and opening up. Finally, it will promote college students to clarify their ideological misunderstandings and consciously resist the erroneous trend of historical nihilism.	R8
CLO3	Deeply grasp the overall impact and significance of the changes in the main social contradictions in the new era. Tell the theme and historical significance of the 20th National Congress of the Communist Party of China, and talk about the work of the past five years and the great changes in the new era and ten years. Adhere to Marxism-Leninism, Mao Zedong Thought, Deng Xiaoping Theory, the important thought of "three represents", and the scientific outlook on development, fully implement Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, use Marxist positions, viewpoints, and methods to observe, grasp, and lead the times, and continuously deepen our understanding of the laws of the Communist Party's governance, socialist construction, and the development of human society.	R8

CLO4	Through on-site teaching, the perception of vivid historical materials, the creation of specific historical or realistic scenarios, deepen students' cognition of teaching content, cultivate students' sense of history and the times, and establish correct political directions, outlook on life and values. explore practical problems and solve the confusion of contemporary college students; It triggers its ideological shock and resonance, prompts it to form a simple sense of patriotism and love for the people and a sense of being prepared for danger in times of peace, and enhances its sense of historical mission, national self-esteem and sense of responsibility.	R12

content	Through this course, students will understand the deep suffering caused by foreign capital-imperialist aggression against China and its collusion with Chinese feudal forces to the Chinese nation and the Chinese people. understand the two historical tasks faced by China in modern times: striving for national independence, people's liberation, and achieving national prosperity and people's prosperity; understand the arduous exploration and tenacious struggle of China's advanced elements and the people in modern times for the survival of the country and their experiences and lessons; in connection with the domestic and foreign environment after the founding of New China, understand the historical inevitability of the Chinese people embarking on the socialist road led by the Communist Party; Deeply understand how history and the people chose Marxism, the Communist Party of China, the socialist road, and reform and opening up. Closely integrate with the historical reality of modern China, and improve the ability to analyze historical issues and distinguish right from wrong through the analysis of relevant historical processes, events and figures. By drawing on history, thinking about and exploring the historical and cultural connotation on which the Chinese nation relies to modernize, we should cultivate the psychological characteristics of a new national culture that is neither arrogant nor self-deprecating, and is both confident and humble. Teaching content: Introduction (weight 2/54, level: memory - evaluation). Chapter 1 enters the tribulations and struggles of the Chinese nation after modern times (weight 4/54, level: memory - evaluation). Chapter 2: Early exploration of the way out of the country by different social forces (weight 5/54, level: memory - evaluation). Chapter 3 The Xinhai Revolution and the End of the Absolute Monarchy (Weight 4/54, Rating: Memory - Evaluation). Chapter 4 The Founding of the Communist Party of China and the New Situation of the Chinese Revolution (Weight 6/54, Grade: Memory - Evaluation). Chapter 5 The New Path of the Chinese Revolution (weight 5/54, level: memory - evaluation). Chapter 6 The War of Resistance Against Japanese Aggression of the Chinese Nation (weight 7/54, level: memory - evaluation). Chapter 7 Struggle for the Establishment of New China (Weight 6/54, Rating: Memory - Evaluation). Chapter 8 The Founding of the People's Republic of China and the Exploration of China's Socialist Construction Road (weight 5/54, level: memory - evaluation). Chapter 9 Reform and Opening-up and the Creation and Development of Socialism with Chinese Characteristics (weight 5/54, level: memory - evaluation). Chapter 10 Socialism with Chinese Characteristics Enters a New Era (Weight 5/54, Grade: Memory - Evaluation).

Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. It mainly assesses students' independent learning, classroom performance, after-class homework, phased tests, practical teaching and composition scores. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed through the final examination, and the achievement of the course knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course

Read the list	1. "Basic Principles of Steel Structure", edited by Shen Zuyan, China Construction Industry Press, published in June 2018. 2. "Basic Principles of Steel Structure", edited by Cui Jia, China Construction Industry Press, published in September 2019. 3. Steel Structure Design Standards (GB50017-2017), China Construction Industry Press, 2017. 1. From the Opium War to the May Fourth Movement (Part II), People's Publishing House, 2010 edition. 2. Selected Works of Mao Zedong (Vol. 1-4), People's Publishing House, 1991 edition. 3. Selected Works of Deng Xiaoping (Volume 3), People's Publishing House, 1993 edition. 4. Selected Documents of the Central Committee of the Communist Party of China, Party School Publishing House of the Central Committee of the Communist Party of China, 1994 edition. 5. Selected Works of Jiang Zemin (Volume 1), People's Publishing House, 2006 edition. 6. "Scientific Development Concept Study Reader", Learning Publishing House, 2006 edition. 7. "Selected Documents Since the Founding of the People's Republic of China", Central Literature Publishing House, 2011 edition. 8. "Xi Jinping on Governing the Country", Foreign Languages Publishing House, 2014 edition. 9. "Ninety Years of the Communist Party of China", Party History Publishing House, Party Building Reading Publishing House, 2016 edition. 10. "A Brief History of the Communist Party of China", Communist Party History Publishing House, 2021 edition. 11. "100 Questions on Study and Counseling of the Sixth Plenary Session of the Sixth Plenary Session of the 19th Central Committee of the Communist Party of China", Party Building Reading Publishing House, Learning Daily Publishing House, 2021 edition. 12. "100 Questions on Learning and Counseling in the Report of the 20th National Congress of the Communist Party of China", Party Building Reading Publishing House, Learning Daily Publishing House, 2022 edition.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

An Outline of Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics

Module Name	An Outline of Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics		
The semester in which this module is taught	Semester 3		
Module Leader	Li Di		
language	Chinese		
Relationship to the curriculum	General studies are compulsory courses		
Teaching methods	Teacher-centered methods: teaching method, case analysis method; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Practical method: practical teaching		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 75 hours Teaching hours: 3 hours per week, 18 weeks in total, 54 hours Self-study hours: 1.17 hours per week, a total of 18 weeks, 21 hours, including: after-school homework, exam preparation time, etc		
Credits	3 credits		
Prerequisites required and recommended for joining this module	Ideological and Moral Cultivation and Law, An Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Basic Principles of Marxism, An Outline of Modern and Contemporary Chinese History		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	tell the connotation, theoretical achievements and internal logical relationships of Marxism in the Sinicization of the times; Understand that the Communist Party of China insists on combining the basic principles of Marxism with China's specific reality and with China's excellent traditional culture, and continuously promotes the sinicization of Marxism.	R6、7、8、12

CLO2	Tell the formation and development, main content and living soul of Mao Zedong Thought. Systematically grasp the Marxist positions, viewpoints and methods contained in Mao Zedong Thought. Learn to correctly evaluate Comrade Mao Zedong's historical status and Mao Zedong Thought.	R6、7、8、12
CLO3	Tell the background and formation process of the theoretical system of socialism with Chinese characteristics, tell the scientific connotation, main content and theoretical essence of Deng Xiaoping Theory, the important thought of "three represents", and the scientific outlook on development, and systematically grasp the Marxist positions, viewpoints and methods contained in the theoretical system of socialism with Chinese characteristics. Strengthen self-confidence in the road, theory, system, and culture of socialism with Chinese characteristics, and enhance political, ideological, and emotional identity.	R6、7、8、12
CLO4	In social practice, we should better connect the theory we have learned with practice, closely connect the history of the party, the history of new China, the history of reform and opening up, the history of socialist development, and the history of the development of the Chinese nation, closely integrate the great practice of carrying out great struggles, building great projects, promoting great causes, and realizing great dreams, closely combine the reality of building a modern socialist country in an all-round way, closely connect with our own ideological reality, and organically unify theory and practice, ideals and reality, subjectivity and objectivity, knowledge and action.	R6、7、8、12

content	By studying this course, students strive to master the basic theory. understand the historical process, historical changes, and historical achievements of the Communist Party of China leading the people in revolution, construction, and reform; have a deeper understanding of the Communist Party of China's insistence on combining the basic principles of Marxism with China's specific reality and with China's excellent traditional culture, and continuously promoting the sinicization of Marxism; We should have a more accurate grasp of the theoretical achievements formed in the process of sinicization and eraization of Marxism, strengthen our confidence in the road, theory, system, and culture of socialism with Chinese characteristics, and enhance our political, ideological, and emotional identity. The second is to cultivate students' theoretical thinking. Learn to grasp the ideas behind the theory, the strategy in the idea, and the wisdom contained in the strategy, so as to be inspired by ideas, enlightenment of strategy and enlightenment of wisdom. Continuously improve students' ideological and theoretical level, and continuously improve their ability to analyze and solve problems. The third is to help students connect theory with practice. Closely related to the history of the party, the history of new China, the history of reform and opening up, the history of socialist development, and the history of the development of the Chinese nation, closely combined with the great practice of carrying out great struggles, building great projects, promoting great causes, and realizing great dreams, closely combining the reality of building a modern socialist country in an all-round way, closely linking with one's own ideological reality, organically unifying theory and practice, ideals and reality, subjectivity and objectivity, knowledge and action, and consciously devoting oneself to the great practice of socialism with Chinese characteristics. Make due contributions to the great rejuvenation of the Chinese nation. Teaching content: Introduction The historical process and theoretical achievements of the Sinicization of Marxism (weight 3/54, level: memory - evaluation). Chapter 1 Mao Zedong Thought and Its Historical Status (weight 6/54, level: memory - evaluation). Chapter 2 New Democratic Revolutionary Theory (weight 6/54, level: memory - evaluation). Chapter 3 Theory of Socialist Transformation (Weight 6/54, Level: Memory - Evaluation). Chapter 4 Theoretical Achievements of Preliminary Exploration of the Road to Socialist Construction (Weight 6/54, Grade: Memory - Evaluation). Chapter 5 The Formation and Development of the Theoretical System of Socialism with Chinese Characteristics (Weight 6/54, Grade: Memory - Evaluation). Chapter 6 Deng Xiaoping Theory (weight 9/54, level: memory - evaluation). Chapter 7 "Three Represents" Important Ideas (Weight 6/54, Level: Memory - Evaluation). Chapter 8 Scientific Development Concept (Weight 6/54, Level: Memory - Evaluation).

Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. It mainly assesses students' independent learning, classroom performance, after-class homework, phased tests and composition scores. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed through the final examination, and the achievement of the course knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course

Read the list	1. Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics (2021 Edition) "Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics". Beijing: Higher Education Press: 2021 2. Written by Sun Jutao. Introduction to Deng Xiaoping Theory and the Important Thought of "Three Represents". Wuhan: Wuhan College Press. 2003 3. Zhuang Fuling, editor-in-chief. "Introduction to Mao Zedong Thought". Beijing: Chinese Minmin College Press.1991 4. Selected Works of Mao Zedong, Vol. 1, 2, 3, 4, People's Publishing House, 1991 5. Collected Works of Mao Zedong, Vol. 1-8, People's Publishing House, 1999 edition of Chinese College Press 6. Selected Works of Deng Xiaoping, Vol. 1, 2, 3, People's Publishing House, 1994 edition 7. Report of the 17th National Congress of the Communist Party of China "Holding High the Great Banner of Socialism with Chinese Characteristics and Striving for New Victory in Building a Moderately Prosperous Society in an All-round Way" 8. Report of the 18th National Congress of the Communist Party of China "Unswervingly Advancing Along the Road of Socialism with Chinese Characteristics and Striving to Build a Moderately Prosperous Society in an All-round Way" 9. Report of the 19th National Congress of the Communist Party of China, "Decisive Victory in Building a Moderately Prosperous Society in an All-round Way and Winning the Great Victory of Socialism with Chinese Characteristics in the New Era", People's Publishing House, 2017 edition. 10. "Thirty Lectures on Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era", Propaganda Department of the Central Committee of the Communist Party of China, Learning Publishing House, May 2018 edition. 11. "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era", Propaganda Department of the Central Committee of the Communist Party of China, Learning Publishing House, June 2019 edition. 12. Excerpts from Xi Jinping's Exposition on "Don't Forget the Original Intention and Keep the Mission in Mind", Institute of Party History and Literature of the Central Committee of the Communist Party of China, Party Building Reading Publishing House, August 2019 edition. 13. Report of the 20th National Congress of the Communist Party of China "Holding High the Great Banner of Socialism with Chinese Characteristics and Uniting and Striving for the Comprehensive Construction of a Modern Socialist Country" 14. "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era (2023 Edition)", Propaganda Department of the Central Committee of the Communist Party of China, Learning Publishing House, People's Publishing House 1. "Basic Principles of Steel Structure", edited by Shen Zuyan, China Construction Industry Press, published in June 2018.

	2. "Basic Principles of Steel Structure", edited by Cui Jia, China Construction Industry Press, published in September 2019. 3. Steel Structure Design Standards (GB50017-2017), China Construction Industry Press, 2017.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Current Affairs and Policies

Module Name	Current Affairs and Policies		
The semester in which this module is taught	Semester 2		
Module Leader	Rodin		
language	Chinese		
Relationship to the curriculum	General education is a compulsory course		
Teaching methods	Teacher-centered methods: lectures, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized method: complete after-school homework and video resource learning on the cloud class platform;		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 50 hours Teaching hours: 48 hours in total Self-study hours: 2 hours, including: after-class homework, exam preparation time, etc		
Credits	2 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Be able to understand that culture is related to the foundation of the country and the fortune of the country. Chinese civilization is the only great civilization in the world that has continued to develop in the form of a country, and is in a new historical direction of building a strong country and national rejuvenation. Realizing the great leap of the Chinese nation from standing up, getting rich to becoming strong will inevitably be accompanied by the great development and prosperity of Chinese culture, and will inevitably call for the construction of a socialist cultural power.	R7、R8、R12

CLO2	Since the 18th National Congress of the Communist Party of China, our country has made historic achievements in green and low-carbon development, accelerating the pace of green energy transformation, continuously optimizing and upgrading the industrial structure, continuously improving resource utilization efficiency, and continuously improving environmental quality, laying a solid foundation for further promoting green transformation. In 2024, the Central Committee of the Communist Party of China and the State Council issued the "Opinions on Accelerating the Comprehensive Green Transformation of Economic and Social Development", proposing to integrate the requirements of green transformation into the overall economic and social development, and promote green transformation in all directions, fields and regions. In teaching, students should fully understand the importance of comprehensively promoting green transformation, deeply understand the difficulties and challenges facing accelerating the comprehensive green transformation of the economy and society, and encourage young students to give full play to their talents and actively participate in the construction of green China.	R7、R8、R12

CLO3	Being able to educate is the foundation of building a strong country and national rejuvenation. Building an educational power is the dream of the Chinese nation in modern times, and it is the leading task, solid foundation and strategic support for comprehensively promoting the construction of a strong country and the great cause of national rejuvenation with Chinese-style modernization. The "Outline" points out that the educational power we want to build is a socialist education power with Chinese characteristics with strong ideological and political leadership, talent competitiveness, scientific and technological support, people's livelihood security, social synergy and international influence. At present, the central task of our party is to unite and lead the people of all ethnic groups across the country to comprehensively promote the great rejuvenation of the Chinese nation with Chinese-style modernization. The country's strategic interests and strategic goals determine the priority orientation of national development and the construction of an educational power must be given priority. In the new direction and new journey of national development, we must clearly understand the new positioning and new tasks of building an educational power.	R7、R8、R12

	CLO4	Being able to learn history and reality prove that it is impossible for China and the United States not to deal with each other, it is unrealistic to change each other, and no one can bear the consequences of conflict and confrontation. Sino-US relations are not a multiple-choice question about whether to do well, but a mandatory question on how to do well. The key to solving this mandatory question is to anchor the general direction of mutual respect, peaceful coexistence and win-win cooperation. These three principles are not only a summary of the past experience of Sino-US relations, but also a revelation brought about by the conflict between major powers in history, and an important navigation marker to ensure that the two giant ships of China and the United States do not defry, do not stall, and do not collide.	R7、R8、R12
content	The course "Current Affairs and Policies" focuses on the main content, spiritual essence, historical status and guiding significance of the theoretical achievements of Marxism in Sinicization, and fully reflects the historical process and basic experience of the Communist Party of China in continuously promoting the combination of the basic principles of Marxism with China's specific reality. Focusing on the latest achievements in the sinicization of Marxism, we will comprehensively grasp the entry of socialism with Chinese characteristics into a new era, systematically explain the main content and historical status of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, and fully reflect the strategic deployment of building a modern socialist power. Teaching content: Topic 1 Accelerate the construction of a socialist cultural power (weight 12/48, level: memory + understanding + analysis). Topic 2 Planting a green background to build a beautiful China (weight 12/48, level: memory + understanding + analysis). Topic 3 From a big country in education to an educational power (weight 12/48, level: memory + understanding + analysis). Topic 4 Exploring the correct way of getting along between China and the United States in the new era (weight 12/48, level: memory + understanding + analysis).		

Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a 100-point scale, accounting for 40% of the total evaluation score, including classroom performance, independent learning, etc. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed through online open-book form, and the achievement of course knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	1. "Current Affairs Report College Student Edition", Propaganda Department of the Central Committee of the Communist Party of China, "Current Affairs Report" Magazine, March 2025 edition 2. Counseling Reader of the Report of the 20th National Congress of the Communist Party of China, People's Publishing House, October 2022 edition 3. The report of the 20th National Congress of the Communist Party of China, Learning Publishing House, Party Building Reading Publishing House, October 2022 edition
Version number	V2022, the major version will take effect in September 2022 V2022.1, Update point: Credits and workload are calculated according to ECTS

College Chinese

Module Name	College Chinese		
The semester in which this module is taught	Semester 2		
Module Leader	Deng Liping		
language	Chinese		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching method, text reading method, cultural development method; Interaction methods: heuristic discussion, cross-text comparison, cooperative inquiry; Practical methods: task-driven creation method, contextualized deduction method, cultural project practice method		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 50 hours Teaching hours: 2 hours per week, 18 weeks in total, 36 hours Self-study hours: 0.78 hours per week, a total of 18 weeks, 14 hours, including: after-school homework, exam preparation time, etc		
Credits	2 credits		
Prerequisites required and recommended for joining this module	High school Chinese		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements

	CLO1	Based on the perspective of engineering ethics and humanities, be able to write a report on the solution of complex problems in the field of electrical engineering with a rigorous structure and clear logic, and accurately explain the design ideas and innovations of electrical modules or systems. At the same time, use critical thinking and interdisciplinary knowledge to write an objective and comprehensive engineering practice impact assessment analysis report from the dimensions of society, health, safety, law, culture, environment and sustainable development, so as to improve the humanistic and social adaptability of engineering solutions.	R10
	CLO2	Be able to independently write electrical engineering scientific and technological papers, designs and experimental reports with strict logic and standardized professional terminology, so as to achieve efficient written transformation of academic achievements. At the same time, using the language expression and communication skills tempered in College Chinese courses, in academic reports, project defense, industry exchanges and other scenarios, with clear and smooth oral expression and appropriate written communication, accurately convey professional views, effectively interact with peers and the public, and enhance the dissemination and influence of professional achievements.	R10
	CLO2	be able to form independent learning habits driven by reading humanistic classics and critical thinking, master the methods of literature analysis and knowledge integration, and improve the ability to draw innovative thinking and methodology from interdisciplinary texts; At the same time, we will deeply understand the core value of lifelong learning in professional development and personal growth, and transfer the continuous reading, reflection and self-improvement awareness cultivated in the course to the process of technical iteration and knowledge updating in the field of electrical engineering, so as to realize the coordinated development of professional ability and humanistic quality.	R12

content	Through the study of this course, students will systematically cultivate their reading analysis, text comprehension, aesthetic appreciation and expression and creation abilities in the field of language and literature, so that they can accurately interpret classic literary works, grasp cultural connotations, and skillfully use standardized written and oral language for professional expression; At the same time, it deeply infiltrates the excellent traditional Chinese culture, improves literary aesthetic quality, strengthens the humanistic heritage and interdisciplinary thinking ability, and lays a solid humanistic foundation for professional learning and career development. In addition, guide students to establish a scientific world view, outlook on life and values, cultivate family and country feelings, cultivate professionalism and lifelong learning awareness, realize the organic integration of humanistic spirit and professionalism, and help students adapt to multiple career scenarios with a comprehensive, comprehensive and sustainable attitude. Introduction: Overview of Literary History (weight 1/36, level: memory + understanding). Chapter 1: Pre-Qin and Han Dynasty Wei and Jin Literature (weight 9/36, level: memory + understanding + analysis). Chapter 2: Literature of the Sui and Tang Dynasties and the Two Song Dynasties (weight 14/36, level: memory + understanding + application + evaluation). Chapter 3: Modern Literature of the Yuan, Ming and Qing Dynasties (weight 4/36, memory + understanding + analysis). Chapter 4: Overview of Modern and Contemporary Chinese Literature (weight 4/36, level: memory + understanding + evaluation + creation). Chapter 5: Overview of Foreign Literature (weight 4/36, level: memory + understanding + analysis + evaluation).
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course.

Read the list	1. "College Chinese", edited by Xu Zhongyu, Qi Senhua and Tan Fan, East China Normal College Press, December 2018, 11th edition. 2. "College Chinese", edited by Xu Zhongyu and Tao Xingzhuan, Peking College Press, November 2018, 10th edition. 3. "College Chinese", edited by Xu Zhongyu, Higher Education Press, July 2016, 5th edition. 4. "College Chinese", edited by Zhang Shouxing and Hu Yudong, Peking College Press, August 2011, 1st edition. 5. College Chinese, edited by Cheng Qing and Liu Hanbo, Peking College Press, February 2012, 1st edition. 6. "New College Chinese", edited by Ma Xiuping and Jiang Xueyan, Peking College Press, August 2007, 1st edition. 7. History of Chinese Literature, edited by Yuan Xingpei, Xinhua Publishing House, May 1998, 1st edition. 8. "General Theory of Ancient Chinese Literature", edited by Fu Xuancong and Jiang Yin, Liaoning People's Publishing House, July 2010, 1st edition. 9. History of Modern and Contemporary Chinese Literature, edited by Cao Wansheng, Chinese College Press, February 2016, 3rd edition. 10. Selected Foreign Literary Works, edited by Wang Xiangyuan and Gao Hongtao, Beijing Normal College Press, March 2010, 1st edition.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

College Foreign Languages(1)

Module Name	College Foreign Languages(1)		
The semester in which this module is taught	Semester 1		
Module Leader	Qi Wen		
language	Chinese, English		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching method, heuristic teaching method; Interactive methods: comparative pedagogy, cooperative learning pedagogy, discussion pedagogy; Individualized approach: procedural teaching Practical methods: task-driven teaching method, topic-based teaching method		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 126 hours Teaching hours: 4 hours per week, 18 weeks in total, 72 hours Self-study hours: 3 hours per week, a total of 18 weeks, 54 hours, including: after-class homework, exam preparation time, etc		
Credits	4 credits		
Prerequisites required and recommended for joining this module	High School English		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	systematically learn English phonetics, basic vocabulary and grammatical structures, and master daily conversation and simple written expression skills; Be able to understand slow English conversations and short announcements, and conduct basic Q&A; Read and understand short general English materials (e.g., notices, emails); Complete the translation of simple sentences into Chinese and English, and initially establish a sense of language application. Have a certain international perspective and be able to communicate and exchange in a cross-cultural context.	R10

	CLO2	Cultivate students with a sense of lifelong learning, a deep understanding of the importance of English as a key tool for continuous learning and personal development, and master effective English self-directed learning strategies through the study of this course, so as to have the ability to use English to continuously acquire new knowledge and adapt to future development and challenges.	R12
content	This course focuses on English language knowledge and application skills, learning strategies and cross-cultural communication, guided by foreign language teaching theory, and aims to cultivate students' comprehensive English application ability. By studying this course, students will develop their listening, speaking, reading and writing skills and independent learning ability. So that they can effectively communicate oral and written information in English in future study, work and social interactions, and at the same time enhance their independent learning ability and improve their comprehensive cultural literacy. Teaching content: Unit 1: College Life (Weight 15/72, Level: Memory + Understanding + Application). Unit 2: Reading (weight 14/72, level: memory + understanding + application). Unit 3: Color (weight 14/72, level: memory + understanding + application). Unit 4: Interview (weight 15/72, memory + understanding + application). Unit 5 : Festival (Weight 14/72, Level: Memory + Understanding + Application).		
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: Overall course evaluation score = 30% of the process assessment × + 70% of the final assessment × (1) Process assessment, scored on a percentage system, accounting for 30% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 70% of the total evaluation score. Converted from the national College English level 4 score. Course final assessment score = National College English Level 4 score * 0.2		
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course		

Read the list	1. Zhang Zhihua, editor-in-chief"General College English - Reading and Writing Course" Volume 1 Revised EditionBeijing: Science Press, 2022.06 2. Zhang Zhihua, editor-in-chief"General College English - Listening and Speaking Tutorial" Volume 1 Revised EditionBeijing: Science Press, 2022.06 3. Steering Committee for Foreign Language Teaching in Colleges and Universities, Ministry of Education, "Guidelines for Teaching English in Colleges and Universities (2020 Edition)" Beijing: Higher Education Press, 2020.12 4. Ministry of Education, National Language and Writing Working Committee, "Chinese English Proficiency Scale".2018.06 5. Compiled by the National College English Level 4 and 6 Examination CommitteeNational College English Level 4 and 6 Examination Syllabus (2016 Revised Edition), Shanghai: Shanghai Foreign Language Education Press, 2016.09 6. Yan Wenqingchief editor. Ideological and Political Teaching Guide for College English Courses.Shanghai:East China Normal College Press， 2021.05
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

College Foreign Languages(2)

Module Name	College Foreign Languages(2)		
The semester in which this module is taught	Semester 2		
Module Leader	Qi Wen		
language	Chinese, English		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching method, heuristic teaching method; Interactive methods: comparative pedagogy, cooperative learning pedagogy, discussion pedagogy; Individualized approach: procedural teaching Practical methods: task-driven teaching method, topic-based teaching method		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 126 hours Teaching hours: 4 hours per week, 18 weeks in total, 72 hours Self-study hours: 3 hours per week, a total of 18 weeks, 54 hours, including: after-class homework, exam preparation time, etc		
Credits	4 credits		
Prerequisites required and recommended for joining this module	College Foreign Languages(1)		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Improve the ability to use comprehensive language, and be proficient in the use of complex sentence patterns and chapter structures. Be able to understand academic lectures or professional-related audio at a moderate pace, participate in group discussions and express opinions; Read medium-length professional popular science articles to extract core information; Translate basic literature passages related to the profession to ensure the logical flow of the translation. Write a clearly structured outline of the lab report or the first draft of a technical document.	R10

	CLO2	Cultivate students with a sense of lifelong learning, a deep understanding of the importance of English as a key tool for continuous learning and personal development, and master effective English self-directed learning strategies through the study of this course, so as to have the ability to use English to continuously acquire new knowledge and adapt to future development and challenges.	R12
content	This course focuses on English language knowledge and application skills, learning strategies and cross-cultural communication, guided by foreign language teaching theory, and aims to cultivate students' comprehensive English application ability. By studying this course, students will develop their listening, speaking, reading and writing skills and independent learning ability. So that they can effectively communicate oral and written information in English in future study, work and social interactions, and at the same time enhance their independent learning ability and improve their comprehensive cultural literacy. Teaching content: Unit 1: Affection (weight 15/72, level: memory + understanding + application). Unit 2: Education (weight 15/72, level: memory + comprehension + application). Unit 3 :P ersonality (weight 14/72, level: memory + understanding + application). Unit 4： Name and Appearance（权重 14/72，记忆+理解+应用） Unit 5 ：Chinese Traditional Medicine（权重 14/72，级别：记忆+理解+应用）		
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: Overall course evaluation score = 30% of the process assessment × + 70% of the final assessment × (1) Process assessment, scored on a percentage system, accounting for 30% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 70% of the total evaluation score. Converted from the national College English level 4 score. Course final assessment score = National College English Level 4 score * 0.2		
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course		

Read the list	1. Zhang Zhihua, editor-in-chief"Universal College English - Reading and Writing Course" Volume 2 Revised EditionBeijing: Science Press, 2022.06 2. Zhang Zhihua, editor-in-chief"General College English - Listening and Speaking Course" Volume 2 Revised EditionBeijing: Science Press, 2022.06 3. Steering Committee for Foreign Language Teaching in Colleges and Universities, Ministry of Education, "Guidelines for Teaching English in Colleges and Universities (2020 Edition)" Beijing: Higher Education Press, 2020.12 4. Ministry of Education, National Language and Writing Working Committee, "Chinese English Proficiency Scale".2018.06 5. Compiled by the National College English Level 4 and 6 Examination CommitteeNational College English Level 4 and 6 Examination Syllabus (2016 Revised Edition), Shanghai: Shanghai Foreign Language Education Press, 2016.09 6. Yan Wenqingchief editor. Ideological and Political Teaching Guide for College English Courses.Shanghai:East China Normal College Press， 2021.05
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

College Foreign Languages(3)

Module Name	College Foreign Languages(3)		
The semester in which this module is taught	Semester 3		
Module Leader	Qi Wen		
language	Chinese, English		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching method, heuristic teaching method; Interactive methods: comparative pedagogy, cooperative learning pedagogy, discussion pedagogy; Individualized approach: procedural teaching Practical methods: task-driven teaching method, topic-based teaching method		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 54 credit hours Teaching hours: 2 hours per week, 18 weeks in total, 36 hours Self-study hours: 1 hour per week, a total of 18 weeks, 18 hours, including: after-class homework, exam preparation time, etc		
Credits	2 credits		
Prerequisites required and recommended for joining this module	College Foreign Language (1), College Foreign Language (2)		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Deepen professional English skills, be able to write standardized English experiment reports, technical documents and paper abstracts; Understand the lectures of professional courses and reiterate the key points, and fluently state the technical solutions and achievements; Read and analyze English literature in the field of electrical automation, summarize technical logic; Translate formal and sports professional materials with the help of tools; Participate in international conference discussions and demonstrate cross-cultural communication awareness.	R10

	CLO2	Cultivate students with a sense of lifelong learning, a deep understanding of the importance of English as a key tool for continuous learning and personal development, and master effective English self-directed learning strategies through the study of this course, so as to have the ability to use English to continuously acquire new knowledge and adapt to future development and challenges.	R12
content	This course focuses on English language knowledge and application skills, learning strategies and cross-cultural communication, guided by foreign language teaching theory, and aims to cultivate students' comprehensive English application ability. By studying this course, students will develop their listening, speaking, reading and writing skills and independent learning ability. So that they can effectively communicate oral and written information in English in future study, work and social interactions, and at the same time enhance their independent learning ability and improve their comprehensive cultural literacy. Teaching content: Unit 1: Insights into Life (weight 8/36, level: memory + understanding + application). Unit 2: Stories (weight 6/36, level: memory + understanding + application). Unit 3 : Animals (1) (Weight 6/36, Level: Memory + Understanding + Application) Unit 4: Food (weight 8/36, memory + understanding + application). Unit 5 : Current Affairs (weight 8/36, level: memory + understanding + application).		
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: Overall course evaluation score = 30% of the process assessment × + 70% of the final assessment × (1) Process assessment, scored on a percentage system, accounting for 30% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 70% of the total evaluation score. Converted from the national College English level 4 score. Course final assessment score = National College English Level 4 score * 0.2		
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course		

Read the list	1. Zhang Zhihua, editor-in-chief"General College English - Reading and Writing Course" Volume 3 Revised EditionBeijing: Science Press, 2021.06 2. Zhang Zhihua, editor-in-chief"General College English - Listening and Speaking Course" Volume 3 Revised EditionBeijing: Science Press, 2021.06 3. Steering Committee for Foreign Language Teaching in Colleges and Universities, Ministry of Education, "Guidelines for Teaching English in Colleges and Universities (2020 Edition)" Beijing: Higher Education Press, 2020.12 4. Ministry of Education, National Language and Writing Working Committee, "Chinese English Proficiency Scale".2018.06 5. Compiled by the National College English Level 4 and 6 Examination CommitteeNational College English Level 4 and 6 Examination Syllabus (2016 Revised Edition), Shanghai: Shanghai Foreign Language Education Press, 2016.09 6. Yan Wenqingchief editor. Ideological and Political Teaching Guide for College English Courses.Shanghai:East China Normal College Press， 2021.05
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

College Foreign Languages(4)

Module Name	College Foreign Languages(4)		
The semester in which this module is taught	Semester 4		
Module Leader	Qi Wen		
language	Chinese, English		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching method, heuristic teaching method; Interactive methods: comparative pedagogy, cooperative learning pedagogy, discussion pedagogy; Individualized approach: procedural teaching Practical methods: task-driven teaching method, topic-based teaching method		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 54 credit hours Teaching hours: 2 hours per week, 18 weeks in total, 36 hours Self-study hours: 1 hour per week, a total of 18 weeks, 18 hours, including: after-class homework, exam preparation time, etc		
Credits	2 credits		
Prerequisites required and recommended for joining this module	College Foreign Language (1), College Foreign Language (2), College Foreign Language (3)		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Deepen English skills, be able to write standardized English experimental reports, technical documents and paper abstracts; Understand the lectures of professional courses and reiterate the key points, and fluently state the technical solutions and achievements; Read and analyze English literature in the field of electrical automation, summarize technical logic; Translate formal and sports professional materials with the help of tools; Participate in international conference discussions and demonstrate cross-cultural communication awareness.	R10

	CLO2	Cultivate students with a sense of lifelong learning, a deep understanding of the importance of English as a key tool for continuous learning and personal development, and master effective English self-directed learning strategies through the study of this course, so as to have the ability to use English to continuously acquire new knowledge and adapt to future development and challenges.	R12
content	This course focuses on English language knowledge and application skills, learning strategies and cross-cultural communication, guided by foreign language teaching theory, and aims to cultivate students' comprehensive English application ability. By studying this course, students will develop their listening, speaking, reading and writing skills and independent learning ability. So that they can effectively communicate oral and written information in English in future study, work and social interactions, and at the same time enhance their independent learning ability and improve their comprehensive cultural literacy. Teaching content: Unit 1 : Art (weight 8/36, level: memory + understanding + application). Unit 2: Digital Technology (Weight 8/36, Level: Memory + Understanding + Application). Unit 3: Environment Protection (weight 6/36, level: memory + understanding + application). Unit 4: Health (weight 6/36, memory + comprehension + application). Unit 5: On Friendship (Weight 8/36, Level: Memory + Understanding + Application).		
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: Overall course evaluation score = 30% of the process assessment × + 70% of the final assessment × (1) Process assessment, scored on a percentage system, accounting for 30% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 70% of the total evaluation score. Converted from the national College English level 4 score. Course final assessment score = National College English Level 4 score * 0.2		
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course		

Read the list	1. Zhang Zhihua, editor-in-chief"Universal College English - Reading and Writing Course" Volume 4 Revised EditionBeijing: Science Press, 2024.03 2. Zhang Zhihua, editor-in-chief"General College English - Listening and Speaking Course" Volume 4 Revised EditionBeijing: Science Press, 2024.03 3. Steering Committee for Foreign Language Teaching in Colleges and Universities, Ministry of Education, "Guidelines for Teaching English in Colleges and Universities (2020 Edition)" Beijing: Higher Education Press, 2020.12 4. Ministry of Education, National Language and Writing Working Committee, "Chinese English Proficiency Scale".2018.06 5. Compiled by the National College English Level 4 and 6 Examination CommitteeNational College English Level 4 and 6 Examination Syllabus (2016 Revised Edition), Shanghai: Shanghai Foreign Language Education Press, 2016.09 6. Yan Wenqingchief editor. Ideological and Political Teaching Guide for College English Courses.Shanghai:East China Normal College Press， 2021.05
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Beauty and life---- Lady's Academy

Module Name	Beauty and life---- Lady's Academy		
The semester in which this module is taught	Semester 2		
Module Leader	Chen Su		
language	Chinese		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching demonstration method, case analysis method, and situation simulation guidance method; Interaction methods: group discussion method, role-playing method; Individualized method: unit teaching, independent design Practical methods: skill practical training method, social practice experience method, project planning practice method;		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 25 hours Teaching hours: 1 hour per week, 18 weeks in total, 18 hours Self-study hours: 0.39 hours per week, a total of 18 weeks, 7 hours, including: after-class homework, exam preparation time, etc		
Credits	1 credit		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements

	CLO1	be able to systematically improve the literacy of humanities and social sciences, deeply understand the traditional Chinese etiquette culture and modern civilization norms, and shape elegant and decent words and deeds and good moral cultivation; In the process of project design, teamwork and customer communication, we abide by professional ethics and fulfill social responsibilities with a professional and humanistic attitude, so as to achieve the harmonious unity of engineering technology and humanistic spirit.	R8、R10
content	The course is mainly aimed at the characteristics of contemporary female college students, cultivating the appearance, conversation, manners, thinking and behavior habits of female college students, so that they have the feminine charm rich in the connotation of Chinese beauty, based on the excellent concept of traditional culture, guide contemporary female college students to be good, elegant and virtuous, self-love and self-reliance, teach them to initially master basic daily life skills, guide and explore their interests and hobbies, and promote the good development of women's potential, so that they can cultivate both virtue and art, be full of spirit, and have excellent taste. better adapt to the needs of society and strive to become a modern professional woman with "self-esteem, self-confidence, self-improvement, and self-reliance". Teaching content: Chapter 1: Inner cultivation in the "heart" (weight 12/18, level: memory + understanding + application + evaluation) Chapter 2: Externalization in "form" (weight 6/18, level: memory + understanding + application).		
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 60% + final assessment × 40% (1) Procedural assessment, scored on a percentage system, accounting for 60% of the overall evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 40% of the overall evaluation score. The assessment is mainly conducted through course papers to evaluate the achievement of course ability goals and literacy goals.		
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course.		

Read the list	1. "Good Love", edited by Chen Guo, published by People's Daily Publishing House, April 2018; 2. "Women's Psychology", edited by Song Xintian, Shanxi Normal College Press, published in September 2012; 3. "Women and Power", Mary Beard, Tianjin People's Publishing House, February 2019; 4. "Chinese Women's Feelings and Sexuality", Li Yinhe, Inner Mongolia College Press, August 2009; 5. "Manual for the Use of the Female Human Body", Wang Shu, China Zhigong Publishing House, published in January 2007; 6. "Eight Tips for Women in the Workplace", Harvard Business Review, Zhejiang Publishing Group, October 2018.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Beauty and life---- Lady's Academy

Module Name	Beauty and life---- Lady's Academy		
The semester in which this module is taught	Semester 2		
Module Leader	Li Shibai		
language	Chinese		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching demonstration method, case analysis method, and situation simulation guidance method; Interaction methods: group discussion method, role-playing method; Individualized method: unit teaching, independent design Practical methods: skill practical training method, social practice experience method, project planning practice method;		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 25 hours Teaching hours: 1 hour per week, 18 weeks in total, 18 hours Self-study hours: 0.39 hours per week, a total of 18 weeks, 7 hours, including: after-class homework, exam preparation time, etc		
Credits	1 credit		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements

	CLO1	be able to deeply absorb the spiritual core of "self-cultivation, family governance, and peace of the world" in the excellent traditional Chinese culture, systematically cultivate traditional virtues such as benevolence, righteousness, propriety, wisdom, and trustworthiness, and shape the personal character of integrity, integrity, humility and responsibility; At the same time, the humanistic feelings, social responsibility and engineering ethics cultivated in the course are combined, and in the project design, technology research and development and engineering practice of electrical engineering, strictly abide by the professional ethics, practice the mission of engineers in the way of a gentleman, and fully consider the impact of technology application on the society, environment and public interests on the basis of ensuring the quality and safety of the project, so as to realize the coordinated development of professional ability and humanistic quality.	R8
content	Through the study of this course, students can understand what a gentleman's personality is, improve students' self-cultivation, and cultivate students with both virtue and ability; learn traditional Chinese culture, feel the 5,000-year-old Chinese civilization and strong cultural heritage; Improve students' awareness of "gentlemen", guide students to improve themselves, and pursue a more valuable life. Teaching content: Chapter 1: The Meaning of a Gentleman (weight 2/18, level: memory + understanding + application + evaluation). Chapter 2: The Virtue of a Gentleman (weight 2/18, level: memory + understanding + application + evaluation). Chapter 3: The Gentleman's Etiquette (weight 2/18, level: memory + understanding + application). Chapter 4: The Beauty of a Gentleman (weight 4/18, level: memory + understanding + application). Chapter 5: The Gentleman's Style (weight 4/18, level: memory + understanding + application). Chapter 6: The Art of a Gentleman (weight 4/18, level: memory + understanding + application).		

Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 60% + final assessment × 40% (1) Procedural assessment, scored on a percentage system, accounting for 60% of the overall evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 40% of the overall evaluation score. The assessment is mainly conducted through course papers to evaluate the achievement of course ability goals and literacy goals.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course.
Read the list	1. "Translation and Commentary on the Analects", translated and annotated by Yang Bojun, Zhonghua Book Company, 1980 edition; 2. A Brief History of Chinese Philosophy, by Feng Youlan, New World Publishing House, 2004 edition; 3. "The Course of Beauty", by Li Zehou, Cultural Relics Publishing House, 1981, 1989 editions; 4. "The Study of a Gentleman", written by Xu Xiaoyue, Jiangsu People's Publishing House, 2025 edition; 5. "Seeing the Gentleman", by Hao Yongwei, Guangxi Normal College Press, 2024 edition; 6. "The Great Changes in History", by Gong Pengcheng, Zhejiang Literature and Art Publishing House, 2023 edition.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

College Student Health Education

Module Name	College Student Health Education		
The semester in which this module is taught	Semester 1.2		
Module Leader	Zhuang Yanling, Liu Shuting, Luo Jing		
language	Chinese		
Relationship to the curriculum	General studies are compulsory courses		
Teaching methods	Teacher-centered methods: teaching methods, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized method: unit teaching, independent design Practical method: group psychological counseling		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 50 hours Teaching hours: 2 hours per week, 18 weeks in total, 36 hours Self-study hours: 1 hour per week, a total of 14 weeks, 14 hours, including: after-class homework, pre-class preview		
Credits	2 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Master the relevant theories and basic concepts of health education, clarify the standards and significance of physical health and mental health, and be familiar with the basic common sense related to physical and mental health, common physical and mental diseases and symptoms, and basic methods of maintaining physical and mental health.	R12

CLO2	Enhance the awareness of self-care and psychological crisis prevention, establish a sense of autonomy for healthy development, take the initiative to explore one's own psychological characteristics and personality characteristics, be able to objectively evaluate one's physical condition, psychological condition, behavioral ability, etc., correctly understand oneself, accept oneself, and take the initiative to develop good living habits and hygiene habits, care for life, and cultivate life feelings.	R10、12
CLO3	Master the necessary knowledge of injury prevention and infection prevention, first aid common sense, self-exploration skills, psychological adjustment skills and psychological development skills, such as artificial respiration, chest compressions, environmental adaptation skills, stress management skills, communication skills, problem solving skills, self-management skills, interpersonal skills and career planning skills. Be able to self-adjust or seek help when encountering psychological problems, actively explore the life conditions that suit you and adapt to society.	R10、12

content	The course of "College Student Health Education" aims to enable students to clarify the standards and meanings of health, master the knowledge of physical and mental diseases, infectious disease prevention and control, emergency and first aid, drug use, psychological development characteristics, etc., establish the correct and scientific mental health concept of college students, correctly understand and accept themselves, continuously optimize psychological quality, enhance psychological resilience, master self-exploration, psychological adjustment and psychological development skills to cope with stress, setbacks, interpersonal relationships and psychological crises, and enhance college students' consciousness of maintaining mental health. Improve self-care and disease prevention ability, so that college students can consciously choose healthy behaviors and lifestyles, and promote the overall improvement of college students' physical and mental quality. Teaching content: Chapter 1 Health Education Curriculum Guide (Weight 2/36, Level: Understanding) Chapter 2 Adaptation of Freshmen (Weight 2/36, Level: Understanding, Application, Analysis) Chapter 3 Sexual Health Education for College Students (Weight 4/36, Level: Understanding, Application, Analysis) Chapter 4 Healthy Lifestyle (Weight 2/36, Level: Understanding, Application, Analysis) Chapter 5 Interpersonal Communication (weight 4/36, level: understanding, application, analysis) Chapter 6 AIDS Prevention Education (Weight 2/36, Level: Understanding, Application) Chapter 7 Disease Prevention (Weight 2/36, Level: Understanding, Application, Analysis) Chapter 8 Common Psychological Problems and Interventions in College Students (Weight 4/36, Level: Understanding, Application, Analysis) Chapter 9 Love Psychology (weight 2/36, level: understanding, application, analysis) Chapter 10 Healthy Personality Shaping (Weight 2/36, Level: Understanding, Application, Analysis) Chapter 11 Drug Prevention (Weight 2/36, Level: Understanding, Application, Analysis) Chapter 12 Emotion Regulation and Stress Management (Weight 4/36, Level: Understanding, Application, Analysis) Chapter 13 Life Education (Weight 2/36, Level: Understanding, Application, Analysis) Chapter 14 Safety and Emergency Avoidance (Weight 2/36, Level: Understanding, Application, Analysis)

Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. The main assessment of students' procedural assessment consists of classroom performance, homework, phased testing, and independent learning and the composition of scores. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed through the final paper examination and the achievement of the course objectives is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	1. "College Student Health Education", edited by He Yushan and Liang Jinyun, Huazhong College of Science and Technology Press, published in July 2024.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Military theory and training

Module Name	Military theory		
The semester in which this module is taught	Semester 1		
Module Leader	Zhao Liping		
language	Chinese		
Relationship to the curriculum	Public compulsory courses		
Teaching methods	Teacher-centered methods: lectures, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized method: unit teaching, independent design Practical method: military training		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 74 hours Teaching hours: 2 hours per week, 9 weeks in total, 18 hours Self-study hours: 6.2 hours per week, a total of 9 weeks, 56 hours, including: after-school homework, exam preparation time, etc		
Credits	2.5 credits		
Prerequisites required and recommended for joining this module	Basic knowledge of history, geography, politics and other basic knowledge in high school, able to understand basic concepts such as international relations and national security.		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Guide students to establish a correct world view, outlook on life, and values.	R9、R12
	CLO2	Master military fundamentals and basic military skills.	R9、R12
	CLO3	Enhance the concept of national defense, national security, and awareness of dangers and crises, carry forward the spirit of patriotism, inherit the red gene, and improve students' comprehensive national defense quality	R9、R12

content	Through studying this course, students can understand and master the basic knowledge of the military, enhance the concept of national defense, national security and awareness of dangers and crises, carry forward the spirit of patriotism, inherit the red gene, and improve the comprehensive national defense quality of students. Teaching content: Chapter 1 China's National Defense (weight 5/18, level: understanding, application). Chapter 2 National Security (weight 4/18, level: understanding, application). Chapter 3 Military Thought (weight 3/18, level: understanding, analysis, application). Chapter 4 Modern Warfare (weight 3/18, level: understanding, analysis, application). Chapter 5 Information Equipment (Weight 3/18, Level: Understanding, Application).
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	1. National Defense Education Office. Outline of National Defense History" [M], Beijing, National Defense College Press, 2012. 2. Xunji. "New Military Course Course Tutorial for College Students" [M], Beijing, National Defense College Press, published in 2015. 3. Xu Yan. Du Wenlong, "Military Theory", National Defense College of the Chinese People's Liberation Army, 2025.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Military theory and training

Module Name	Training		
The semester in which this module is taught	Semester 1		
Module Leader	Li Ruqiang		
language	Chinese		
Relationship to the curriculum	Public compulsory courses		
Teaching methods	Teacher-centered methods: lectures, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized method: unit teaching, independent design Practical method: military training		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 74 hours Teaching hours: 2 hours per week, 9 weeks in total, 18 hours Self-study hours: 6.2 hours per week, a total of 9 weeks, 56 hours, including: after-school homework, exam preparation time, etc		
Credits	2.5 credits		
Prerequisites required and recommended for joining this module	Basic knowledge of history, geography, politics and other basic knowledge in high school, able to understand basic concepts such as international relations and national security.		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Guide students to establish a correct world view, outlook on life, and values.	R9、R12
	CLO2	Master military fundamentals and basic military skills.	R9、R12
	CLO3	Enhance the concept of national defense, national security, and awareness of dangers and crises, carry forward the spirit of patriotism, inherit the red gene, and improve students' comprehensive national defense quality.	R9、R12

content	Through studying this course, students can understand and master the basic knowledge of the military, enhance the concept of national defense, national security and awareness of dangers and crises, carry forward the spirit of patriotism, inherit the red gene, and improve the comprehensive national defense quality of students. Teaching content: Chapter 1 Common Doctrine Education and Training (Weight 6/18, Level: Understanding). Chapter 2 Shooting and Tactical Training (Weight 3/18, Level: Understanding, Application) Chapter 3 Defense Skills and Wartime Protection Training (Weight 5/18, Level: Understanding, Application) Chapter 4 Combat Readiness Basic and Applied Training (Weight 4/18, Level: Understanding, Application).
Assessment form	1. Curriculum assessment: process assessment. 2. Grade evaluation: comprehensive evaluation based on students' training time, actual performance, and mastery level. The grades are divided into four grades: excellent, good, passing and failing.
Study and exam requirements	The grades are divided into four grades: excellent, good, passing and failing
Read the list	1. National Defense Education Office. Outline of National Defense History" [M], Beijing, National Defense College Press, 2012. 2. Xunji. "New Military Course Course Tutorial for College Students" [M], Beijing, National Defense College Press, published in 2015. 3. Xu Yan. Du Wenlong, "Military Theory", National Defense College of the Chinese People's Liberation Army, 2025.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

College Sports (Club)

Module Name	College Sports (Club)		
The semester in which this module is taught	1st, 2nd, 3rd, and 4th semesters		
Module Leader	Wang You		
language	Chinese		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching, demonstration, and questioning; Interactive methods: inquiry-based problem learning, group discussion, cooperative learning method; Individualized learning methods: Feynman learning method, physical education teaching Practical methods: task-driven method, practice		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 36 hours Teaching hours: 2 hours per week, 18 weeks in total, 36 hours		
Credits	5 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Carry out curriculum ideological and political construction, systematically carry out education on socialism with Chinese characteristics and the Chinese dream, socialist core values education, rule of law education, labor education, mental health education, and excellent traditional Chinese culture education, and cultivate students to strengthen their ideals and beliefs, and have political identity, family and country feelings, cultural literacy, constitutional awareness of the rule of law, and moral accomplishment.	R9

CLO2	have high cultural accomplishment, strong aesthetic ability and noble moral sentiments, and have a rigorous and scientific way of thinking and truth-seeking spirit; have a sound psychology, a healthy physique, and civilized behavioral habits; have a critical spirit, be able to discover, analyze, question, and evaluate phenomena and problems in the professional field, and express personal opinions;	R9
CLO3	have a critical spirit, be able to discover, analyze, question, and evaluate phenomena and problems in the professional field, and express personal opinions;	R12

content	The "College Sports (Club)" course is a compulsory general education course for all undergraduate majors in the College, aiming to enhance students' physical fitness, improve health and improve physical literacy through physical exercise, reasonable physical education and scientific exercise This curriculum is not only an important part of the school curriculum system, but also the central link of school physical education, which is of great significance for the implementation of quality education and the cultivation of all-round development talents. Adhering to the concept of "health first, all-round development, highlighting key points, and serving the locality", students can learn and exercise in happiness, master at least two sports skills, and lay the foundation for lifelong physical exercise. The course content includes: competition, confrontation, cooperation, challenge, victory, failure and other elements of developing psychological quality; There are also sports and humanistic spirits such as the principle of fairness, hard work, self-sacrifice, and team spirit. At the same time, it is one of the compulsory basic disciplines in the school's teaching subjects, and is an indispensable key to cultivating socialist modernization talents with all-round development of moral, intellectual, physical and aesthetic. The first semester is mainly based on basketball, volleyball, and track and field, and the second semester is mainly based on students' interests, hobbies, and specialties, choosing a content (basketball, football, volleyball, badminton, table tennis, martial arts, etc.), and the learning content of the third and fourth semesters is the same as the second semester, which is the consolidation and improvement of the second semester. Course objective 1: Cultivate students' correct understanding of this course, improve students' awareness of sports participation, and enable students to consciously, actively and regularly participate in physical exercise. Let students master the basic principles and methods of scientific exercise, such as mastering reasonable and effective fitness methods, prevention and treatment of sports injuries, self-evaluation of exercise effects, etc., and use scientific theoretical knowledge to guide practice. Course objective 2: Through physical education courses, master two sports and exercise methods that you like more, and form certain hobbies and interests in a certain aspect, be able to scientifically carry out physical exercise, improve your athletic ability, develop your athletic ability, participate in challenging activities and sports competitions, and lay a good foundation for "lifelong sports". Curriculum objective 3: Set physical education curriculum objectives; consciously improve the psychological state through physical activities, overcome psychological obstacles, and develop a positive and optimistic attitude towards life; use appropriate methods to regulate one's emotions; Experience the joy of sports and the feeling of success in sports. Show good sportsmanship and cooperative spirit, and correctly handle competition and cooperation. Teaching content: Part 1 Learning of Physical Education Theoretical Knowledge (Weight 4/36, Level: Memory + Understanding + Application) Part 2 Learning of Basic Physical Education Skills (Weight 32/36, Level: Memory + Comprehension + Application)

Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. It mainly assesses students' classroom performance, healthy running, homework, independent learning, and completion of phased tests. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed in the form of skill tests to evaluate the achievement of course objectives.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	1."College Physical Education and Health Course", edited by Zhang Juan et al., Beijing Sport College Press, September 2019, 1st edition. 2. "College Physical Education and Health (Illustrated Demonstration + Video Guidance)", edited by Yuan Shoulong, Publishing House of People's Posts and Telecommunications, 1st edition, 2022. 3. College Physical Education and Health Education, edited by Li Nianmao et al., Beijing Institute of Technology Press, April 2022, 1st edition.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Career Planning and Employment Guidance (1)

Module Name	Career Planning and Employment Guidance (1)		
The semester in which this module is taught	Semester 1		
Module Leader	Liu Yanyu		
language	Chinese		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching methods, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized approach: independent design Method of practice: group cooperation		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 9 hours Teaching hours: 2 hours per week, 4 weeks in total, 8 hours Self-study hours: 0.25 hours per week, a total of 4 weeks, 1 hour, including: after-school homework, exam preparation time, etc		
Credits	0.5 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	understand the rich connotation of career planning, grasp the positive significance of career planning, and establish a career awareness of independent planning; Master the relevant theories and methods of environmental analysis and self-exploration, and be able to use career planning tools for planning.	R8、R9、R12

	CLO2	Be able to accurately evaluate social, occupational and family information related to the target occupation; master methods for exploring and describing one's interests, character, skills and values; Master the methods of personnel and job matching analysis, and formulate career goals and plan development based on the information of personnel and job matching analysis. master environmental exploration skills, independently analyze the employment and entrepreneurship situation, employment and entrepreneurship policies, industry development and social needs; master self-exploration skills, the ability to reasonably and accurately position personal job search goals;	R8、R9、R12
	CLO3	By guiding and training students to explore their own personality characteristics, students' self-awareness is awakened; Through the study and writing of career planning, clarify the planning path and take the initiative to implement it.	R8、R9、R12
content	Through the study of this course, students will be helped to understand the social function of the College, understand the school's school philosophy and talent training positioning, enhance role awareness, improve adaptability, establish a scientific view of talent, and establish career ideals as soon as possible. At the same time, let students understand the concepts of career, career and career planning; understand the significance of career planning; Understand the development profile, curriculum system, training objectives and comprehensive skills required by the major; master the content and steps of career planning; Know the development tasks at the College stage and make career plans. Teaching content: Chapter 1 Cognitive Career (Weight 1/8, Level: Memory + Comprehension). Chapter 2 Self-awareness (weight 1/8, level: memory + understanding + application). Chapter 3 Career exploration (weight 3/8, level: understanding + application). Chapter 4 Career Decision Making (Weight 3/8, Level: Understanding + Application).		

Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. It mainly assesses students' classroom performance, independent learning, homework, and completion of phased tests. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. Submit a career plan for college students that meets personal characteristics for the final assessment.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	Li Xinwei, Wang Junchuan, Li Xiugang. Career planning and employment guidance for college students. Shanghai: Shanghai Jiao Tong College Press. 2023
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Career Planning and Employment Guidance (2)

Module Name	Career Planning and Employment Guidance (2)		
The semester in which this module is taught	Semester 4		
Module Leader	Qiao Lin and Yu Yanyan		
language	Chinese		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching methods, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized approach: independent design Method of practice: group cooperation		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 8 hours Teaching hours: 2 hours per week, 2 weeks in total, 4 hours Self-study hours: 1 hour per week, a total of 4 weeks, 4 hours, including: after-school homework, exam preparation time, etc		
Credits	0.2 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Understand the relevant information of the labor market, relevant occupational classification knowledge and basic knowledge of employment and entrepreneurship; master the positioning principles of personal job search goals; Understand the structure, principles and requirements of job application writing; master the content and importance of workplace etiquette;	R8、R9、R12

CLO2	master information retrieval and management skills, understand employment information classification, sorting and screening and identification methods; understand career decision-making skills, know how to write personalized job resumes, and carefully design them based on the requirements and characteristics of the job application; master general skills in the workplace, be familiar with the basic common sense and operation points of workplace etiquette; Be able to understand and obtain environmental information related to the target occupation through interviews, online searches, professional exploration and other methods; Through mock interviews, group mutual evaluation, etc., the initial job resume can be drawn up and the interview ability can be understood.	R8、R9、R12
CLO3	By guiding and training students to independently analyze the employment and entrepreneurship situation and employment information, students can cultivate their sense of resource sharing and teamwork; Through the study and training of mock interviews in the form of student groups, students can cultivate students' good teamwork spirit and team communication skills, and cultivate students' strong teamwork skills. Establish professional ethics, improve professional quality, combine personal development goals with organizational construction and the future of the country and the nation, and cultivate students' strong sense of collective honor and social responsibility to serve the motherland.	R8、R9、R12

content	Through the study of this course, students can systematically recognize their own interests, abilities and values, scientifically plan their career goals, and avoid blind career choice. Combined with professional characteristics and industry needs, formulate personalized development paths to improve self-management and decision-making capabilities. Cultivate the awareness of dynamically adjusting career planning, master the method of goal decomposition and implementation plan, and enhance the control of career development Enhance practical skills in job hunting Systematically train core competencies such as resume writing, interview skills, and professional social networking to improve job matching efficiency. Guide students to understand industry trends and policies and regulations, cultivate the literacy to flexibly respond to changes in the employment environment, emphasize the combination of personal value and social needs, advocate a positive employment mentality and professional ethics, cultivate a sense of lifelong development, and establish sustainable career growth thinking and learning ability Teaching content: Chapter 1 Professionalism (weight 2/4, level: memory + understanding). Chapter 2 Vocational Skills (Weight 2/4, Level: Memory + Understanding + Application).
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. It mainly assesses students' classroom performance, independent learning, homework, and completion of phased tests. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. Submit papers for final assessment.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	Huang Shumin Lu Min Editor-in-Chief. Career Planning and Employment Guidance for College Students (Second Edition). Beijing: Aviation Industry Press
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Career Planning and Employment Guidance (3)

Module Name	Career Planning and Employment Guidance (3)		
The semester in which this module is taught	6th semester		
Module Leader	Joleen		
language	Chinese		
Relationship to the curriculum	General education compulsory courses		
Teaching methods	Teacher-centered methods: teaching methods, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching and discussion (including group discussions); Individualized approach: independent design Method of practice: group cooperation		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 8 hours Teaching hours: 2 hours per week, 3 weeks in total, 6 hours Self-study hours: 0.67 hours per week, a total of 3 weeks, 2 hours, including: after-school homework, exam preparation time, etc		
Credits	0.3 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Master the theories and methods of cognition of personal and professional characteristics, combined with social environment analysis, to understand the employment situation and policies and regulations. Familiar with employment and entrepreneurship policies and employment rights protection; master the structure, principles and requirements of job application material writing; master the skills and methods of interview application; Master the channels and processing methods for collecting employment information.	R8、R9、R12

CLO2	Master information retrieval and management skills, and be familiar with employment information classification, sorting, screening and identification methods; Master career decision-making skills, be proficient in writing personalized job resumes, and carefully design them based on the requirements and characteristics of the job you are applying for. master general skills in the workplace, be familiar with the basic common sense and operation points of workplace etiquette; master job search communication skills, be familiar with interview types and inspection focus; Familiar with the principles and requirements of signing and terminating employment agreements and labor contracts. Through online platforms, professional exploration, career interviews and other methods, we can better obtain employment and entrepreneurship situation, employment and entrepreneurship policies and employment information related to job search goals; be able to reasonably position personal job search goals through self-inventory, career assessment, feedback from others, etc.; Through online resume submission, mock interviews, group mutual evaluation, etc., improve job resumes, master and improve interview skills.	R8、R9、R12
CLO3	By guiding and training students to independently analyze the employment and entrepreneurship situation and employment information, students can cultivate their sense of resource sharing and teamwork; Through the study and training of mock interviews in the form of student groups, students can cultivate students' good teamwork spirit and team communication skills, and cultivate students' strong teamwork skills. Establish professional ethics, improve professional quality, combine personal development goals with organizational construction and the future of the country and the nation, and cultivate students' strong sense of collective honor and social responsibility to serve the motherland.	R8、R9、R12

content	Through the study of this course, students can understand the latest employment environment of society and industry in terms of employment environment and policies and regulations, be familiar with current employment policies and relevant laws and regulations, lay a solid information foundation for job search, and then improve the success rate of job search. Secondly, at the level of employment concept and expectation, guide students to base themselves on reality, establish correct employment concepts, help them determine reasonable employment expectations, and make students more rational and pragmatic in the face of employment choices. Thirdly, regarding employment skills, it will help students analyze the advantages and disadvantages of their employment skills, and find effective remedies and adjustments for their disadvantages to enhance their employment competitiveness. Finally, in terms of psychological adjustment, help students understand common psychological problems in employment, master scientific psychological adjustment methods, and guide them to face various challenges in the employment process with a positive attitude and successfully pass the employment stage Teaching content: Chapter 1 Employment Environment and Policy (Weight 1/6, Level: Memory + Understanding). Chapter 2 Employment Preparation (Weight 1/6, Level: Memory + Understanding + Application). Chapter 3 Employment Skills Improvement (weight 3/6, level: memory + understanding + application). Chapter 4 Protection of Employment Rights and Interests (weight 1/6, level: memory + understanding).
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. It mainly assesses students' classroom performance, independent learning, homework, and completion of phased tests. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. Submit a resume for the final assessment.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	Huang Shumin Lu Min Editor-in-Chief. Career Planning and Employment Guidance for College Students (Second Edition). Beijing: Aviation Industry Press
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Entrepreneurship Education(1)

Module Name	Entrepreneurship Education(1)		
The semester in which this module is taught	Semester 2		
Module Leader	Dong Li		
language	Chinese		
Relationship to the curriculum	General education courses		
Teaching methods	Teacher-centered methods: lectures, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching seminars (including group discussions), project-based, role-playing; Individualized approach: independent design		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 6 hours Teaching hours: 4 hours Self-study hours: 2 hours		
Credits	0.2 credits		
Prerequisites required and recommended for joining this module	not		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Innovation awareness and ability: Able to respond to the changing social environment, put forward innovative insights, and carry out innovative practices.	R12
	CLO2	Continuous learning ability: have lifelong learning awareness, independent learning ability and self-development potential, and be able to achieve in-depth expansion and horizontal transfer of knowledge and ability through continuous learning, and adapt to the sustainable development of society and individuals.	R12

content	Entrepreneurship education (1) is an enlightenment course in the entrepreneurship curriculum system, which allows students to explain the basic concepts and functions of innovation and entrepreneurship, the process and elements of entrepreneurship, the connotation of entrepreneurship and the benefits of entrepreneurship to life development, stimulate students' awareness of innovation and entrepreneurship, and change students' views on entrepreneurship. It expounds the relationship between entrepreneurship and life development, so that students can understand and pay attention to the current situation and trend of employment and entrepreneurship in their majors, and let students pay attention to the development, employment and entrepreneurship of their majors, and have the ability to adapt and make breakthroughs in the face of an uncertain future. The teaching of this course is mainly to serve the "developmentable" link in the training goal of professional talents, and correspond to the "innovation awareness and ability" and "continuous learning ability" in the graduation requirements indicators. The course content includes: Chapter 1: The Connotation of Innovation and Entrepreneurship (Weight 1/4, Level: Memory, Understanding) Chapter 2: Key Elements and Basic Types of Entrepreneurship (Weight 1/4, Level: Memory, Understanding) Chapter 3: Entrepreneurship (weight 1/4, level: understanding, application) Chapter 4: Entrepreneurship and Life Development (Weight 1/4, Level: Understanding, Application)
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 60% + final assessment × 40% (1) Procedural assessment, scored on a percentage system, accounting for 60% of the overall evaluation score. It mainly assesses students' independent learning, classroom performance, and after-school homework. (2) Final assessment, with a full score of 100 points, accounting for 40% of the overall evaluation score. The achievement of course knowledge, ability and literacy goals is mainly evaluated through the formal assessment of entrepreneurial project elaboration.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course

Read the list	1. Entrepreneurship Basics, edited by Jiao Yanjun,Liu Wenfeng, Jin ling, Beijing: College of Electronic Science and Technology Press, January 2023. 2. Entrepreneurship Management, edited by Zhang Yuli, Machinery Industry Press, February 2015, 3rd edition. 3. How to Teach Entrepreneurship: The Practice-Based Babson Teaching Method, edited by Heidi M. Neck, Patricia G. Green, Candida G. Brush, Machinery Industry Press, April 2015, 1st edition. 4. Entrepreneurship Basics and Innovative Practice, edited by Cai Jian, Wu Ge, Wang Chenhuizi, Peking College Press, March 2015, 1st edition.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Entrepreneurship Education(2)

Module Name	Entrepreneurship Education(2)		
The semester in which this module is taught	Semester 4		
Module Leader	Golden spirit		
language	Chinese		
Relationship to the curriculum	General education courses		
Teaching methods	Teacher-centered methods: lectures, case teaching, and questioning; Interactive methods: inquiry-based problem learning, teaching seminars (including group discussions), project-based, role-playing; Individualized approach: independent design		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 44 hours Teaching hours: 32 hours Self-study hours: 12 hours		
Credits	1.8 credits		
Prerequisites required and recommended for joining this module	Entrepreneurship education (1) and major-related courses		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Through the setting of teaching situations, students can experience, understand, and master the knowledge content of entrepreneurial team formation, entrepreneurial thinking, design thinking, patent filling and application process, business model design, and business plan writing methods and theories in the teaching process.	R9、10、11
	CLO2	cultivate students' thinking and understanding of innovation and entrepreneurship; improve students' ability to connect theory with practice; Learn to use the relevant theoretical knowledge and skills of entrepreneurship to solve practical problems encountered in future entrepreneurship and business management.	R12

	CLO3	Cultivate students' good qualities of autonomy, initiative, creativity and independent thinking of problems, and dare to challenge authority, and gradually establish market development awareness based on this quality, and guide students to discover the market and grasp the business sensitivity of market opportunities.	R12
content	This course adopts a practice-based teaching method and relies on the entrepreneurial wisdom classroom to integrate the five modules of entrepreneurship education practice theory "task, empathy, creation, experimentation, and reflection" into the basic education of entrepreneurship. It is carried out in the form of flipped classroom teaching. The curriculum teaching has changed from the traditional classroom teaching method of "teacher one-man show, student passive learning" to "teacher guidance, teacher-student interaction, and students' independent learning". In each teaching period, teachers will focus on entrepreneurship education (2) based on the talent training plan, and teachers will let students experience entrepreneurship, understand and master the basic knowledge and skills of entrepreneurship through the design of games, Q&A, teacher-student interaction, simulation scenario teaching and other links. The course content includes: Module 1 Entrepreneurs and Entrepreneurial Teams (Weight 4/32, Level: Memory, Understanding, Application). Module 2 Design Thinking (weight 8/32, level: memory, understanding, application). Module 3 Marketing (weight 4/32, level: memory, understanding, application). Module 4 Enterprise simulation operation (weight 4/32, level: memory, understanding, application). Module 5 Business Model Design (Weight 4/32, Level: Memory, Understanding, Application). Module 6 Business Presentation (Weight 8/32, Level: Memory, Comprehension, Application, Evaluation).		
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 60% + final assessment × 40% (1) Procedural assessment, scored on a percentage system, accounting for 60% of the overall evaluation score. It mainly assesses students' independent learning, classroom performance, phased tests, and after-school homework. (2) Final assessment, with a full score of 100 points, accounting for 40% of the overall evaluation score. The business plans of each group are mainly assessed and scored.		
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course		

Read the list	1. Design Thinking, edited by Jiao Yanjun, Zhao Rui, Duo Wenjuan, College of Electronic Science and Technology Press, June 2020. 2. Entrepreneurship Basics, edited by Yang Hongwei, Yang Jun, Jiao Yanjun, Jilin College Press, August 2017, 2nd edition. 3. Entrepreneurship Management, edited by Zhang Yuli, Machinery Industry Press, February 2015, 3rd edition. 4. How to Teach Entrepreneurship: The Practice-Based Babson Teaching Method, edited by Heidi M. Neck, Patricia G. Green, Candida G. Brush, Machinery Industry Press, April 2015, 1st edition. 5. Entrepreneurship Basics and Innovative Practice, edited by Cai Jian, Wu Ge, Wang Chenhuizi, Peking College Press, March 2015, 1st edition.
Version number	V2022, the major version will take effect in September 2022 V2022.1. Update point: calculate credits and workload according to ECTS

Advanced Mathematics (1)

Module Name	Advanced Mathematics (1)		
The semester in which this module is taught	Semester 1		
Module Leader	Zhu Meiling		
language	Chinese		
Relationship to the curriculum	Basic compulsory courses for disciplines and majors		
Teaching methods	Teacher-centered methods: heuristic teaching, case teaching, and teaching methods; Interactive methods: inquiry-based problem learning, teaching seminars (including group discussions), and task-driven teaching methods; Individualized approach: procedural teaching		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 140 hours Teaching hours: 5 hours per week, 18 weeks in total, 90 hours Self-study hours: 2.77 hours per week, a total of 18 weeks, 50 hours, including: after-school homework, exam preparation time, etc		
Credits	5 credits		
Prerequisites required and recommended for joining this module	Elementary mathematics		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	master the theoretical knowledge related to advanced mathematics required for electrical engineering and its automation majors;	R1
	CLO2	Use the advanced mathematical knowledge and methods learned to solve complex engineering problems in the field of electrical engineering through mathematical models.	R2
	CLO3	Develop a correct and rigorous learning attitude, good study habits and meticulous and serious calculation habits, independent learning and communication and cooperation skills, and have the ability to apply mathematical thinking to study, work and live;	R12

content	By studying this course, students can systematically acquire the basic theoretical knowledge of calculus and ordinary differential equations, master the necessary basic theories and commonly used calculation methods, and be able to use the mathematical methods learned to solve practical problems in the field of electrical engineering. Through the study of each teaching link, students will have proficient computing ability, strong abstract thinking ability, logical reasoning ability, spatial imagination ability and self-learning ability, and the ability to analyze and solve practical problems. Teaching content: Chapter 1 Functions and Limits (Weight 22/90, Level: Memory, Understanding, Application). Chapter 2 Derivatives and Differentiation (Weight: 16/90, Level: Memory, Understanding, Application) Chapter 3 Differential Median Theorem and Application of Derivatives (weight 12/90, level: memory, understanding, application). Chapter 4 Indefinite Integral (Weight 14/90, Level: Memory, Understanding, Application) Chapter 5 Definite Integral (Weight 10/90, Level: Memory, Comprehension, Application) Chapter 6 Application of Definite Integrals (Weight: 6/90, Level: Memory, Understanding, Application) Chapter 7 Differential Equations (Weight 10/90, Level: Memory, Understanding, Application)
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 50% + final assessment × 50% (1) Procedural assessment, scored on a 100-point system, accounting for 50% of the overall evaluation score. (2) Final assessment, full score of 100 points, accounting for 0% of the overall evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	[1] Advanced Mathematics (Volume I), edited by the School of Mathematical Sciences, Tongji College, Higher Education Press, published in July 2023. [2] "Advanced Mathematics (Volume I)", edited by the Higher Mathematics Textbook Writing Group of Northwestern Polytechnical College, Science Press, published in August 2024. [3] "Advanced Mathematics", edited by Tao Jinrui, Machinery Industry Press, published in January 2021. [4] "Advanced Mathematics (Part I)", edited by Zhu Shixin and Tang Shuo, Higher Education Press, published in July 2020.

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Advanced Mathematics (2)

Module Name	Advanced Mathematics (2)		
The semester in which this module is taught	Semester 2		
Module Leader	Zhu Meiling		
language	Chinese		
Relationship to the curriculum	Basic compulsory courses for disciplines and majors		
Teaching methods	Teacher-centered methods: heuristic teaching, case teaching, and teaching methods; Interactive methods: inquiry-based problem learning, teaching seminars (including group discussions), and task-driven teaching methods; Individualized approach: procedural teaching		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 140 hours Teaching hours: 5 hours per week, 18 weeks in total, 90 hours Self-study hours: 2.77 hours per week, a total of 18 weeks, 50 hours, including: after-school homework, exam preparation time, etc		
Credits	5 credits		
Prerequisites required and recommended for joining this module	Advanced Mathematics (1)		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Master the theoretical knowledge of advanced mathematics (multivariate calculus, infinite series) required for electrical engineering and automation;	R1
	CLO2	Use the knowledge and methods of binary calculus and infinite series to solve problems in the field of electrical engineering through mathematical models;	R2
	CLO3	Develop a correct and rigorous learning attitude, good study habits and meticulous and serious calculation habits, independent learning and communication and cooperation skills, and have the ability to apply mathematical thinking to study, work and live;	R12

content	By studying this course, students can systematically acquire the basic theoretical knowledge of multivariate calculus and infinite series, master the necessary basic theories and commonly used calculation methods, and be able to use the mathematical methods they have learned to solve practical problems in the field of electrical engineering. Through the study of each teaching link, students will have proficient computing ability, strong abstract thinking ability, logical reasoning ability, spatial imagination ability and self-learning ability, and the ability to analyze and solve practical problems. Teaching content: Chapter 8 Vector and Spatial Analytic Geometry (Weight 16/90, Level: Memory, Understanding, Application). Chapter 9 Multivariate Function Differentiation and Its Applications (Weight 20/90, Level: Memory, Understanding, Application). Chapter 10 Heavy Integral (Weight 14/90, Level: Memory, Understanding, Application). Chapter 11 Curve Integrals and Curved Area Fractions (weight 14/90, level: memory, understanding, application). Chapter 12 Infinite Series (weight 26/90, level: memory, understanding, application).
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 50% + final assessment × 50% (1) Procedural assessment, scored on a 100-point system, accounting for 50% of the overall evaluation score. (2) Final assessment, full score of 100 points, accounting for 0% of the overall evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	[1] Advanced Mathematics (II), edited by the School of Mathematical Sciences, Tongji College, Higher Education Press, June 2023, 8th edition. [2] "Advanced Mathematics (II)", Northwest College Advanced Mathematics Textbook Writing Group, Science Press, August 2021, 3rd edition. [3] "Advanced Mathematics (II)", edited by Bao Yong and Zhang Yanjun, Machinery Industry Press, January 2020, 1st edition. [4] "Advanced Mathematics (Part II)", edited by Fei Weiyin and Liang Yong, College of Science and Technology of China Press, January 2021, 3rd edition.
Version number	V2022, the major version will take effect in September 2022 V2022.1, Update point: Credits and workload are calculated according to ECTS

Linear Algebra

Module Name	Linear Algebra		
The semester in which this module is taught	Semester 2		
Module Leader	Zhang Dan		
language	Chinese		
Relationship to the curriculum	Basic compulsory courses for disciplines and majors		
Teaching methods	Teacher-centered methods: heuristic teaching, case teaching, and teaching methods; Interactive methods: inquiry-based problem learning, teaching seminars (including group discussions), and task-driven teaching methods; Individualized approach: procedural teaching		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours Teaching hours: 3 hours per week, 18 weeks in total, 54 hours Self-study hours: 1.66 hours per week, a total of 18 weeks, 30 hours, including: after-school homework, exam preparation time, etc		
Credits	3 credits		
Prerequisites required and recommended for joining this module	Advanced Mathematics (1)		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	master the theoretical knowledge related to linear algebra required for electrical engineering and its automation majors;	R1
	CLO2	Use the knowledge and methods of linear algebra learned to solve related problems in the field of electrical engineering through mathematical models.	R2
	CLO3	Develop a correct and rigorous learning attitude, good study habits and meticulous and serious calculation habits, independent learning and communication and cooperation skills, and have the ability to apply mathematical thinking to study, work and live;	R12

content	By studying this course, students can systematically acquire the basic concepts, basic theories and basic methods of determinants, matrices, linear equations, etc. in linear algebra; The properties of the determinant or the determinant will be used to calculate the determinant according to the expansion theorem of a certain row (column); proficient in matrix addition, subtraction, number multiplication and multiplication operations; It will use elementary row transformations to find the inverse of the matrix; Determine the situation of solving linear equations; Master the use of determinants, matrices, and vectors as tools to solve problems related to linear equations. Through the study of this course, students will cultivate their computing ability, data processing ability, abstract generalization ability and logical thinking ability, and lay the necessary mathematical knowledge foundation for learning subsequent courses and related professional applications. Teaching content: Chapter 1 Determinants (weight 12/54, level: memory, understanding, application) Chapter 2 Matrix (Weight 10/54, Level: Memory, Comprehension, Application) Chapter 3 Linear Equations (Weight 12/54, Level: Memory, Understanding, Application) Chapter 4 N-Dimensional Vector Space (Weight 6/54, Level: Memory, Understanding, Application) Eigenvalues and eigenvectors of the matrix (weight 8/54, level: memory, understanding, application) Chapter 6 Quadratic (Weight 6/54, Level: Memory, Understanding, Application)
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 50% + final assessment × 50% (1) Procedural assessment, scored on a 100-point system, accounting for 50% of the overall evaluation score. (2) Final assessment, full score of 100 points, accounting for 0% of the overall evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	[1] "Linear Algebra", edited by Xiao Macheng, Higher Education Press, September 2021, 3rd edition. [2] "Linear Algebra", Wu Ganchang, Chinese College Press, June 2021, 5th edition. [3] "Linear Algebra", edited by Zhong Yuquan and Zhou Jian, published by Science Press, 2nd edition, January 2020.

Version number	V2022, the major version will take effect in September 2022 V2022.1, Update point: Credits and workload are calculated according to ECTS

Probability Theory and Mathematical Statistics

Module Name	Probability Theory and Mathematical Statistics		
The semester in which this module is taught	Semester 3		
Module Leader	Zhang Dan		
language	Chinese		
Relationship to the curriculum	Basic compulsory courses for disciplines and majors		
Teaching methods	Teacher-centered methods: heuristic teaching, case teaching, and teaching methods; Interactive methods: inquiry-based problem learning, teaching seminars (including group discussions), and task-driven teaching methods; Individualized approach: procedural teaching		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours Teaching hours: 3 hours per week, 18 weeks in total, 54 hours Self-study hours: 1.66 hours per week, a total of 18 weeks, 30 hours, including: after-school homework, exam preparation time, etc		
Credits	3 credits		
Prerequisites required and recommended for joining this module	Advanced Mathematics (1), Advanced Mathematics (2), Linear Algebra		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Master the theoretical knowledge related to probability theory and mathematical statistics required for electrical engineering and automation;	R1
	CLO2	Use the knowledge and methods of probability theory and mathematical statistics to solve complex problems in the field of electrical engineering through mathematical models.	R2
	CLO3	Develop a correct and rigorous learning attitude, good study habits and meticulous and serious calculation habits, independent learning and communication and cooperation skills, and have the ability to apply mathematical thinking to study, work and live;	R12

content	By studying this course, students can master the basic theoretical knowledge of probability theory and mathematical statistics and the calculation methods of various calculation problems, have the ability to understand, analyze and logical reasoning of relevant mathematical concepts, theorems and some conclusions, and be able to use the knowledge of probability statistics to solve practical problems in the field of electrical engineering. Teaching content: Chapter 1 Random Events and Probability (Weight 8/54, Level: Memory, Understanding, Application). Chapter 2 Random Variables and Their Distribution (Weight 10/54, Level: Memory, Understanding, Application) Chapter 3 Multidimensional Random Variables and Their Distribution (Weight 10/54, Level: Memory, Understanding, Application). Chapter 4 Numerical Characteristics of Random Variables (Weight 8/54, Level: Memory, Understanding, Application) Chapter 6 Samples and Sampling Distribution (Weight: 8/54, Level: Memory, Comprehension, Application) Chapter 9 Analysis of Variance and Regression Analysis (Weight: 10/54, Level: Memory, Understanding, Application)
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 50% + final assessment × 50% (1) Procedural assessment, scored on a 100-point system, accounting for 50% of the overall evaluation score. (2) Final assessment, full score of 100 points, accounting for 0% of the overall evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	[1] "Probability Theory and Mathematical Statistics", edited by Sheng Su, Xie Shiqian and Pan Chengyi, Higher Education Press, December 2019, 5th edition. [2] "Tutorial on Probability Theory and Mathematical Statistics", edited by Shen Hengfan, Higher Education Press, fifth edition, June 2019. [3] "Course on Probability Theory and Mathematical Statistics", edited by Long Yonghong, Higher Education Press, published in December 2020.
Version number	V2022, the major version will take effect in September 2022 V2022.1, Update point: Credits and workload are calculated according to ECTS

College Physics

Module Name	College Physics		
The semester in which this module is taught	Semester 3		
Module Leader	Ji Zhiyong		
language	Chinese		
Relationship to the curriculum	Basic compulsory courses for disciplines and majors		
Teaching methods	Teacher-centered methods: heuristic teaching, case teaching, and teaching methods; Interactive methods: inquiry-based problem learning, teaching seminars (including group discussions), and task-driven teaching methods;		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours Teaching hours: 3 hours per week, 18 weeks in total, 54 hours Self-study hours: 1.66 hours per week, a total of 18 weeks, 30 hours, including: after-school homework, exam preparation time, etc		
Credits	3 credits		
Prerequisites required and recommended for joining this module	Higher Mathematics		
Module objectives/expected learning outcomes	Course learning outcomes	description	Support graduation requirements
	CLO1	Master the theoretical knowledge related to College physics required for electrical engineering and its automation majors; master and apply the ideas and methods of physics.	R1
	CLO2	Use the College physics knowledge and methods learned to analyze and solve problems in the field of electrical engineering through physical models.	R2
	CLO3	Develop a correct and rigorous learning attitude, good study habits, cultivate scientific literacy and attitude, and have the ability to apply physics thinking to study, work and live;	R12

content	Through this course, students can understand the structure, properties, interactions and basic laws of their motion of matter in nature, master the basic knowledge of electromagnetism, and initially have the ability to establish physical models, qualitative analysis and quantitative calculations, independently acquire knowledge, and connect theory with practice. Teaching content: Introduction (Weight 2/54, Level: Memory, Understanding, Application) Chapter 1 Electrostatic Fields (Weight 6/54, Level: Memory, Understanding, Application, Analysis) Chapter 2 Conductors and Electrolytes in Electrostatic Fields (weight 8/54, memory, understanding, application, analysis) Chapter 3 Direct Current (Weight 4/54, Level: Memory, Understanding, Application, Analysis) Chapter 4 Constant Magnetic Field (Weight 8/54, Level: Memory, Understanding, Application, Analysis) Chapter 5 Magnetic Media (Weight 6/54, Level: Memory, Understanding, Application, Analysis) Chapter 6 Electromagnetic Induction (Weight 6/54, Level: Memory, Understanding, Application, Analysis) Chapter 7 Alternating Current (Weight 10/54, Level: Memory, Understanding, Application, Analysis) Chapter 8 Maxwell's Theory of Electromagnetic Fields (Weight 4/54, Level: Memory, Understanding, Application, Analysis)
Assessment form	1. The course assessment consists of process assessment and final assessment. 2. Grade evaluation: course overall evaluation score = process assessment × 40% + final assessment × 60% (1) Procedural assessment, scored on a percentage system, accounting for 40% of the total evaluation score. (2) Final assessment, with a full score of 100 points, accounting for 60% of the total evaluation score. The teaching content is mainly assessed in the form of test papers, and the achievement of the curriculum knowledge goals, ability goals and literacy goals is evaluated.
Study and exam requirements	The evaluation is based on a 100-point system, and 60 points are the passing score for this course
Read the list	[1] Chen Bingqian. General Course on College Physics. Electromagnetism (2nd ed.), Beijing: Peking College Press, 2012.1-371. [2] Zhang Ruiming. General Course on College Physics. Beijing: Peking College Press, 2016.10. [3] Zhang Sanhui. College Physics Electromagnetism (3rd Edition A Edition). Beijing: Tsinghua College Press, 2008.09-249. [4] Hu Haiyun. College Physics (Volume 3) Electromagnetism. Beijing: Higher Education Press, 2017.08-308.

Version number	V2022, the major version will take effect in September 2022 V2022.1, Update point: Credits and workload are calculated according to ECTS

Introduction to Software Engineering

Module Name	Introduction to Software Engineering		
Semester in which the module is taught	Semester 3		
Module Leader	Li jiazhe		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Teaching Seminars, Group Discussions, Questioning. Individualized methods: Programmed Instruction, Unit Teaching, Independent Design, Feynman Learning Method. Practical methods: Laboratory Work, Project Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours Teaching hours: 3 hours per week for 18 weeks, 54 hours Self-study hours: 2 hours per week for 15 weeks, 30 hours, including: Homework, After-class Experiments, Exam Preparation, etc.		
Credits	3Credits		
Required and Recommended Prerequisites for Joining the Module	Structured Programming, Object-Oriented Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements

	CLO1	Master the knowledge matrix of software engineering processes, methods, and tools; master the standardization principles of software processes; master the normative application of software analysis and design modeling tools; master the fundamental concepts of structured and object-oriented development methods.	R1、R2
	CLO2	Be able to guide by fundamental software engineering concepts, follow standardized software processes, select appropriate development methodologies, and utilize optimized analysis, design, and implementation tools to complete software project development.	R3、R5
	CLO3	Possess software engineering thinking capabilities, emphasize team collaboration and management skills in engineering projects, achieve both vertical deepening and horizontal transfer of knowledge and competencies, and adapt to sustainable societal and individual development.	R8
content	"Introduction to Software Engineering" is a core course for software engineering majors. The main teaching content includes: theoretical foundations of software engineering; software processes (software life cycle and software development process standardization); software engineering methods (structured methods and object-oriented thinking methods); software tools (analysis tools, design tools, implementation tools, software management tools); and software quality assurance. Through the teaching process, students can apply the fundamental concepts and tool skills of software engineering to analyze, design, and implement specific software projects in the context of information technology construction and application. The prerequisite courses for this course are "Structured Programming" and "Object-Oriented Programming." Combined with concurrent and subsequent courses such as "Data Structures and Algorithms," "Principles and Applications of Databases," "Software Requirements Engineering," "Software Architecture," "Software Quality Assurance and Testing," and "Comprehensive Software Engineering Project Design," this course aims to cultivate students' software engineering thinking skills and comprehensive capabilities in software project development. By studying this course, students can master the process standards, thinking methods, and relevant tool application skills of software engineering. Depending on specific application scenarios and project		

	backgrounds, they will be able to carry out tasks such as requirements investigation, requirements analysis, software design, software implementation, testing, deployment, and maintenance according to standardized processes, thereby improving the efficiency and economic effectiveness of software project development and application. Teaching Content: Chapter 1: Fundamentals of Software Engineering (Weight: 4/54, Level: Comprehension + Application) Chapter 2: Feasibility Analysis (Weight: 6/54, Level: Comprehension + Application) Chapter 3: Software Requirements Analysis (Weight: 6/54, Level: Comprehension + Application) Chapter 4: Object-Oriented Development Methods (Weight: 10/54, Level: Comprehension + Application) Chapter 5: Software Design (Weight: 10/54, Level: Comprehension + Application) Chapter 6: Software Implementation (Weight: 8/54, Level: Comprehension + Application) Chapter 7: Software Quality Assurance and Testing (Weight: 6/54, Level: Comprehension + Application) Chapter 8: Software Project Management (Weight: 2/54, Level: Comprehension + Application) Chapter 9: New Technologies in Software Engineering (Weight: 2/54, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a hundred-mark system, accounts for 40% of the total course score. It primarily evaluates students based on classroom performance, experimental projects, midterm tests, and homework completion. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the total course score. It mainly assesses teaching content through project-based examination, evaluating the achievement of course knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 贾铁军《软件工程与实践》清华大学出版社，2022 年 7 月第 4 版. [2] 韩万江《软件工程案例教程 ：软件项目开发实践 第 4 版》机械工业出版社，2023 年 03 月第 2 版.

Version Number	V2022, major version effective from September 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Discrete Mathematics

Module Name	Discrete Mathematics		
Semester in which the module is taught	Semester 1		
Module Leader	Hu Fangyuan		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: lecturing, demonstration, task-driven approach. Interactive methods: inquiry-based problem learning, teaching seminars, group discussions, questioning. Individualized methods: programmed instruction, unit teaching, independent design. Practical methods: exercise practice.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework, exam preparation time, etc.		
Credits	3Credits		
Required and Recommended Prerequisites for Joining the Module	None		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the fundamental knowledge of mathematical logic, set theory, and graph theory in discrete mathematics to lay a solid foundation for subsequent specialized courses.	R1

	CLO2	Able to abstract practical problems into set theory, graph theory, or algebraic system models, and solve them through set operations, graph traversal algorithms, or algebraic operation rules; capable of analyzing algorithm time and space complexity using discrete mathematics theories, and designing efficient logical judgment and data processing algorithms to enhance practical abilities in problem transformation and mathematical modeling.	R3
	CLO3	Possess meticulous logical reasoning habits, able to progressively derive conclusions by applying discrete mathematics analytical methods when facing complex problems; cultivate innovative thinking to deconstruct problems from different perspectives.	R2
content	"Discrete Mathematics" is a fundamental course in the software engineering program. Computers can only process data with discrete structures; continuous and complex application structures must undergo appropriate discretization and be decomposed into abstract discrete computational models to be handled by computers. Through this course, students should master the fundamental knowledge of discrete structures such as sets, relations, graphs, trees, algebraic systems, and mathematical logic. They should also acquire basic techniques and methods of logic and proof, and be able to understand and preliminarily apply discrete structures to model and solve real-world problems. The course aims to enhance students' abstract thinking and rigorous logical reasoning abilities, laying a foundation for future work and research in discrete information processing, mathematical modeling, and formal methods in software design. Additionally, it supports and fulfills three specific indicators (1.1, 2.1, and 3.3) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." Follow-up courses for this course include "Data Structures and Algorithms" and "Object-Oriented Programming," which aim to cultivate a solid mathematical theoretical foundation and computer fundamentals for software engineering students. Through the teaching of this course, students will be able to use discrete structures to describe and understand fundamental problems in computer science and general solution methods. They should develop		

	logical reasoning, abstract thinking, and formal thinking skills, preparing them for subsequent specialized courses such as Data Structures, Operating Systems, and Principles and Applications of Databases. This course serves as a "bridge" for transforming information from manual processing to automated processing, thereby enhancing students' theoretical literacy and their ability to independently analyze, process, and solve problems. Teaching Content: Chapter 1: Basic Concepts of Propositional Logic (Weight: 3/54, Level: Comprehension + Application) Chapter 2: Equivalential Calculus of Propositional Logic (Weight: 3/54, Level: Comprehension + Application) Chapter 3: Reasoning Theory of Propositional Logic (Weight: 6/54, Level: Comprehension + Application) Chapter 4: Basic Concepts of First-Order Logic (Weight: 3/54, Level: Comprehension + Application) Chapter 5: Equivalential Calculus of First-Order Logic (Weight: 3/54, Level: Comprehension + Application) Chapter 6: Set Algebra (Weight: 6/54, Level: Comprehension + Application) Chapter 7: Binary Relations (Weight: 12/54, Level: Comprehension + Application) Chapter 8: Functions (Weight: 0/54, Level: Comprehension) Chapter 9: Basic Concepts of Graphs (Weight: 6/54, Level: Comprehension + Application) Chapter 10: Trees (Weight: 6/54, Level: Comprehension + Application) Chapter 11: Several Special Types of Graphs (Weight: 3/54, Level: Comprehension + Application) Review (Weight: 3/54, Level: Comprehension + Application)

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' autonomous learning, class participation, assignment completion, and periodic test performance. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses teaching content through a final written examination (closed-book), evaluating the achievement of course knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 耿素云、屈婉玲、张立昂《离散数学（第六版）》清华大学出版社，2021 年 12 月第 6 版 [2] 屈婉玲《离散数学（第 4 版）》清华大学出版社，2022 年 9 月 [3] 张清华、蒲兴成、尹邦勇、刘 勇《离散数学及其应用（第 2 版）》清华大学出版社，2016 年 07 月第 2 版
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Structured Programming

Module Name	Structured Programming		
Semester in which the module is taught	Semester 1		
Module Leader	Zhang Shujuan		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Questioning. Interactive methods: Group Discussion, Group Design. Individualized methods: Programmed Instruction, Independent Design, Feynman Learning Method. Practical methods: Laboratory Work, Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 124 hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours. Self-study hours: 5 hours per week for 14 weeks, totaling 70 hours, including: homework assignments and self-directed study.		
Credits	3Credits		
Required and Recommended Prerequisites for Joining the Module	None		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the basic theoretical knowledge of C language, including data types, operators and expressions, data input and output, arrays, functions, and pointers, and be able to write programs correctly according to C language syntax rules.	R2
	CLO2	Master the three programming structures of C language: sequential structure, selection structure, and loop structure, and be able to use the corresponding structures for programming design based on specific requirements.	R1

	CLO3	Familiarize with the C language integrated development environment, able to reasonably use tools to read and write code, and independently debug and analyze code issues.	R3
content	"Structured Programming" is a compulsory professional course recommended by the "National Standards for Teaching Quality of Undergraduate Majors in Regular Higher Education Institutions." It serves as a mandatory specialized course supporting the graduation requirements for software engineering majors and fulfills three specific indicators (1.2, 3.2, and 5.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." This course has no prerequisites, and its follow-up courses include "Object-Oriented Programming" and "Data Structures and Algorithms." "Structured Programming" forms a critical foundation for students' progression into these advanced courses. Teaching Content: Chapter 1: Why Learn Programming (Weight: 2/54, Level: Comprehension) Chapter 2: Basic Data Types (Weight: 4/54, Level: Comprehension + Application) Chapter 3: Basic Arithmetic Operations (Weight: 4/54, Level: Comprehension + Application) Chapter 4: Input/Output and Sequential Control Structures (Weight: 4/54, Level: Comprehension + Application) Chapter 5: Selection Control Structures (Weight: 8/54, Level: Comprehension + Application) Chapter 6: Loop Control Structures (Weight: 10/54, Level: Comprehension + Application) Chapter 7: Functions and Modular Programming (Weight: 10/54, Level: Comprehension + Application) Chapter 8: Arrays and Algorithm Fundamentals (Weight: 8/54, Level: Comprehension + Application) Chapter 9: Pointers (Weight: 4/54, Level: Comprehension + Application)		

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' homework completion, periodic quizzes, experimental projects, autonomous learning, and classroom performance. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses teaching content through online evaluation, measuring the achievement of course knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 苏小红.《CLanguage 程序设计（第 5 版）》.北京：高等教育出版社.2023.12. [2] 谭浩强.《C 程序设计教程（第 4 版）》.北京：清华大学出版社.2022.08.
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Object-Oriented Programming

Module Name	Object-Oriented Programming		
Semester in which the module is taught	Semester 2		
Module Leader	Jia Shuwei		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Group Discussion, Questioning. Practical methods: Laboratory Work, Project Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	3Credits		
Required and Recommended Prerequisites for Joining the Module	Structured Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Familiar with the Java program development environment, mastering the basic structure of Java programming and language fundamentals.	R2
	CLO2	Master object-oriented programming concepts, fundamental principles, and relevant technical standards to solve problems related to software engineering.	R1

	CLO3	Able to apply object-oriented theory and programming methods, effectively communicate with industry peers on professional issues in the field of software engineering, and implement practical applications.	R3
content	"Object-Oriented Programming" is a compulsory professional course recommended by the "National Standards for Teaching Quality of Undergraduate Majors in Regular Higher Education Institutions." It serves as a mandatory specialized course supporting the graduation requirements for software engineering majors and fulfills three specific indicators (1.2, 3.2, and 5.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The prerequisite for this course is "Structured Programming," and its follow-up courses include "Mobile Application Development," among others. "Object-Oriented Programming" forms a critical foundation for students' progression into these advanced courses. Teaching Content: Chapter 1: Introduction to Java Development (Weight: 4/54, Level: Comprehension + Application) Chapter 2: Fundamentals of Java Programming (Weight: 8/54, Level: Comprehension + Application) Chapter 3: Classes and Objects (Weight: 8/54, Level: Comprehension + Application) Chapter 4: Inheritance, Interfaces, Polymorphism, Inner Classes, and Exceptions (Weight: 10/54, Level: Comprehension + Application) Chapter 5: Common Classes (Weight: 6/54, Level: Comprehension + Application) Chapter 6: Collections (Weight: 6/54, Level: Comprehension) Chapter 7: I/O (Weight: 6/54, Level: Comprehension + Application) Chapter 8: JDBC (Weight: 6/54, Level: Comprehension + Application)		

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' homework completion, experimental projects, periodic examinations, and classroom performance. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses teaching content through closed-book examinations or computer-based tests, evaluating the achievement of course knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 耿祥义张跃平.《Java 面向对象程序设计》（第 3 版）微课版.清华大学出版社.2020.01. [2]黑马程序员.《Java 基础入门》（第 2 版）.清华大学出版社.2020.2. [3]WalterSavitch.《Java 程序设计与问题求解（第 7 版）》.清华大学出版社.2014. [4]耿祥义、张跃平.《Java 设计模式》.清华大学出版社.2009.
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Principles and Applications of Databases

Module Name	Principles and Applications of Databases		
Semester in which the module is taught	Semester 3		
Module Leader	Li Hongyu		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Questioning. Interactive methods: Classroom Discussion. Individualized methods: Programmed Instruction, Independent Design. Practical methods: Laboratory Work, Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	3Credits		
Required and Recommended Prerequisites for Joining the Module	Structured Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the principles of databases, including the relational data model and its operational foundations, as well as concepts related to conceptual, logical, and physical database models.	R2
	CLO2	Proficient in using database management systems such as MSSQL Server to manage database objects and perform data operations. Capable of improving data retrieval efficiency through indexing and optimized query schemes, and enhancing data management and application efficiency using programming features like stored procedures and triggers.	R3

	CLO3	Able to analyze system requirements based on specific business needs, and utilize tools such as ER diagrams and data dictionaries to perform system data analysis.	R5
content	"Principles and Applications of Databases" is a foundational course for software engineering majors, primarily covering four major knowledge modules: theoretical foundations of databases, database analysis and design, data management, and database security and routine maintenance. Through the teaching process, students acquire the ability to analyze, design, and maintain database systems in the context of information technology construction and application. The course also supports and fulfills three specific indicators (2.2, 3.1, and 5.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The prerequisite for this course is "Structured Programming." Combined with concurrent and subsequent courses such as "Data Structures and Algorithms," "Introduction to Software Engineering," "Software Requirements Engineering," and "Comprehensive Software Engineering Project Design," this course aims to cultivate students' comprehensive capabilities in software project development and application. Teaching Content: Chapter 1: Database Fundamentals (Weight: 2/54, Level: Comprehension) Chapter 2: Relational Data Model and Its Operational Foundations (Weight: 2/54, Level: Comprehension + Application) Chapter 3: Analysis and Design of Relational Databases (Weight: 8/54, Level: Comprehension + Application) Chapter 4: Database Creation and Management (Weight: 2/54, Level: Comprehension + Application) Chapter 5: Basic Operations of Data Tables (Weight: 2/54, Level: Comprehension + Application) Chapter 6: Fundamentals of T-SQL Language (Weight: 2/54, Level: Comprehension + Application) Chapter 7: Built-in Functions (Weight: 4/54, Level: Comprehension + Application) Chapter 8: Data Query (Weight: 8/54, Level: Comprehension + Application) Chapter 9: Views (Weight: 2/54, Level: Comprehension + Application) Chapter 10: Stored Procedures (Weight: 6/54, Level: Comprehension + Application) Chapter 11: Triggers (Weight: 2/54, Level: Comprehension)		

	Chapter 12: Cursors (Weight: 2/54, Level: Comprehension) Chapter 13: Indexes (Weight: 2/54, Level: Comprehension) Chapter 14: Transactions (Weight: 2/54, Level: Comprehension) Chapter 15: Routine Maintenance of Databases (Weight: 6/54, Level: Comprehension + Application) Chapter 16: Security Mechanisms of Databases (Weight: 2/54, Level: Comprehension)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the overall course evaluation. It primarily assesses students' autonomous learning, classroom participation, assignment completion, and performance in periodic examinations. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the overall course evaluation. It mainly evaluates the teaching content through project-based assessments and closed-book examinations, measuring the attainment of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]邓立国《数据库原理与应用》清华大学出版社，2017 年 9 月第 1 版 [2]Li Hongyu《数据库原理与应用》北京理工大学出版社，2021 年 12 月第 1 版
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Data Structures and Algorithms

Module Name	Data Structures and Algorithms		
Semester in which the module is taught	Semester 3		
Module Leader	Hu Fangyuan		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Questioning. Interactive methods: Classroom Discussion. Individualized methods: Reading Guidance. Practical methods: Laboratory Work, Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	3 Credits		
Required and Recommended Prerequisites for Joining the Module	"Discrete Mathematics", "Structured Programming"		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Understand the basic concepts of data structures and algorithms, and master the logical structures and storage structures of commonly used basic data structures such as linear lists, stacks, queues, strings, arrays, generalized lists, trees, and graphs.	R2
	CLO2	Understand different search and sorting algorithms, master the code implementation of commonly used search and sorting algorithms, and comprehend the application scenarios of different algorithms.	R3

	CLO3	Able to implement operations of basic data structures using code, analyze the time and space complexity of algorithms, and select the optimal algorithm for specific problems through analysis.	R4
content	"Data Structures and Algorithms" is a compulsory professional course recommended by the "National Standards for Teaching Quality of Undergraduate Majors in Regular Higher Education Institutions." It serves as a mandatory specialized course supporting the graduation requirements for software engineering majors and fulfills three specific indicators (3.2, 3.3, and 4.1) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The prerequisites for this course are "Discrete Mathematics" and "Structured Programming," and its follow-up courses include "Software Project Management," "Operating Systems," and "Comprehensive Software Engineering Project Design," among others. "Data Structures and Algorithms" forms a critical foundation for students' progression into these advanced courses. Teaching Content: Chapter 1: Introduction (Weight: 2/54, Level: Comprehension) Chapter 2: Linear Lists (Weight: 6/54, Level: Comprehension + Application) Chapter 3: Stacks and Queues (Weight: 8/54, Level: Comprehension + Application) Chapter 4: Strings, Arrays, and Generalized Lists (Weight: 6/54, Level: Comprehension + Application) Chapter 5: Trees (Weight: 8/54, Level: Comprehension + Application) Chapter 6: Graphs (Weight: 8/54, Level: Comprehension + Application) Chapter 7: Searching (Weight: 8/54, Level: Comprehension + Application) Chapter 8: Sorting (Weight: 8/54, Level: Comprehension + Application)		

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the overall course evaluation. It primarily assesses homework completion, periodic tests, experimental projects, and midterm examinations. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the overall course evaluation. It mainly evaluates the teaching content through project-based assessments, closed-book examinations, and Rongzhi Cloud Testing platform, measuring the attainment of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]严蔚敏．数据结构 CLanguage 版（第 2 版）：人民邮电出版社，2021. [2]耿国华．数据结构(用 CLanguageDescription)：高等教育出版社，2021.
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Operating Systems

Module Name	Operating Systems		
Semester in which the module is taught	Semester 3		
Module Leader	Li Zhenyu		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Feynman Learning Method, Questioning. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	3 Credits		
Required and Recommended Prerequisites for Joining the Module	Structured Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Explain the key concepts of computer systems, including the relationship between hardware and operating systems, and understand the fundamental functions and roles of operating systems.	R2
	CLO2	Implement multitasking with processes and threads, utilize process synchronization and communication mechanisms to solve practical problems, and formulate scheduling strategies and prevent deadlocks.	R3

	CLO3	Analyze the principles of storage management, virtual memory management, device management, and file management, identify potential issues in system performance optimization, and provide solutions.	R5
content	The "Operating Systems" course is dedicated to exploring the key concepts and principles of operating systems in computer systems, providing students with a comprehensive knowledge framework of operating systems. Through theoretical learning and practical case studies, students will gradually master the core components of computer systems and understand the fundamental functions of operating systems as well as their crucial role in enhancing system efficiency and resource management. The course content covers an overview of computer systems, processes and threads, process synchronization and communication, scheduling and deadlocks, storage management, virtual memory management, device management, and file management, laying a solid theoretical foundation in operating systems for students. Through this course, students will master topics such as processes and threads, process synchronization and communication, scheduling and deadlocks, storage management, virtual memory management, device management, and file management in operating systems. Based on acquiring fundamental knowledge of operating system principles, students will be able to conduct research and technical investigations according to practical needs and problem scenarios. They will recognize that complex engineering problems often have multiple solutions from the perspective of operating systems and will be able to flexibly apply their acquired knowledge to research and screen feasible solutions. Building on their understanding of operating system principles, students will be able to apply theory to practice, conduct in-depth analysis of complex engineering problems in operating systems, investigate related technologies, and design and implement experimental solutions. Teaching Content: Chapter 0: Overview of Computer Systems (Weight: 2/54, Level: Comprehension) Chapter 1: Introduction to Operating Systems (Weight: 4/54, Level: Comprehension + Application) Chapter 2: Processes and Threads (Weight: 8/54, Level: Comprehension + Application) Chapter 3: Process Synchronization and Communication (Weight: 10/54, Level: Comprehension + Application) Chapter 4: Scheduling and Deadlocks (Weight: 8/54, Level:		

	Comprehension + Application) Chapter 5: Storage Management (Weight: 6/54, Level: Comprehension + Application) Chapter 6: Virtual Memory Management (Weight: 4/54, Level: Comprehension + Application) Chapter 7: Device Management (Weight: 6/54, Level: Comprehension + Application) Chapter 8: File Configuration (Weight: 6/54, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course grade. It primarily evaluates students based on classroom performance, experimental projects, midterm tests, and homework assignments. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the total course grade. It mainly assesses the teaching content through project-based evaluation, measuring the attainment of the course's knowledge objectives, competency goals, and literacy goals.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 《计算机操作系统（第四版、微课视频版）》，郁红英主编，清华大学出版社出版社，2022 年 1 月。 [2] 《计算机操作系统教程（第 5 版）》，张尧学主编，清华大学出版社，2023 年 1 月第 1 版。 [3] 《Linux 操作系统实用教程》，于德海主编，人民邮电出版社，2017 年 1 月第 1 版。
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Computer Networks

Module Name	Computer Networks

Semester in which the module is taught	Semester 4		
Module Leader	Li Hongyu		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Brainstorming, Questioning. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	3Credits		
Required and Recommended Prerequisites for Joining the Module	Structured Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the basic concepts, functions, classifications, components, and architecture of computer networks; familiarize with the fundamentals of data communication.	R2
	CLO2	Understand data link layer protocols, error control methods, and data transmission error management; learn the functions of the network layer, IP address classification, and subnet division, and grasp the basic knowledge of IPv4 and IPv6.	R3

	CLO3	Master the technologies of local area networks (LAN) and wide area networks (WAN); comprehend the networking methods and workflow of wireless local area networks (WLAN).	R5
content	"Computer Networks" is a compulsory course recommended by the "National Standards for Teaching Quality of Undergraduate Majors in Regular Higher Education Institutions." It supports the graduation requirements for software engineering majors, enabling students to master the layout frameworks of common software architectures and runtime environment configurations, thereby qualifying them for software operation and maintenance positions. Additionally, it equips students with proficiency in software testing principles, methods, processes, and reporting, preparing them for roles in software testing. The course also supports and fulfills four specific indicators (1.3, 2.3, 3.1, and 12.2) of the "Graduation Requirements" outlined in the "Software Engineering Talent Training Program." Follow-up courses include "Software Quality Assurance and Testing," among others, with "Computer Networks" serving as a critical foundation for these advanced studies. Through this course, students will master the basic concepts, functions, classifications, components, and architecture of computer networks; familiarize themselves with the fundamentals of data communication, including physical layer standards, data transmission methods, and multiplexing techniques; understand data link layer protocols, error control methods, and data transmission error management; learn the functions of the network layer, IP address classification, and subnet division, and grasp the basic knowledge of IPv4 and IPv6; master local area network (LAN) and wide area network (WAN) technologies, including VLAN, Spanning Tree Protocol, link aggregation, HDLC, PPP, and PPPoE; comprehend the networking methods and workflow of wireless local area networks (WLAN); understand the fundamentals of network security and firewall technologies; and master the basic concepts of network deployment and operation, including SDN, NFV, network management, and operation. Teaching Content: Chapter 1: Overview of Computer Networks (Weight: 4/54, Level: Comprehension + Application) Chapter 2: Fundamentals of Data Communication (Weight: 4/54, Level: Comprehension + Application)		

	Chapter 3: Data Link Layer and Its Applications (Weight: 8/54, Level: Comprehension + Application) Chapter 4: Network Layer and IP (Weight: 4/54, Level: Comprehension + Application) Chapter 5: LAN Technologies (Weight: 6/54, Level: Comprehension + Application) Chapter 6: Internetworking Technologies (Weight: 6/54, Level: Comprehension + Application) Chapter 7: WAN Technologies (Weight: 4/54, Level: Comprehension + Application) Chapter 8: WLAN (Weight: 4/54, Level: Comprehension + Application) Chapter 9: Introduction to Network Security (Weight: 2/54, Level: Comprehension + Application) Chapter 10: Network Deployment and Operation (Weight: 4/54, Level: Comprehension + Application) Chapter 11: Case Study - Campus Network Setup (Weight: 8/54, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' performance in experimental projects, periodic tests, classroom engagement, and other related components. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through closed-book examinations, measuring the attainment of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]刘振湖,唐运波，计算机网络基础，人民邮电出版社，2023。
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Human-Computer Interaction Technology

Module Name	Human-Computer Interaction Technology		
Semester in which the module is taught	Semester 3		
Module Leader	Li jiazhe		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Design. Practical methods: Laboratory Work.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 56 hours. Teaching hours: 2 hours per week for 18 weeks, totaling 36 hours. Self-study hours: 2 hours per week for 10 weeks, totaling 20 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	2 Credits		
Required and Recommended Prerequisites for Joining the Module	Object-Oriented Programming, Fundamentals of Web Design		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Understand the principles and concepts of human-computer interaction, master user research methods, comprehend interface design principles, learn interaction design techniques, acquire multimedia design skills, and familiarize with user interface evaluation methods. By mastering this knowledge, one can design user-friendly, efficient, and engaging human-computer interfaces.	R3

	CLO2	Proficiently use relevant tools for interface design and graphic processing, grasp the fundamental principles and methods of interaction design, and be capable of designing and implementing the interaction logic of user interfaces. Possess visual design and layout skills to effectively organize and present information, along with basic user experience testing and evaluation capabilities.	R6
	CLO3	Demonstrate strong communication and teamwork skills. Exhibit innovative thinking and problem-solving abilities, enabling the proposal of creative and practical interactive solutions. Possess critical thinking and a user-oriented mindset, with a focus on user experience, and the ability to understand and address the needs and feedback of diverse user groups. Capable of learning and adapting to new knowledge and skills.	R9、R12
content	"Human-Computer Interaction Technology" is a core course in the software engineering program, primarily covering six thematic areas: UI design fundamentals, icon design, web design, software interface design, and mobile interface design. Through this course, students are expected to develop skills in graphic software operation, digital image design, and UI design for common applications. This course serves as one of the key supporting courses for the WEB front-end development career path, one of the three major professional development directions in software engineering. The prerequisites for this course are "Object-Oriented Programming" and "Fundamentals of Web Design," while the subsequent courses include "Dynamic Website Development Technology," "Mobile Application Development," "Vue.js Framework Technology," and "Mini-Program Development," among others. Teaching Content: Chapter 1: Human-Computer Interaction and User Experience (Weight: 4/36, Level: Comprehension + Application) Chapter 2: User Interface Design (Weight: 4/36, Level: Comprehension + Application) Chapter 3: User Experience Design (Weight: 4/36, Level: Comprehension + Application)		

	Chapter 4: Interaction Design (Weight: 4/36, Level: Comprehension + Application) Chapter 5: Web-Based Human-Computer Interface Design (Weight: 4/36, Level: Comprehension + Application) Chapter 6: Mobile Page Design (Weight: 4/36, Level: Comprehension + Application) Chapter 7: Virtual Reality System Interface Design (Weight: 4/36, Level: Comprehension + Application) Chapter 8: Comprehensive Case Applications (Weight: 4/36, Level: Comprehension + Application) Chapter 9: Evaluation of Human-Computer Interaction Design (Weight: 4/36, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60%。 (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course grade. It primarily evaluates students' autonomous learning, classroom discussions, homework assignments, and experimental projects. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the total course grade. It mainly assesses the teaching content through project-based evaluation, measuring the attainment of the course's knowledge objectives, competency goals, and literacy goals.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]李娟莉 ． 现代人机交互页面设计.机械工业出版社.2020.07. [2]余强 ． 人机交互技术.清华大学出版社.2022.02.
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Software Requirements Engineering

Module Name	Software Requirements Engineering		
Semester in which the module is taught	Semester 4		
Module Leader	Jia Shuwei		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Questioning. Individualized methods: Unit Teaching. Practical methods: Laboratory Work.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 56 hours. Teaching hours: 2 hours per week for 18 weeks, totaling 36 hours. Self-study hours: 2 hours per week for 10 weeks, totaling 20 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	2 Credits		
Required and Recommended Prerequisites for Joining the Module	Introduction to Software Engineering		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Understand and master the requirement change process in requirements analysis engineering, and be able to initiate and execute requirement changes when they occur; master how to become a software requirements analysis engineer and understand the qualifications required for a software requirements analyst; master the commonly used requirement elicitation methods in the software requirements analysis phase.	R2

	CLO2	Able to apply software requirements knowledge to organize and analyze the obtained software requirements, ultimately forming a formal software requirements specification document.	R3
	CLO3	Students will develop: 1. Professional mindset: Rigorous awareness in requirement description, standardized literacy in technical documentation 2. Cross-domain collaboration skills: Empathy and negotiation techniques in communication among users, developers, and testers 3. Risk prevention awareness: Sensitivity to identify ambiguities/equivocations in requirement reviews, and the ability to anticipate change risks 4. Engineering ethics awareness: Adherence to bottom-line principles of privacy protection and intellectual property compliance in requirements practice.	R5

content	"Software Requirements Engineering" is a core course in the software engineering program and a compulsory professional course that supports the graduation requirements for software engineering majors. It also supports and fulfills five specific indicators (1.3, 3.3, 5.1, 5.3, and 11.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The prerequisite for this course is "Introduction to Software Engineering," and its follow-up courses include "Software Project Management," among others. "Software Requirements Engineering" serves as a critical foundation for students' progression into these advanced courses. Teaching Content: Chapter 1: Introduction to Requirements Analysis (Weight: 4/36, Level: Comprehension + Application) Chapter 2: Requirements Elicitation (Weight: 4/36, Level: Comprehension + Application) Chapter 3: System Planning (Weight: 4/36, Level: Comprehension + Application) Chapter 4: Data Modeling (Weight: 4/36, Level: Comprehension + Application) Chapter 5: Functional Design (Weight: 6/36, Level: Comprehension + Application) Chapter 6: Interface Design (Weight: 4/36, Level: Comprehension + Application) Chapter 7: Requirements Specification (Weight: 4/36, Level: Comprehension + Application) Chapter 8: Requirements Change (Weight: 6/36, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' autonomous learning, classroom performance, homework completion, and experimental projects. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluations and closed-book examinations, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.

Reading List	[1]杨长春．软件需求分析实战．清华大学出版社．2020．08
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Software Project Management

Module Name	Software Project Management		
Semester in which the module is taught	Semester 5		
Module Leader	Zheng Lining		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Demonstration, Practice. Interactive methods: Classroom Discussion, Brainstorming, Group Practice. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: pre-class preparation, after-class practice, and exam preparation.		
Credits	3Credits		
Required and Recommended Prerequisites for Joining the Module	"Introduction to Software Engineering", "Software Requirements Engineering", "Structured Programming", "Object-Oriented Programming"		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the fundamental knowledge of project management and the processes and corresponding management activities of key project management phases.	R1
	CLO2	Proficient in the processes, methods, and tools for managing software project scope, schedule, cost, and quality, and capable of applying them flexibly.	R3
	CLO3	Master the management of resources, communication, risks, and procurement to ensure the smooth execution of software projects, and apply them adaptively.	R10、R11

content	"Software Project Management" is a core course in the software engineering program, primarily covering fundamental project management theories and the four key aspects of software project management: scope, schedule, cost, and quality. It also includes management areas essential for supporting software project execution, such as human resources, procurement, communication, and risk management. Through this course, students develop project management capabilities to control project scope, ensure software quality, manage development timelines, and achieve effective cost control during software projects. The course also supports and fulfills five specific indicators (2.2, 10.2, 11.1, 11.2, and 12.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." Prerequisites for this course include "Introduction to Software Engineering," "Software Requirements Engineering," "Structured Programming," and "Object-Oriented Programming." Combined with concurrent and subsequent courses such as "Engineering Economics" and "Comprehensive Software Engineering Project Design," this course aims to cultivate students' comprehensive abilities in software project development and management. Teaching Content: Chapter 1: Overview (Weight: 6/54, Level: Comprehension + Application) Chapter 2: Project Preparation and Initiation (Weight: 4/54, Level: Comprehension + Application) Chapter 3: Project Planning (Weight: 6/54, Level: Comprehension + Application) Chapter 4: Project Estimation (Weight: 6/54, Level: Comprehension + Application) Chapter 5: Project Schedule and Cost Management (Weight: 6/54, Level: Comprehension + Application) Chapter 6: Project Quality Management (Weight: 6/54, Level: Comprehension + Application) Chapter 7: Project Risk Management (Weight: 6/54, Level: Comprehension + Application) Chapter 8: Project Team and Stakeholders (Weight: 6/54, Level: Comprehension + Application) Chapter 9: Project Monitoring and Control (Weight: 4/54, Level: Comprehension + Application) Chapter 10: Project Closure (Weight: 4/54, Level: Comprehension + Application)

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' autonomous learning, classroom performance, homework completion, and periodic test results. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through closed-book examinations, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 朱少民《软件项目管理（第 2 版）》人民邮电出版社，2021 年 2 月 [2] 李英龙《软件项目管理微课视频版》清华大学出版社，2021 年 2 月第 1 版 [3] 韩万江，姜立新《软件项目管理案例教程（第 4 版）》机械工业出版社，2019 年 06 月第 1 版
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Software Architecture

Module Name	Software Architecture		
Semester in which the module is taught	Semester 6		
Module Leader	Li Hongyu		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Design. Individualized methods: Unit Teaching, Independent Design. Practical methods: Project Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 112 hours. Teaching hours: 4 hours per week for 18 weeks, totaling 72 hours. Self-study hours: 4 hours per week for 10 weeks, totaling 40 hours, including: after-class tasks, self-study, and exam preparation.		
Credits	4 Credits		
Required and Recommended Prerequisites for Joining the Module	"Introduction to Software Engineering", "Software Requirements Engineering", "Structured Programming", "Object-Oriented Programming"		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master software design principles and the fundamental concepts and knowledge architecture of software architecture, enabling their application in the analysis and design processes of specific software projects.	R2
	CLO2	Proficient in common software structural styles, including classical and distributed software architectures, and apply this knowledge to the design process or the analysis of software application platform architectures.	R3

	CLO3	Understand the intrinsic logical relationships among software design principles, design styles, and architecture, and design high-quality software systems during specific software analysis and design processes.	R5
content	"Software Architecture" is a core course in the software engineering program, primarily covering fundamental theories of software design and software architecture, as well as software architecture styles including classical software architecture and distributed software architecture. It also encompasses software design and structure topics such as software design principles, software design objectives, MVC design style, and object-oriented design techniques. Through this course, students supplement their technical capabilities in the intermediate process from software requirements analysis to software design. They learn to select appropriate software structures based on the specific characteristics of software projects, thereby better supporting the overall software design process and providing principled guidance for detailed design phases. The course also supports and fulfills seven specific indicators (1.3, 3.1, 3.3, 4.2, 5.3, 11.1, and 12.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." Prerequisites for this course include "Introduction to Software Engineering," "Software Requirements Engineering," "Structured Programming," and "Object-Oriented Programming." Combined with concurrent and subsequent courses such as "Software Quality Assurance and Testing" and "Comprehensive Software Engineering Project Design," this course aims to cultivate students' software design capabilities. Teaching Content: Chapter 1: Fundamentals of Software Engineering (Weight: 4/72, Level: Comprehension + Application) Chapter 2: Software Design and Software Architecture (Weight: 4/72, Level: Comprehension + Application) Chapter 3: Classical Software Architecture Styles (Weight: 4/72, Level: Comprehension + Application) Chapter 4: Distributed Software Architecture (Weight: 6/72, Level: Comprehension + Application) Chapter 5: MVC Design Style and Struts Framework (Weight: 6/72, Level: Comprehension + Application) Chapter 6: Software Design Principles (Weight: 4/72, Level: Comprehension + Application) Chapter 7: Software Design Objectives (Weight: 4/72, Level: Comprehension + Application) Chapter 8: Object-Oriented Design Methods (Weight: 2/72, Level: Comprehension + Application)		

	Chapter 9: Design Patterns (Weight: 2/72, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course grade. It primarily evaluates students based on experimental projects, classroom discussions, homework assignments, periodic tests, and midterm examinations. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the total course grade. It mainly assesses the teaching content through computer-based tests, project-based evaluations, and closed-book examinations, measuring the attainment of the course's knowledge objectives, competency goals, and literacy goals.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 刘其成《软件体系结构与设计实用教程》中国铁道出版社，2018 年 8 月第 1 版 [2] 张友生《软件体系结构原理、方法与实践（第 3 版）》清华大学出版社，2021 年 04 月第 1 版
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Software Quality Assurance and Testing

Module Name	Software Quality Assurance and Testing		
Semester in which the module is taught	Semester 6		
Module Leader	Li jiazhe		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Design. Individualized methods: Programmed Instruction, Unit Teaching, Independent Design, Feynman Learning Method. Practical methods: Project Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84 hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	3 Credits		
Required and Recommended Prerequisites for Joining the Module	Introduction to Software Engineering, Object-Oriented Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements

	CLO1	Students should master the basic concepts and theoretical framework of software quality assurance systems, understand the design principles and implementation processes of key software quality attribute models and classic testing methods (such as equivalence partitioning, boundary value analysis, decision table-driven testing, etc.), and familiarize themselves with the application of software testing models (such as the V-Model and W-Model) across the entire process from requirements verification to system testing. Additionally, they should be able to recognize software quality assurance strategies in continuous integration environments by combining modern engineering practices (such as CMMI and Agile development).	R3
	CLO2	Students should possess the ability to apply testing techniques and tools in real engineering environments. This includes independently designing test cases and executing tests, implementing automated testing and performance testing using tools (such as Selenium and JUnit), skillfully applying code review, defect management, and quality evaluation methods, and effectively identifying and resolving quality issues. Furthermore, they should master the comprehensive ability to ensure software quality in multi-team collaborative environments.	R5

	CLO3	Students should develop a comprehensive quality awareness, cultivate a sharp insight and sense of responsibility for software quality risks, and possess the professional qualities necessary for continuous improvement to enhance software quality. Through this course, students will develop a rigorous and meticulous work attitude, proactively adapt to quality assurance requirements in modern development models such as DevOps and Agile development, and become high-quality software professionals with engineering ethics and team collaboration spirit.	R9、R12
content	"Software Quality Assurance and Testing" is a core course in the software engineering program, systematically teaching the theoretical framework and practical methods of software quality assurance systems. This course focuses on quality control throughout the entire software lifecycle, with emphasis on three key knowledge modules: quality attribute models, testing methodologies, and quality measurement techniques. The course content covers fundamental theories of software quality, static verification and dynamic testing techniques, test case design methods (including equivalence partitioning, boundary value analysis, decision table-driven testing, etc.), automated testing frameworks, defect management processes, and quality evaluation models. Using classic testing models such as the V-Model and W-Model, the course provides an in-depth analysis of standardized implementation processes for requirements verification, unit testing, integration testing, system testing, and acceptance testing. Combined with modern engineering methods like CMMI and Agile development, it explores quality assurance strategies in continuous integration environments. The teaching system emphasizes the integration of theory and engineering practice, cultivating students' practical abilities to apply quality tools for code review, performance testing, and security evaluation through modular experimental projects. This course incorporates new trends in quality assurance within DevOps environments, enabling students to master systematic methods for software defect prevention, quality risk control, and process improvement, thereby laying a solid professional foundation for roles such as software testing engineer and quality assurance engineer. Teaching Content: Chapter 1: Introduction (Weight: 2/54, Level: Comprehension +		

	Application) Chapter 2: Software Testing Strategies (Weight: 2/54, Level: Comprehension + Application) Chapter 3: Black-Box Testing (Weight: 8/54, Level: Comprehension + Application) Chapter 4: White-Box Testing (Weight: 8/54, Level: Comprehension + Application) Midterm Test (Weight: 2/54, Level: Application) Chapter 5: Software Testing Process (Weight: 6/54, Level: Comprehension + Application) Chapter 6: Object-Oriented Testing (Weight: 2/54, Level: Comprehension + Application) Chapter 7: Automated Testing (Weight: 10/54, Level: Comprehension + Application) Chapter 8: Software Review (Weight: 2/54, Level: Comprehension + Application) Chapter 9: Software Quality and Quality Management (Weight: 2/54, Level: Comprehension + Application) Chapter 10: Software Testing Organization and Management (Weight: 2/54, Level: Comprehension + Application) Chapter 11: Comprehensive Project Experiment (Weight: 8/54, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course grade. It primarily evaluates students' autonomous learning, experimental projects, midterm tests, and homework completion. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the total course grade. It mainly assesses the teaching content through online evaluations, measuring the attainment of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 王智钢 ．《软件质量保证与测试（慕课版）》．人民邮电出版社，2020.10. [2] 郑炜 ．《软件测试（慕课版 第 2 版）》．人民邮电出版社，2022.01.

Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Engineering Training

Module Name	Engineering Training		
Semester in which the module is taught	Semester 6		
Module Leader	Li Jiazhe		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Group Design. Individualized methods: Independent Design. Practical methods: Practical Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 120 hours. Teaching hours: 5 hours per week for 18 weeks, totaling 90 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: after-class review.		
Credits	4 Credits		
Required and Recommended Prerequisites for Joining the Module	Operating Systems, Human-Computer Interaction Technology		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the general process of mechanical manufacturing, knowledge of mechanical manufacturing processes, and the application of new processes and technologies in mechanical manufacturing. Proficient in researching and analyzing solutions to intelligent manufacturing engineering problems through scientific principles, literature review, or related scientific methods.	R6

	CLO2	Able to perform practical operations, collect and organize experimental data, analyze and interpret experimental data, draw reasonable and effective conclusions, and propose unique insights and innovative processing methods in manufacturing processes and techniques.	R7
	CLO3	Proficient in common processing methods for mechanical components, the working principles and typical structures of main equipment used, the use of tools, fixtures, and measuring instruments, and safety operation techniques. Adhere to safety operating procedures and establish essential innovation capabilities, industrial safety awareness, and teamwork consciousness.	R9、R10
content	"Engineering Training" is a specialized concentrated practical course that supports the concentrated practical requirements for graduation in engineering majors. It also supports and fulfills four specific indicators (7.1, 8.2, 10.1, and 10.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." Through the experimental teaching of this course, students are required to understand the general process of mechanical manufacturing, knowledge of mechanical manufacturing processes, and the application of new processes and technologies in mechanical manufacturing. They will become familiar with common processing methods for mechanical components, the working principles and typical structures of the main equipment used, the use of tools, fixtures, and measuring instruments, and safety operation techniques. Students will also gain basic operational skills in turning, fitting, milling, welding, and CNC machining, and acquire hands-on experience in turning, fitting, milling, welding, machining centers, and special processing. They will learn and adhere to safety operating procedures, establishing essential innovation capabilities and industrial safety awareness. Teaching Content: Chapter 1: Basic Training in Mechanical Processing (Weight: 16/40, Level: Comprehension + Application) Chapter 2: Welding Training (Weight: 6/40, Level: Comprehension + Application) Chapter 3: CNC Turning Training (Weight: 8/40, Level: Comprehension + Application) Chapter 4: CNC Machining Training (Weight: 6/40, Level:		

	Comprehension + Application) Chapter 5: Special Technology Application Training (Weight: 2/40, Level: Comprehension + Application) Chapter 6: Advanced Technology Processing Training (Weight: 2/40, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' autonomous learning, classroom performance, homework completion, and periodic test results. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through practical training reports, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]《金工实习教材》，刘晓刚主编，冶金工业出版社，2014 年 1 月。 [2]《金工实习教材》，萧泽新主编，华南理工出版社， 2004 年 1 月。 [3]《数控机床编程及应用》，于春生主编， 高等教育出版社，2004 年 12 月。 [4]《数控加工实训教程》，汪程主编，江西高校出版社，2005 年 8 月。 [5]《数控编程与加工技术》，贾建军主编，大连理工大学出版社，2004 年 10 月。 [6]《数控技术》，朱晓春主编，机械工业出版社，2003 年 7 月。
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Cognitive Internship

Module Name	Cognitive Internship		
Semester in which the module is taught	Semester 1 or Semester 2 or Semester 3 or Semester 4		
Module Leader	Hu Fangyuan		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: None Interactive methods: None Practical methods: Practical Approach		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 60 hours. Teaching hours: 2 hours per week for 15 weeks, totaling 30 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	2 Credits		
Required and Recommended Prerequisites for Joining the Module	NONE		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Through the cognitive internship, students will gain a deeper understanding and awareness of their major. They will have the opportunity to experience the actual work environment firsthand, learn about industry technologies, equipment, production processes, and development trends, thereby clarifying their professional direction and future career positioning.	R6

	CLO2	The course aims to develop students' practical abilities and problem-solving skills. During the internship, students will face real-world challenges and problems. Through observation, learning, and practice, they will learn to apply their acquired knowledge and skills to solve practical issues. This not only helps consolidate and expand their professional expertise but also enhances their overall competence and professional capabilities.	R8
	CLO3	The cognitive internship also emphasizes the cultivation of teamwork spirit and professional ethics. At the internship site, students will need to communicate and collaborate with colleagues and supervisors to complete work tasks. This helps foster their teamwork skills, communication abilities, and professional integrity, laying a solid foundation for their future careers.	R10
content	"Cognitive Internship" is a specialized concentrated practical course and serves as a crucial practical component for achieving educational objectives and fulfilling the teaching plan. This course aims to provide students with a deeper understanding and awareness of their major through practical engagement. It typically includes various activities such as lectures, research, site visits, and design and development projects. Through these activities, students can gain insights into relevant technologies, production processes, advanced software and hardware, current industry developments, and future trends in their field.		
Assessment Format	1. Course assessment consists of internship performance and internship report evaluation. 2. Grading: Total course score = Internship performance × 40% + Internship report score × 60%		
Learning and Examination Requirements	In principle, a score of 0.7 or above is considered achieved for the overall course objective, 0.6-0.7 is considered basically achieved, and below 0.6 is considered not achieved.		
Reading List	NONE		

Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Comprehensive Software Engineering Project Design

Module Name	Comprehensive Software Engineering Project Design		
Semester in which the module is taught	Semester 7		
Module Leader	Huang Xingrui		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture. Interactive methods: Group Design, Group Discussion. Practical methods: Laboratory Work.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 360 hours. Teaching hours: 20 hours per week for 10 weeks, totaling 200 hours. Self-study hours: 10 hours per week for 18 weeks, totaling 180 hours.		
Credits	12 Credits		
Required and Recommended Prerequisites for Joining the Module	None		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the fundamental knowledge architecture of software engineering: processes, methods, and tools, and possess the basic cognitive ability to ensure software development efficiency through process standardization.	R2
	CLO2	Able to flexibly apply both structured and object-oriented thinking methods in specific project processes.	R3
	CLO3	Capable of selecting optimal tools for the development process based on project characteristics in specific software projects.	R11

content	"Comprehensive Software Engineering Project Design" is a concentrated practical course in the software engineering program. Through summarizing key knowledge points in software engineering, transforming conceptual understanding, and applying tool skills, the course leverages the principle of knowledge transfer to solve complex engineering problems in software development using software engineering methodologies. Upon completion of this course, students should be able to flexibly apply principles and related tools in requirements analysis, software design, and software implementation to analyze and solve problems. Prerequisites for this course include "Software Engineering," "Programming Languages," "Object-Oriented Programming," "Data Structures and Algorithms," "Database Principles and Applications," "Software Requirements," and "Project Management." Combined with the concurrent course "Software Testing," this course aims to cultivate students' software engineering thinking skills and comprehensive capabilities in software project development.
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 50% of the total course score. It primarily evaluates students' autonomous learning, classroom performance, periodic tests, experimental projects, and midterm examinations. (2) Summative assessment, with a full score of 100 points, accounts for 50% of the total course score. It mainly assesses the teaching content through project-based evaluation, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	NONE
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Software Engineering Course Practice

Module Name	Software Engineering Course Practice		
Semester in which the module is taught	Semester 2 and Semester 4 and Semester 6		
Module Leader	Huang Xingrui		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture. Interactive methods: Group Design. Practical methods: Laboratory Work.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 360 hours. Teaching hours: 20 hours per week for 15 weeks, totaling 300 hours. Self-study hours: 4 hours per week for 15 weeks, totaling 60 hours, including: self-learning framework technology stacks, independent study, and resolving issues encountered in projects.		
Credits	12 Credits		
Required and Recommended Prerequisites for Joining the Module	"Introduction to Software Engineering", "Software Requirements Engineering", "Structured Programming", "Object-Oriented Programming"		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the process of software requirements analysis and modeling. Learn to effectively communicate with users and other stakeholders, accurately capture software requirements, and apply modeling techniques to transform requirements into actionable models.	R2
	CLO2	Able to deeply understand the importance of software design and architecture, apply software design principles and patterns to design efficient and maintainable software system architectures.	R3

	CLO3	Possess the ability for software coding and implementation, writing high-quality code according to design documentation requirements to realize the various functions of a software system.	R8、R9
content	"Software Engineering Course Practice" is a concentrated practical course for software engineering majors and serves as a crucial practical component for students in this field. It aims to cultivate students' mastery of the fundamental principles, methods, and skills of software engineering through the development and execution of real-world projects, thereby enhancing their software project development capabilities and teamwork skills. Through the practical learning in this course, students will acquire essential knowledge and skills in software engineering. The prerequisite courses for this course include "Software Engineering," "Programming Languages," "Object-Oriented Programming," "Data Structures and Algorithms," "Database Principles and Applications," "Software Requirements," "Project Management," and "Software Testing." Through case studies and project-based training, students will deepen their understanding and application of software engineering in practice.		
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' autonomous learning, classroom discussions, homework assignments, and periodic test performance. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluation, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.		
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.		
Reading List			
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards		

Graduation Internship

Module Name	Graduation Internship		
Semester in which the module is taught	Semester 7 and 8		
Module Leader	Hu Fangyuan		
Language	Chinese		
Relationship to the Curriculum	Specialized Concentrated Practical Courses		
Teaching Methods	Teacher-centered methods: None Interactive methods: None Practical methods: Practical Approach.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 480 hours. Teaching hours: 10 hours per week for 16 weeks, totaling 160 hours. Self-study hours: 20 hours per week for 16 weeks, totaling 320 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	16 Credits		
Required and Recommended Prerequisites for Joining the Module	Engineering Training, Comprehensive Software Engineering Project Design		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Enable students to integrate professional knowledge learned in the classroom with practical operations, deepening their understanding and application of specialized knowledge. Broaden their industry perspective by exposing them to cutting-edge technologies, business practices, and management models, thereby expanding their industry awareness and laying a foundation for future career development.	R1、R2

	CLO2	Enhance practical operational skills to prepare for independently undertaking work tasks in the future. Apply acquired knowledge to analyze and solve encountered problems, thereby cultivating independent thinking and problem-solving abilities. Collaborate with team members to complete tasks, honing teamwork skills and improving communication and coordination capabilities through practice.	R3、R6
	CLO3	Foster professional ethics by instilling a strong sense of professional responsibility and dedication through internships. Improve self-management skills to build a foundation for future independent work. Encourage students to maintain a positive mindset and adapt flexibly to various challenges and changes that may arise during internships, thereby enhancing their adaptability and resilience.	R8
content	"Graduation Internship" is a specialized concentrated practical course and serves as a critical component for achieving educational objectives and fulfilling the teaching plan. This course aims to cultivate students' ability to comprehensively apply theoretical knowledge and professional skills to independently analyze and solve problems. It also provides foundational training for students' future careers. Additionally, the course supports and fulfills four specific indicators (3.1, 3.3, 5.1, and 6.1) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering."		
Assessment Format	1. Course assessment consists of internship performance evaluation and internship report evaluation. 2. Grading: Total course score = Internship performance score × 40% + Internship report score × 60%.		
Learning and Examination Requirements	In principle, a score of 0.7 or above is considered achieved for the overall course objective, 0.6-0.7 is considered basically achieved, and below 0.6 is considered not achieved.		
Reading List	NONE		
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards		

Graduation Thesis (Project)

Module Name	Graduation Thesis (Project)		
Semester in which the module is taught	Semester 8		
Module Leader	Kong Jianghua		
Language	Chinese		
Relationship to the Curriculum	Compulsory Professional Course		
Teaching Methods	Teacher-centered methods: Lecture, Task-driven Approach. Interactive methods: Group Discussion, Requirements Analysis. Individualized methods: Independent Design, Programmed Instruction.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 420 hours. Teaching hours: 6.25 hours per week for 16 weeks, totaling 100 hours. Self-study hours: 20 hours per week for 16 weeks, totaling 320 hours, including: group discussions and independent coding.		
Credits	14 Credits		
Required and Recommended Prerequisites for Joining the Module	Comprehensive Software Engineering Project Design		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Cultivate students' ability to comprehensively apply knowledge and techniques in the field of software engineering to solve practical problems. Guide students to understand cutting-edge technologies and application trends in software engineering, preparing them for future career development.	R1、R2、R4
	CLO2	Develop students' capacity to write technical papers or design reports, enhancing their professional expression and communication skills.	R3

	CLO3	Improve students' engineering practical abilities and innovative awareness, while fostering a spirit of teamwork.	R7
content	Through comprehensive practical activities, cultivate students' practical abilities, problem-solving skills, innovative awareness, and research capabilities, while enhancing teamwork, communication, and documentation writing and presentation skills. This lays a solid foundation for students' future academic research and career development. Teaching Content: Topic Selection and Literature Review Guidance (Weight: 6/32, Level: Comprehension + Application) Solution Design Guidance (Weight: 8/32, Level: Comprehension + Application) System Development and Debugging Guidance (Weight: 8/32, Level: Comprehension + Application) Thesis or Design Report Writing Guidance (Weight: 6/32, Level: Comprehension + Application) Defense and Evaluation (Weight: 4/32, Level: Comprehension + Application)		
Assessment Format	1. Course assessment consists of supervisor evaluation, reviewer evaluation, and defense score. 2. Grading: Total course score = Supervisor evaluation × 40% + Reviewer evaluation × 20% + Defense score × 40%.		
Learning and Examination Requirements	The five-level evaluation system is used, and the evaluation level of "pass" is the passing score for this course.		
Reading List	[1] 张少刚.《软件工程与毕业设计规范》.国防工业出版社.2015.05.		
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards		

Web Design Fundamentals

Module Name	Web Design Fundamentals		
Semester in which the module is taught	Semester 2		
Module Leader	Yang Yong		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Feynman Learning Method, Questioning. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 126 hours. Teaching hours: 5 hours per week, 18 weeks, 90 hours. Self-study hours: 3 hours per week, 12 weeks, 36 hours, including homework, labs, and exam preparation.		
Credits	4.5 Credits		
Required and Recommended Prerequisites for Joining the Module	Structured Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the operational principles of web pages and websites, and possess the ability to set up common WEB runtime environments.	R1
	CLO2	Proficient in using inline and block-level tags in HTML5, and skilled in applying CSS to complete web page layout and design according to user requirements.	R3
	CLO3	Capable of independently designing WEB sites using standard business processes.	R5
content	"Fundamentals of Web Design" is a specialized elective course in the software engineering program, covering 12 key topics: HTML5+CSS3 web design overview, HTML5 document structure, HTML5 markup, introduction to CSS3, CSS3 selectors, box model, transitions and		

	animations, lists and hyperlinks, tables and forms, JavaScript scripting applications, web layout, responsive development, and practical development—creating enterprise website demos. Through this course, students are expected to master site creation and management, DOM coding standards, CSS web beautification, responsive web layout, and website demo design capabilities. This course serves as one of the key supporting courses for the WEB front-end development career path, one of the three major professional development directions in software engineering, primarily fulfilling 5 specific indicators (4, 5, and 12) in the talent development program. The prerequisite for this course is "Programming Languages," and its follow-up courses include "Human-Computer Interaction Technology," "Advanced JavaScript Programming," "Vue.js Framework Technology," "Dynamic Website Development Technology," and "Mini-Program Development," among others. By studying this course, students will master HTML document structure, HTML5 markup, CSS syntax, understand the DOM model, CSS box model, and responsive principles. They will acquire the ability to independently design web layouts and website demos, meeting the basic requirements of enterprises for positions related to WEB responsive development. Teaching Content: Chapter 1: HTML5+CSS3 Web Design Overview (Weight: 2/54, Level: Comprehension) Chapter 2: HTML5 Page Elements and Attributes (Weight: 2/54, Level: Comprehension + Application) Chapter 3: Usage and Priority of CSS3 (Weight: 4/54, Level: Comprehension + Application) Chapter 4: CSS3 Selectors (Weight: 6/54, Level: Comprehension + Application) Chapter 5: Box Model (Weight: 6/54, Level: Comprehension + Application) Chapter 6: Lists and Hyperlinks (Weight: 4/54, Level: Comprehension + Application) Chapter 7: Tables and Forms (Weight: 4/54, Level: Comprehension + Application) Chapter 8: JavaScript and jQuery (Weight: 6/54, Level: Comprehension + Application) Chapter 9: Transitions, Transformations, and Animations (Weight: 2/54, Level: Comprehension + Application) Chapter 10: DIV+CSS Layout (Weight: 6/54, Level: Comprehension + Application) Chapter 11: Responsive Layout (Weight: 6/54, Level: Comprehension + Application)

	Chapter 12: Practical Development—Creating Enterprise Website Demos (Weight: 6/54, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' autonomous learning, classroom performance, homework completion, and experimental work. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluation and computer-based testing, measuring the achievement of the course objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]赵丰年．网页设计与制作（HTML5+CSS3+JavaScript）（第 4 版）（微课版）．人民邮电出版社，2020.07。 [2]郑娅峰，网页设计与开发-HTML、CSS、JavaScript 实例教程（第 4 版），清华大学出版社，2021.07。
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Dynamic Web Development Technology

Module Name	Dynamic Web Development Technology		
Semester in which the module is taught	Semester 3		
Module Leader	Yang Haiquan		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Teaching Seminars, Group Discussions, Questioning. Individualized methods: Programmed Instruction, Unit Teaching, Independent Design, Feynman Learning Method. Practical methods: Laboratory Work, Project Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 168 hours. Teaching hours: 6 hours per week for 18 weeks, totaling 108 hours. Self-study hours: 4 hours per week for 15 weeks, totaling 60 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	6 Credits		
Required and Recommended Prerequisites for Joining the Module	"Object-Oriented Programming", "Fundamentals of Web Design"		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master JSP programming technology, modern multi-tier software architecture concepts, and the MVC design pattern in software.	R1
	CLO2	Proficient in JSP technology, Java Bean technology, Servlet technology, and Java database access technology.	R3

	CLO3	Develop students' abilities in software analysis, design, coding, and testing, helping them integrate previously learned web technologies, Java technologies, and database technologies to complete the end-to-end development of a small-scale WEB application system.	R5
content	"Dynamic Web Development Technology" is an elective course in the software engineering program. The main teaching content includes: This course is a specialized course offered after foundational courses such as Web Scripting Basics, Object-Oriented Fundamentals, and Database Fundamentals. As a practical course, it not only teaches students JSP programming technology, modern multi-tier software architecture concepts, and the MVC design pattern but also focuses on developing students' abilities in software analysis, design, coding, and testing. It helps students integrate previously learned web technologies, Java technologies, and database technologies to complete the end-to-end development of a small-scale WEB application system. Chapter 1: Overview of JSP Web Development Technology (Weight: 4/72, Level: Comprehension + Application) Chapter 2: Basic Syntax of JSP (Weight: 8/72, Level: Comprehension + Application) Chapter 3: JSP Built-in Objects (Weight: 12/72, Level: Comprehension + Application) Chapter 4: EL Expressions and JSTL Tag Library (Weight: 4/72, Level: Comprehension + Application) Chapter 5: Database Access (Weight: 8/72, Level: Comprehension + Application) Chapter 6: JavaBean Technology (Weight: 12/72, Level: Comprehension + Application) Chapter 7: Servlet Technology (Weight: 12/72, Level: Comprehension + Application) Chapter 8: Comprehensive Project Case (Weight: 8/72, Level: Comprehension + Application) Chapter 9: Project Assessment and Evaluation (Weight: 4/72, Level: Comprehension + Application)		

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course grade. It primarily evaluates students' autonomous learning, classroom performance, homework assignments, and experimental projects. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the total course grade. It mainly assesses the teaching content through project-based evaluation, measuring the attainment of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 林龙，刘华贞 著 JSP+Servlet+Tomcat 应用开发从零开始学（第 2 版），清华大学出版社，2019 [2] 耿祥义著，JSP 实用教程（第 4 版），清华大学出版社，2020 年 8 月
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Mobile Application Development

Module Name	Mobile Application Development		
Semester in which the module is taught	Semester 5		
Module Leader	Li Hongyu		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Feynman Learning Method, Questioning. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 168 hours. Teaching hours: 6 hours per week for 18 weeks, totaling 108 hours. Self-study hours: 4 hours per week for 15 weeks, totaling 60 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	6 Credits		
Required and Recommended Prerequisites for Joining the Module	Object-Oriented Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements

	CLO1	Master the fundamental knowledge related to Android mobile application development, including: configuration and usage of the Android Studio integrated development environment, comparison and application of common layouts, frequently used attributes and event handling of basic and advanced components, understanding and application of Activities, creation and usage of various types of resources, comprehension and application of the broadcast mechanism, classification of services and creation/usage of different service types, comparison of common data persistence techniques and their application in different scenarios, as well as multithreading and network programming.	R1
	CLO2	Able to comprehensively utilize this knowledge to select appropriate technical solutions for different mobile application development projects, and execute UI design, code implementation, and issue debugging for Android apps based on user requirements.	R3
	CLO3	Possess strong professional ethics and engineering literacy, along with effective teamwork awareness, communication, and management skills.	R5
content	"Mobile Application Development" is one of the key supporting courses for the mobile application development career path, one of the three major professional development directions for software engineering graduates. As a specialized elective course that supports the graduation requirements for software engineering majors, it also fulfills five specific indicators (3.1, 3.2, 5.2, 8.1, and 9.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The prerequisite for this course is "Object-Oriented Programming," and its follow-up courses include "Mini-Program Development" and "HarmonyOS Application Development," among others. "Mobile Application Development" serves as a critical foundation for students' progression into these advanced courses. By studying this course, students will master the fundamental		

	knowledge of Android mobile application development, understand the operational mechanisms of applications in the C/S architecture, and meet the basic requirements of enterprises for Android development engineer positions. Teaching Content: Chapter 1: Overview of Android Development (Weight: 4/72, Level: Comprehension + Application) Chapter 2: Common Android Layouts (Weight: 8/72, Level: Comprehension + Application) Chapter 3: Basic Components (Weight: 8/72, Level: Comprehension + Application) Chapter 4: Activity (Weight: 8/72, Level: Comprehension + Application) Chapter 5: Advanced Components (Weight: 12/72, Level: Comprehension + Application) Chapter 6: Resources (Weight: 4/72, Level: Comprehension + Application) Chapter 7: Services (Weight: 4/72, Level: Comprehension + Application) Chapter 8: Broadcast Mechanism (Weight: 4/72, Level: Comprehension + Application) Chapter 9: Data Persistence (Weight: 10/72, Level: Comprehension + Application) Chapter 10: Multithreading and Network Programming (Weight: 10/72, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' autonomous learning, classroom participation, homework completion, and periodic test performance. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluations and closed-book examinations, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]王向辉．Android 应用程序开发（第 4 版）．北京：清华大学出版社，2022.05。

Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Advanced JavaScript Programming

Module Name	Advanced JavaScript Programming		
Semester in which the module is taught	Semester 3		
Module Leader	Zheng Lining		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Feynman Learning Method, Questioning. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 126 hours. Teaching hours: 6 hours per week for 16 weeks, totaling 96 hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	4.5 Credits		
Required and Recommended Prerequisites for Joining the Module	Fundamentals of Web Design, Structured Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements

	CLO1	Master the usage of JavaScript in web pages, understand the basic syntax structure, variables, and data types of JavaScript, grasp JavaScript expressions and operators, master JavaScript flow control statements, comprehend JavaScript functions, predefined functions, function parameters, and return values, understand the basic syntax and application of objects and arrays, master the basic syntax and application of DOM and BOM objects, learn the application of events and event programming in projects, acquire AJAX technology, and master the development process of comprehensive application projects.	R1
	CLO2	Able to independently collect and organize information, possess the ability to understand user requirements, skillfully use JavaScript basic syntax to implement flow statements of basic algorithms, apply functional thinking to solve programming problems, use object-oriented thinking to solve data retrieval issues, skillfully use array objects to handle data problems, proficiently apply the properties and methods of BOM objects to solve practical problems, possess the ability to use event handling objects to address front-end event invocation issues, capable of using DOM objects to solve problems, and able to apply AJAX technology to resolve front-end event issues.	R3
	CLO3	Cultivate the habit of proactive learning through thoughtful consideration and in-depth research. Through project and case-based teaching, develop the ability to analyze and solve problems, foster perseverance, teamwork spirit, communication skills, and written expression skills. Through extracurricular expansion training, nurture innovative awareness.	R5

content	"Advanced JavaScript Programming" is a specialized elective course in the software engineering program, supporting and fulfilling three specific indicators (1.1, 1.2, and 5.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The course covers ten main topics: Introduction to JavaScript, JavaScript Programming Fundamentals, JavaScript Flow Control, JavaScript Functions, JavaScript Objects, DOM Objects, BOM Objects, Events and Event Handling, AJAX Technology, and Comprehensive Projects. Through this course, students are expected to master the JavaScript syntax system, JavaScript event handling mechanisms, and the ability to manipulate DOM and BOM objects using JavaScript. This course is one of the key supporting courses for the WEB front-end development career path, one of the three major professional development directions in software engineering, primarily fulfilling four specific indicators (1 and 5) in the talent development program. Prerequisites for this course include "Object-Oriented Programming," "Fundamentals of Web Design," and "Operating Systems." Follow-up courses include "Vue.js Framework Technology," "Dynamic Website Development Technology," "Java EE Project Development," among others. Through this course, students will gradually establish and master the thought processes and methods of Web front-end page design, develop the ability to analyze and solve problems, and learn to use JavaScript and AJAX to address technical issues in Web front-end development. They will apply programming concepts to solve practical Web front-end problems and cultivate qualities such as perseverance and teamwork. Project 1: Introduction to JavaScript (Weight: 2/54, Level: Comprehension + Application) Project 2: JavaScript Programming Fundamentals (Weight: 4/54, Level: Comprehension + Application) Project 3: JavaScript Flow Control (Weight: 4/54, Level: Comprehension + Application) Project 4: JavaScript Functions (Weight: 6/54, Level: Comprehension + Application) Project 5: JavaScript Objects (Weight: 6/54, Level: Comprehension + Application) Project 6: DOM Objects (Weight: 8/54, Level: Comprehension + Application) Project 7: BOM Objects (Weight: 6/54, Level: Comprehension + Application) Project 8: Events and Event Handling (Weight: 8/54, Level: Comprehension + Application)

	Project 9: AJAX Technology (Weight: 6/54, Level: Comprehension + Application) Project 10: Comprehensive Project (Weight: 4/54, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, scored on a 100-point scale, accounts for 40% of the total course grade. (2) Summative assessment, with a maximum score of 100 points, accounts for 60% of the total course grade. It primarily assesses the teaching content through project-based evaluation, measuring the attainment of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]李玉臣 臧金梅．JavaScript 前端开发程序设计项目式教程（微课版）．人民邮电出版社，2022.06。 [2]李玉臣，JavaScript 前端开发程序设计项目式教程（第 2 版），人民邮电出版社，2019.06。
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Vue.js Framework Technology

Module Name	Vue.js Framework Technology		
Semester in which the module is taught	Semester 4		
Module Leader	Yang Haiquan		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Teaching Seminars, Group Discussions, Questioning. Individualized methods: Programmed Instruction, Unit Teaching, Independent Design, Feynman Learning Method. Practical methods: Laboratory Work, Project Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 168 hours. Teaching hours: 6 hours per week for 18 weeks, totaling 108 hours. Self-study hours: 4 hours per week for 15 weeks, totaling 60 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	6 Credits		
Required and Recommended Prerequisites for Joining the Module	Fundamentals of Web Design, Programming Languages, Advanced JavaScript Programming		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master Vue environment setup, basic syntax and usage of directives; Vue components and the use of UI component libraries; master Vue front-end routing and state management with Vuex patterns.	R1
	CLO2	Able to use the Vue framework technology to solve complex problems in front-end development.	R3

	CLO3	Possess the mindset and methodology for Web front-end page design, with the ability to analyze and solve problems. Capable of using Vue, a progressive framework, to address technical challenges in single-page application development, and applying component-based and modular thinking to solve practical Web front-end issues.	R5
content	"Vue.js Framework Technology" is an elective course in the software engineering program. The main teaching content includes eight thematic areas: Vue development environment setup, Vue basic syntax, Vue static components, dynamic components, routing usage, UI component libraries, network requests, and state management. The course aims to help students understand and master the core concepts of Vue.js, a progressive framework (such as componentization and modularization). Through project practice, students will develop the fundamental skills and qualities required for designing and developing complex single-page applications, meeting the current job requirements for Web front-end engineers. The prerequisite courses for this course are "Fundamentals of Web Design," "Programming Languages," and "Advanced JavaScript Programming." Follow-up courses include "SpringBoot Framework Technology" and "Hybrid Mobile Development," among others. Chapter 1: Introduction to Vue.js (Weight: 4/72, Level: Comprehension + Application) Chapter 2: Vue.js Development Basics (Weight: 8/72, Level: Comprehension + Application) Chapter 3: Component Basics (Part 1) (Weight: 8/72, Level: Comprehension + Application) Chapter 4: Component Basics (Part 2) (Weight: 8/72, Level: Comprehension + Application) Chapter 5: Vue Routing (Weight: 8/72, Level: Comprehension + Application) Chapter 6: Common UI Component Libraries (Weight: 8/72, Level: Comprehension + Application) Chapter 7: Network Requests and State Management (Weight: 8/72, Level: Comprehension + Application) Chapter 8: Project Practice — "Micro-Mall" Frontend and Backend (Weight: 20/72, Level: Comprehension + Application)		

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' autonomous learning, classroom discussions, homework completion, and periodic test performance. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluation, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 黑马程序员．Vue.js 前端开发实战第 2 版．人民邮电出版社，2023-08-01
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

SSM Framework Technology

Module Name	SSM Framework Technology		
Semester in which the module is taught	Semester 4		
Module Leader	Huang Xingrui		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Feynman Learning Method, Questioning. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 168 hours. Teaching hours: 6 hours per week for 18 weeks, totaling 108 hours. Self-study hours: 4 hours per week for 15 weeks, totaling 60 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	6 Credits		
Required and Recommended Prerequisites for Joining the Module	Object-Oriented Programming, Dynamic Web Development Technology		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master key technical points: from basic JDBC operations to Spring framework programming, deeply understand Spring's AOP and IOC, master the application of Spring JDBC and database connection pools, and familiarize with Spring's methods for managing database transactions. Additionally, students will learn to use JSP, Spring, JDBC, and connection pools for web application development, understand the advantages and configuration process of the SpringMVC framework, and ultimately master the use of the MyBatis framework and related knowledge.	R1

	CLO2	Able to comprehensively utilize this knowledge to develop JavaEE projects for different application scenarios, select appropriate technical solutions, and implement web front-end, back-end logic, and front-end and back-end integration based on user requirements, with the ability to perform code implementation and problem debugging and resolution.	R3
	CLO3	Possess good professional ethics and engineering literacy, cultivating excellent teamwork, communication, and management skills.	R5
content	"SSM Framework Technology" is one of the key supporting courses for the Java backend development track in the software engineering program. As a specialized elective course that meets the graduation requirements for software engineering majors, it also supports and fulfills five specific indicators (3.1, 3.2, 5.2, 8.1, and 9.2) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The prerequisites for this course are "Object-Oriented Programming" and "Dynamic Web Development Technology," and its follow-up courses include "Comprehensive Software Engineering Project Design," among others. "SSM Framework Technology" serves as a critical foundation for students' progression into these advanced courses. By studying this course, students will master the fundamentals of mainstream framework development technologies, understand the application scenarios and best practices of SSM framework technology in real-world projects, and be able to flexibly apply them according to specific business contexts and requirements. This will enable them to meet the basic qualifications for the role of framework application development engineer in enterprises. Teaching Content: Chapter 1: JavaEE Overview (Weight: 4/72, Level: Comprehension + Application) Chapter 2: Spring IoC (Weight: 12/72, Level: Comprehension + Application) Chapter 3: Spring AOP (Weight: 10/72, Level: Comprehension + Application) Chapter 4: Usage of Spring JDBC (Weight: 8/72, Level: Comprehension + Application) Chapter 5: Introduction to Spring MVC (Weight: 14/72, Level: Comprehension + Application) Chapter 6: Refactoring Online Bookstore with SpringMVC (Weight:		

	4/72, Level: Comprehension + Application) Chapter 7: Introduction to MyBatis (Weight: 6/72, Level: Comprehension + Application) Chapter 8: Advanced MyBatis (Weight: 8/72, Level: Comprehension + Application) Chapter 9: Spring Transaction Management (Weight: 6/72, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' homework completion, autonomous learning, experimental projects, and classroom discussions. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluations and closed-book examinations, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 彭之军．Java EE 轻量级框架整合开发——Spring+Spring MVC+MyBatis（微课版）．北京：清华大学出版社，2023.7 [2] 李西明, SSM 开发实战教程（Spring+Spring MVC+MyBatis）北京：人民邮电出版社，2019.7
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

SpringBoot Framework Technology

Module Name	SpringBoot Framework Technology		
Semester in which the module is taught	Semester 5		
Module Leader	Huang Xingrui		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Interactive methods: Group Discussion, Group Design Practical methods: Laboratory Teaching		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 168 hours. Teaching hours: 6 hours per week for 18 weeks, totaling 108 hours. Self-study hours: 4 hours per week for 15 weeks, totaling 60 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	6 Credits		
Required and Recommended Prerequisites for Joining the Module	"Object-Oriented Programming", "SSM Framework Technology"		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the skills for developing enterprise-level applications using the SpringBoot framework, including but not limited to: configuring development environments and setting up the SpringBoot framework.	R1
	CLO2	Able to understand the application scenarios and best practices of SpringBoot framework technology in real-world projects, and flexibly apply it according to specific business contexts and requirements.	R3

	CLO3	Possess the ability to select appropriate technical solutions for different project needs.	R5
content	"SpringBoot Framework Technology" is one of the key supporting courses for the Java backend development career path, one of the three major professional development directions for software engineering graduates. As a specialized elective course that supports the graduation requirements for software engineering majors, it also fulfills four specific indicators (3.2, 5.1, 5.2, and 10.1) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The prerequisites for this course are "Object-Oriented Programming" and "SSM Framework Technology," and its follow-up courses include "Comprehensive Software Engineering Project Design," among others. "SpringBoot Framework Technology" serves as a critical foundation for students' progression into these advanced courses. Chapter 1: Introduction to Spring Boot Development (Weight: 4/72, Level: Comprehension + Application) Chapter 2: Core Configuration and Annotations in Spring Boot (Weight: 6/72, Level: Comprehension + Application) Chapter 3: Data Access in Spring Boot (Weight: 6/72, Level: Comprehension + Application) Chapter 4: View Technologies in Spring Boot (Weight: 6/72, Level: Comprehension + Application) Chapter 5: Cache Management in Spring Boot (Weight: 6/72, Level: Comprehension + Application) Chapter 6: Security Management in Spring Boot (Weight: 4/72, Level: Comprehension + Application) Chapter 7: Message Services in Spring Boot (Weight: 4/72, Level: Comprehension + Application) Chapter 8: Task Management in Spring Boot (Weight: 6/72, Level: Comprehension + Application) Chapter 9: Comprehensive Project Practice in Spring Boot (Weight: 12/72, Level: Comprehension + Application)		

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' performance in various aspects. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluation, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	闾枫.Spring Boot 项目开发教程（慕课版）.人民邮电出版,2022.09.01.
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Mini Program Development

Module Name	Mini Program Development		
Semester in which the module is taught	Semester 6		
Module Leader	Yang Haiquan		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Teaching Seminars, Group Discussions, Questioning. Individualized methods: Programmed Instruction, Unit Teaching, Independent Design, Feynman Learning Method. Practical methods: Laboratory Work, Project Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 168 hours. Teaching hours: 6 hours per week for 18 weeks, totaling 108 hours. Self-study hours: 4 hours per week for 15 weeks, totaling 60 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	7 Credits		
Required and Recommended Prerequisites for Joining the Module	"Programming Languages", "Object-Oriented Programming"		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the principles of data interaction between mini programs and backend servers, and be able to implement related functions to meet the data management requirements of mini program projects.	R1

	CLO2	Analyze requirements and design and develop mini programs based on specific application scenarios. Additionally, students will learn to debug, test, and manage mini program projects to effectively complete mini program development tasks.	R3
	CLO3	Possess the skills and knowledge in the field of WeChat mini program development, enabling them to independently design, develop, and manage mini program projects to meet the needs of different application scenarios.	R5
content	"Mini Program Development" is an elective course in the software engineering program. The main teaching content includes an overview of mini programs, development environments and tools, frameworks and basic components, page design and layout, data binding and event handling, network communication, and development practices. The prerequisite courses for this course are "Programming Languages" and "Object-Oriented Programming." Combined with concurrent and subsequent courses such as "Comprehensive Software Engineering Project Design," this course aims to cultivate students' comprehensive abilities in mini program project development and application. Chapter 1: Course Introduction and Basic Concepts (Weight: 2/72, Level: Comprehension + Application) Chapter 2: Mini Program Framework and Basic Components (Weight: 8/72, Level: Comprehension + Application) Chapter 3: Data Binding and Page Rendering (Weight: 8/72, Level: Comprehension + Application) Chapter 4: Network Communication and Data Interaction (Weight: 8/72, Level: Comprehension + Application) Chapter 5: Advanced Features and Extensions of Mini Programs (Weight: 8/72, Level: Comprehension + Application) Chapter 6: Mini Program Project Requirements and Function Analysis (Weight: 4/72, Level: Comprehension + Application) Chapter 7: Project Page Design and Layout Implementation (Weight: 6/72, Level: Comprehension + Application) Chapter 8: Data Interaction and Backend Integration (Weight: 10/72, Level: Comprehension + Application) Chapter 9: User Interaction and Function Implementation (Weight: 10/72, Level: Comprehension + Application)		

	Chapter 10: Project Testing and Optimization (Weight: 6/72, Level: Comprehension + Application) Chapter 11: Project Release and Maintenance (Weight: 2/72, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' performance in various aspects. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluation, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] 夏敏捷《微信小程序开发教程（微课版）》，中国铁道出版社，2021 年 5 月 [2] 孙芳《全栈式微信小程序云开发实践》人民邮电出版社，2021 年 6 月第 1 版 [3] 刘刚《微信小程序开发图解案例教程（附精讲视频）》人民邮电出版社，2021
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Artificial Intelligence Technology and Applications

Module Name	Artificial Intelligence Technology and Applications		
Semester in which the module is taught	Semester 5		
Module Leader	张迪、李薪蕾		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Feynman Learning Method, Questioning. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 126 hours. Teaching hours: 5 hours per week for 18 weeks, totaling 90 hours. Self-study hours: 2 hours per week for 18 weeks, totaling 36 hours, including: homework assignments, after-class experiments, and exam preparation time.		
Credits	4.5 Credits		
Required and Recommended Prerequisites for Joining the Module	Introduction to Software Engineering		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Understand the basic concepts and development history of artificial intelligence; comprehend the research fields and current development status of AI; understand the relationship between software engineering and artificial intelligence.	R1

	CLO2	Familiarize with the concepts and mainstream algorithms of machine learning and deep learning; acquaint with the core technologies and applications of computer vision and natural language processing; master the application of Python language.	R3
	CLO3	Gain insights into practical AI project applications, deeply experience and explore the implementation of artificial intelligence. Through learning algorithms in AI, help students establish scientific thinking and reasoning mechanisms, cultivating the ability to solve practical problems.	R5、R7
content	"Artificial Intelligence Technology and Applications" is a specialized elective course recommended by the "National Standards for Teaching Quality of Undergraduate Majors in Regular Higher Education Institutions." It serves as a professional elective course supporting the graduation requirements for software engineering majors and fulfills three specific indicators (4.1, 5.2, and 10.1) of the "Graduation Requirements" outlined in the "Undergraduate Talent Training Program for Software Engineering." The prerequisite for this course is "Introduction to Software Engineering." "Artificial Intelligence Technology and Applications" helps deepen students' understanding of previously studied courses. By studying this course, students will master fundamental knowledge of artificial intelligence, AI programming languages, image recognition, facial recognition, biometric recognition, natural language processing, intelligent speech, autonomous driving, data mining, and other related topics. They will also gain an understanding of the development history and future directions of artificial intelligence technology. Chapter 1: The Past and Present of Artificial Intelligence (Weight: 2/54, Level: Comprehension) Chapter 2: Fundamentals of Artificial Intelligence (Weight: 4/54, Level: Comprehension) Chapter 3: Python as an AI Programming Language (Weight: 6/54, Level: Comprehension + Application) Chapter 4: Image Recognition (Weight: 6/54, Level: Comprehension + Application) Chapter 5: Facial Recognition (Weight: 6/54, Level: Comprehension + Application)		

	Chapter 6: Biometric Recognition (Weight: 6/54, Level: Comprehension + Application) Chapter 7: Natural Language Processing (Weight: 6/54, Level: Comprehension + Application) Chapter 8: Intelligent Speech (Weight: 6/54, Level: Comprehension + Application) Chapter 9: Autonomous Driving (Weight: 6/54, Level: Comprehension + Application) Chapter 10: Data Mining (Weight: 6/54, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' classroom performance, homework completion, experimental work, midterm examination results, and their corresponding weightings. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through computer-based testing, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1]余明辉.《人工智能导论》.人民邮电出版社.2021.11. [2]孙平.《人工智能基础及应用（微课版）》.清华大学出版社.2022.12. [3]吕云翔.《人工智能导论》.人民邮电出版社.2021.06. [4]莫宏伟 《人工智能导论（第二版）》人民邮电出版社.2024.01.
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Big Data Technology and Applications

Module Name	Big Data Technology and Applications		
Semester in which the module is taught	Semester 6		
Module Leader	Yang Haiquan		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-Centered Methods: Lecture, Demonstration, Task-driven Method. Interactive Methods: Inquiry-Based Learning, Teaching Seminars, Group Discussions, Questioning. Individualized Methods: Programmed Instruction, Unit Teaching, Independent Design, Feynman Technique. Practical Methods: Lab Work, Project Exercises.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 84hours. Teaching hours: 3 hours per week for 18 weeks, totaling 54hours. Self-study hours: 2 hours per week for 15 weeks, totaling 30 hours, including: homework assignments and project exercises.		
Credits	5 Credits		
Required and Recommended Prerequisites for Joining the Module	Object-Oriented Programming, Python Programming and Application		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the use of visualization tools such as Excel, ECharts, Tableau, Magic Mirror, and D3.js, as well as the fundamental knowledge and techniques of Python3 development.	R1
	CLO2	Ability to undertake roles—including individual contributor, team member, and team leader—within multidisciplinary teams composed of backgrounds such as Computer Science and Technology, and Management.	R2

	CLO3	Possess essential concepts, design principles, methods, and techniques of big data visualization, and be able to analyze and flexibly apply various visualization design skills to select appropriate technical solutions according to different project requirements.	R12
Content	'Big Data Technology and Applications' is an elective course for the Software Engineering major. The main teaching content includes: 'Introduction to Software Engineering' is a core course for the Software Engineering major. The main teaching content includes: theoretical foundations of software engineering; software processes (software lifecycle and software development process standardization); software engineering methods (structured methods and object-oriented thinking methods); software tools (analysis tools, design tools, implementation tools, software management tools); software quality assurance. Through the teaching process, students can apply the fundamental concepts and tool skills of software engineering for the analysis, design, and implementation of specific software projects in the context of IT construction and application. The prerequisite for this course is 'Object-Oriented Programming,' and the subsequent courses include 'Robot Programming,' etc. 'Big Data Technology and Applications' serves as an important foundation for students undertaking these subsequent courses. Chapter 1: Overview of Big Data Visualization (Weight: 2/54, Level: Comprehension + Application) Chapter 2: Principles of Big Data Visualization (Weight: 2/54, Level: Comprehension + Application) Chapter 3: Methods of Big Data Visualization (Weight: 4/54, Level: Comprehension + Application) Chapter 4: Data Visualization Tools (Weight: 6/54, Level: Comprehension + Application) Chapter 5: Excel Data Visualization (Weight: 6/54, Level: Comprehension + Application) Chapter 6: Tableau Data Visualization (Weight: 8/54, Level: Comprehension + Application) Chapter 7: ECharts and pyecharts Data Visualization (Weight: 8/54, Level: Comprehension + Application) Chapter 8: Python Data Visualization (Weight: 6/54, Level: Comprehension + Application) Chapter 9: Big Data Visualization Industry Analysis (Weight: 6/54, Level: Comprehension + Application) Chapter 10: Comprehensive Practical Training in Big Data Visualization (Weight: 6/54, Level: Comprehension + Application)		

Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' classroom performance, homework completion, and experimental work, along with their respective weightings. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluation, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] Huang Yuan, Jiang Wenhao, Xu Shourong. Big Data Visualization Technology and Application(1st Ed.) Micro-lecture Version. Tsinghua University Press. 2020.06
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards

Medical Informatics

Module Name	Medical Informatics		
Semester in which the module is taught	Semester 4		
Module Leader	Kong Jianghua		
Language	Chinese		
Relationship to the Curriculum	Specialized Elective Course		
Teaching Methods	Teacher-centered methods: Lecture, Demonstration, Task-driven Approach. Interactive methods: Inquiry-based Problem Learning, Group Discussion, Feynman Learning Method, Questioning. Practical methods: Experimental Method.		
Workload (including teaching hours and self-study hours)	Total workload (estimated): 72 hours. Teaching hours: 2 hours per week for 18 weeks, totaling 36 hours. Self-study hours: 2 hours per week for 18weeks, totaling 36 hours, including: homework assignments and project exercises.		
Credits	2 Credits		
Required and Recommended Prerequisites for Joining the Module	Introduction to Software Engineering, Software Requirements Engineering		
Module Objectives/Expected Learning Outcomes	Course Learning Outcomes	Description	Supported Graduation Requirements
	CLO1	Master the basic principles and methods of medical information standardization, including classification and coding, information standards, and exchange standards. Understand the fundamental principles and composition of databases and information systems, grasp database types, data models, and the development history and types of information systems, and possess the ability to design and develop simple information systems.	R1

	CLO2	Be able to familiarize with the functions, content, and design principles of Hospital Information Systems (HIS), understand their application benefits and management methods in medical practice, and analyze problems faced by HIS to propose corresponding countermeasures.	R2
	CLO3	Possess knowledge of the application of medical data acquisition and signal processing in medical diagnosis, treatment, and research, and be able to conduct analysis and discussion combined with actual clinical cases.	R12

content	Medical Informatics is an engineering application course that supports the cultivation of industry-expanded application capabilities for software engineering majors. It covers domain knowledge in healthcare, knowledge of engineering solutions for healthcare informatization construction, and knowledge of healthcare informatization product applications. By studying this course, students will systematically master the basic concepts, principles, and methods of medical informatics, understand its importance and application value in the medical field. They will gain an in-depth understanding of the importance of standardization and normalization of medical information, familiarize themselves with classification and coding methods for medical information, and master the formulation and application of medical information standards. They will master the basic principles and techniques of databases and information systems. Students will become familiar with the basic composition and functions of Hospital Information Systems (HIS), understand their design and implementation processes, and acquire the ability to apply and manage HIS, providing technical support and solutions for hospital informatization. They will learn about the basic principles and applications of Medical Image Information Systems (PACS) and master techniques for medical image acquisition, processing, and analysis. Simultaneously, they will understand the composition and functions of telemedicine systems, broadening their application perspective in fields like telemedicine, and providing ideas for future innovation in medical informatics. Teaching Content: Chapter 1: Introduction to Medical Informatics (Weight: 2/36, Level: Comprehension + Application) Chapter 2: Medical Information Standardization (Weight: 2/36, Level: Comprehension + Application) Chapter 3: Databases and Information Systems (Weight: 4/36, Level: Comprehension + Application) Chapter 4: Hospital Information System (HIS) (Weight: 4/36, Level: Comprehension + Application) Chapter 5: Picture Archiving and Communication System (PACS) (Weight: 4/36, Level: Comprehension + Application) Chapter 6: Laboratory Information System (LIS) (Weight: 4/36, Level: Comprehension + Application) Chapter 7: Nursing Information System (NIS) (Weight: 4/36, Level: Comprehension + Application) Chapter 8: Community Health Information System (Weight: 2/36, Level: Comprehension + Application) Chapter 9: Regional Health Information Platform (RHIP) (Weight: 4/36, Level: Comprehension + Application)

	Chapter 10: Electronic Medical Record (EMR) (Weight: 4/36, Level: Comprehension + Application) Chapter 11: Medical Data Acquisition and Medical Signal Processing (Weight: 2/36, Level: Comprehension + Application)
Assessment Format	1. Course assessment consists of formative assessment and summative assessment. 2. Grading: Total course score = Formative assessment × 40% + Summative assessment × 60% (1) Formative assessment, graded on a 100-point scale, accounts for 40% of the total course score. It primarily evaluates students' classroom performance, homework completion, and experimental work, along with their respective weightings. (2) Summative assessment, with a full score of 100 points, accounts for 60% of the total course score. It mainly assesses the teaching content through project-based evaluation, measuring the achievement of the course's knowledge objectives, skill objectives, and literacy objectives.
Learning and Examination Requirements	A hundred-point grading system is used, with 60 points being the passing score for this course.
Reading List	[1] Zhao Yue, et al. Medical Informatics. Tsinghua University Press, 2016.
Version Number	V2022, MAJOR VERSION EFFECTIVE FROM SEPTEMBER 2022 V2022.1, updates: Credits and workload calculated according to ECTS standards