

Software Engineering

**Undergraduate Talent Training
Program for Software Engineering**

Software Engineering Teaching and Research Section

Undergraduate Talent Training Program for Software Engineering

(Version number: V2022.03)

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1. Basic information of majors

School: School of Information and Intelligent Engineering	
Discipline: Engineering	Professional category: Computer Science
Professional name: Software Engineering	Professional code: 080902
Duration: 4 years	Degree awarded: Bachelor of Engineering
Total credits of Chinese rules: 176	Total teaching hours: 2830
ECTS: 220	Workload: 6175

Software Engineering Professional Talent Training Program (080902)

I. Training Objectives

(I) Graduation Standards

Students shall achieve all-round development in moral, intellectual, physical, aesthetic, and labor education, complete the learning of all teaching components specified in this training plan, accumulate a minimum of 176 credits, pass the graduation project (thesis) defense, meet the requirements of the "National Student Physical Health Standards," and comply with the relevant provisions of the "Yunnan Economic Management College Regulations on the Granting of Bachelor's Degrees." Upon meeting these requirements, they will be granted graduation and awarded a Bachelor's Degree in Engineering.

1. General Education Curriculum System: A minimum of 59 credits must be accumulated, with at least 14 credits from elective general education courses.
2. Professional Education Curriculum System: A minimum of 109 credits must be accumulated, with at least 22 credits from elective professional education courses. Elective credits can be obtained through the following channels:
 - 2.1. By taking elective professional courses.
 - 2.2. By passing the "National Computer Technology and Software Professional Technical Qualification (Level) Examination": 2 credits for passing the junior level, 3 credits for the intermediate level, and 4 credits for the senior level, with a maximum cumulative total of 6 credits.
 - 2.3. By participating in discipline-related competitions: 3 credits for a first prize at the provincial level, 2 credits for a second prize, and 1 credit for a third prize; 4 credits for a first prize at the national level, 3 credits for a second prize, and 2 credits for a third prize, with a maximum cumulative total of 6 credits.
3. Comprehensive Quality Education System: A minimum of 8 credits must be accumulated, including 3 credits for innovation and entrepreneurship practice projects, 3 credits for quality education expansion projects, and 2 credits for social practice.

(II) Graduation Requirements

Graduation Requirement 1. Engineering Knowledge

Ability to apply fundamental knowledge of natural sciences, computer science, and software engineering to solve complex software engineering problems.

Graduation Requirement 2. Problem Analysis

Ability to apply the basic principles of natural sciences, computer science, and software engineering to participate in or lead the analysis and research of complex engineering problems, so as to obtain valid conclusions.

Graduation Requirement 3. Design (Development) Solutions

Ability to participate in or lead the design of solutions for software domain problems, design software system architecture and specific functional module algorithms, and demonstrate innovation awareness during the design process, considering social, health, safety, legal, cultural, and environmental factors.

Graduation Requirement 4. Research

Ability to conduct research on specific software engineering problems in the applied software field based on software engineering principles and scientific methods, including designing software functional models and algorithmic models, analyzing the advantages of applied industry software platforms, and evaluating their shortcomings.

Graduation Requirement 5. Use of Modern Tools

Ability to select and use appropriate software technologies, software resources, modern software tools, and information technology tools to complete the software development process for specific software engineering problems.

Graduation Requirement 6. Engineering and Society

Ability to evaluate the impact of software engineering practice and engineering problem solutions on society, health, safety, law, and culture through knowledge of engineering background and analysis of social application scenarios of information technology, and to understand the responsibilities that should be assumed.

Graduation Requirement 7. Environment and Sustainable Development

Ability to understand and evaluate the impact of engineering practice in the software engineering field on the environment and social sustainable development.

Graduation Requirement 8. Professional Norms

Possess humanistic and social science literacy and a sense of social responsibility, and be able to understand and abide by engineering professional ethics and norms in information engineering practice, and fulfill responsibilities.

Graduation Requirement 9. Individual and Team

Ability to correctly understand the relationship between self and team in a multidisciplinary information project team, and to collaborate or organize a team to carry out learning, living, and working activities.

Graduation Requirement 10. Communication

Ability to effectively communicate and exchange ideas on complex engineering problems in the software engineering field with industry peers and the public, including writing reports and design documents, making presentations, clearly expressing or responding to instructions, and communicating and exchanging ideas in a cross-cultural context.

Graduation Requirement 11. Project Management

Understand and master the principles of software engineering project management and economic decision-making methods, possess software project management capabilities, and be able to apply them in a multidisciplinary environment.

Graduation Requirement 12. Lifelong Learning

Possess the awareness of self-directed learning and lifelong learning, and the ability to continuously learn and adapt to development.

II. Matrix of Core Disciplines, Capability Modules, Core Courses, and Graduation Requirements

(I) Core Discipline

Software Engineering

(II) Core Courses and Professional Capability Modules

1. Core Courses

Introduction to Software Engineering, Software Requirements Engineering, Software Architecture, Software Project Management, Software Quality Assurance and Testing, Human-Computer Interaction Technology, etc.

2. Capability Module Names

Software Product and Project Management Capability, Software Implementation Capability, Software Testing and Operation & Maintenance Capability. See the table below for details:

Module Name	Important Courses	Prerequisite Courses	Total amount of learning	
			Hours	Credits
Software Product Design and Project Management Capability	Introduction to Software Engineering, Software Requirements Engineering, Software Project Management, Human-Computer Interaction Technology, Software Architecture	Structured Programming, Object-Oriented Programming, Principles and Applications of Databases	476	17
Software Product Implementation Capability	Structured Programming, Object-Oriented Programming, Principles and Applications of Databases, Dynamic Web Development Technology, Data Structures and Algorithms, SSM Framework Technology, SpringBoot Framework Technology, Mobile Application Development	Data Structures and Algorithms	1008	36
Software Testing and Operation & Maintenance Capability	Introduction to Software Engineering, Software Quality Assurance and Testing, Structured Programming, Operating Systems, Object-Oriented Programming, Computer Networks, Data Structures and Algorithms, Principles and Applications of Databases, Software Architecture	Structured Programming Object-Oriented Programming Data Structures and Algorithms	616	22

(III) Course and Graduation Requirements Matrix (See Appendix 1)

III. Length of Study and Degree

Standard Length of Study: 4 years

Maximum Length of Study: 3-6 years

Degree Awarded: Bachelor of Engineering

IV. Curriculum Structure and Credit/Hour Ratio

Platform	Course Module	In-Class Hours and Composition		Credits and Credit Composition			Nature of study
		Hours	Percentage of study hours	Credit	Practical credits and their percentage		
					Among them, practical credits	Percentage	
General Education Platform	Compulsory General Education Courses	1277	31.10%	47	14	31.11%	Compulsory
	Elective General Education Courses	350	8.81%	14	0	0.00%	Compulsory
	Cumulative	1627	39.90%	61	14	23.73%	—
Professional Education Platform	Discipline Professional Foundation Courses	1148	25.79%	41	8	19.51%	Compulsory
	Professional Core Courses	476	10.69%	17	6	35.29%	Compulsory
	Professional Intensive Practice	1800	9.78%	60	29	100.00%	Compulsory
	Professional Elective Courses	924	13.84%	33	13	59.09%	Elective
	Cumulative	4348	60.10%	151	56	51.38%	—
Comprehensive Quality Education	Quality Education Expansion Projects	(75)	—	3	3	100.00%	Compulsory
	Innovation and Entrepreneurship Practice Projects	(75)	—	3	3	100.00%	Compulsory
	Social Practice	(50)	—	2	2	100.00%	Compulsory
	Cumulative	(200)	—	8	8	100.00%	—
Total		6175	100%	220	78	44.32%	—

V. Major Practical Components of the Program

No.	Course	Required/ Unrestricted	Main Practical Projects	Class Hours	Semester/ Weeks	Location (including off-campus)
1	Structured Programming	Yes	Environment setup and library function calls, arrays and functions, pointers	18	1 (18weeks)	Software Engineering Lab
2	Object-Oriented Programming	Yes	Environment setup and library function calls, inheritance and polymorphism, abstract classes and interfaces, database read/write	18	2 (18weeks)	Software Engineering Lab
3	Web Design Fundamentals	Yes	Mixed graphic and text page production, registration page design and beautification, backend management page design, enterprise homepage layout	18	2 (18weeks)	Software Engineering Lab
4	Data Structures and Algorithms	Yes	Bracket matching algorithm, Huffman coding design, sorting algorithms	18	3 (18weeks)	Software Engineering Lab
5	Principles and Applications of Databases	Yes	Information system database analysis, design, and related data operations for a given project background	18	3 (18weeks)	Software Engineering Lab
6	Introduction to Software Engineering	Yes	Software project requirements analysis, software project design, software project implementation	18	3 (18weeks)	Software Engineering Lab
7	Dynamic Web Development Technology	No	User registration and login, module permission management, student status management	18	3 (18weeks)	Software Engineering Lab
8	Advanced JavaScript Programming	No	Personal income tax calculation, product magnifying glass effect, Forbidden City carousel effect	54	3 (18weeks)	Software Engineering Lab
9	Vue.js Framework Technology	No	Components and animations, routing and state management patterns, micro-mall project	18	4 (18weeks)	Software Engineering Lab
10	SSM Framework Technology	No	Spring framework design, AOP, comprehensive project design	18	4 (18weeks)	Software Engineering Lab
11	Operating Systems	Yes	User security policy configuration, virtual machine system configuration, file server configuration	18	4 (18weeks)	Software Engineering Lab
12	Software Requirements Engineering	Yes	Writing questionnaires, business process diagrams, database design, functional design, interface design	18	4 (18weeks)	Software Engineering Lab
13	Computer Networks	Yes	Student training room network planning, campus network planning	18	5 (18weeks)	Software Engineering Lab
14	SpringBoot Framework Technology	No	Analysis, design, implementation, and testing for a given project background	18	5 (18weeks)	Software Engineering Lab
15	Python Programming and Application	No	Questionnaire design and data analysis, calendar, weather forecast	18	5 (18weeks)	Software Engineering Lab
16	Software Quality Assurance and Testing	Yes	Software testing plan design, test case design based on platform application software, software testing report	18	6 (18weeks)	Software Engineering Lab
17	Comprehensive Software Engineering Project Design	Yes	Integrated information system comprehensive project training (server-side + frontend) based on project background analysis, design, and implementation	120	7 (9weeks)	Software Engineering Lab, Internship Base
18	Graduation Internship	Yes	—	16 weeks	7 (11weeks) 8 (4weeks)	Internship Base
19	Graduation Thesis (Design)	Yes	—	14 weeks	8 (14weeks)	On-campus, Off-campus
Total				744	—	—

Note: Practical teaching components include experiments (training), internships, social practice, graduation design (thesis), course design, etc. The location must clearly state the name of the laboratory (training room) or internship base.

VI. Teaching Plan and Implementation

1. Time Allocation Table for Each Semester (Unit: Weeks)

Project	First Academic Year		Second Academic Year		Third Academic Year		Fourth Academic Year		Total
	I	II	III	IV	V	VI	VII	VIII	
Military Theory and Training	(2)	—	—	—	—	—	—	—	(2)
Course Teaching	18	18	18	18	18	18	8	—	116
Graduation Internship	—	—	—	—	—	—	12	4	16
Graduation Thesis (Design)	—	—	—	—	—	—	—	14	14
Examination/Credit Recognition/Graduation Qualification Review	2	2	2	2	2	2	1	1	14
Total Teaching Weeks	20	20	20	20	20	20	20	20	160
Winter/Summer Vacation	5	7	5	7	5	7	5	—	41
Total Weeks per Academic Year	52		52		52		45		201

2. Teaching Plan Progress Table for Each Semester (See Appendix 2)

VII. Courses Required for Minor in This Program

Course Category	Course Name	Course Code	Course Attribute	Credits	Hours	Semester	Prerequisite Courses
Discipline Professional Foundation Courses	Structured Programming	100312002	Compulsory	3	84	1	None
	Object-Oriented Programming	100310010	Compulsory	3	84	2	Structured Programming
	Principles and Applications of Databases	100312007	Compulsory	3	84	3	None
	Operating Systems	100310031	Compulsory	3	84	4	None
Professional Core Courses	Introduction to Software Engineering	100312021	Compulsory	3	84	3	None
	Human-Computer Interaction Technology	100312020	Compulsory	2	56	3	None
	Software Requirements Engineering	100312022	Compulsory	2	56	4	Introduction to Software Engineering
	Software Quality Assurance and Testing	100312026	Compulsory	3	84	6	Introduction to Software Engineering
Professional Elective Courses	Web Design Fundamentals	100312040	Elective	4.5	126	2	Structured Programming
	Dynamic Web Development Technology	100312041	Elective	6	168	3	Object-Oriented Programming, Web Design Fundamentals
	Mobile Application Development	100312042	Elective	6	168	5	Dynamic Web Development Technology
Total				38.5	1078	—	—

VIII. Explanation of the Talent Training Plan

(I) Talent Training Focuses on Three Employment Directions : Software Product and Project Management, Software Development, and Software Testing and Operation & Maintenance.

(II) Course Teaching System : The curriculum system for the Software Engineering major emphasizes the

characteristics of "solid foundation, strong theory, practical application, and interdisciplinary integration." The discipline professional foundation courses focus on solidifying students' engineering foundation, the professional core courses emphasize the cultivation of students' software engineering ideological and theoretical system, and the professional elective courses mainly strengthen the cultivation of students' practical application ability and promote interdisciplinary development ability.

(III) Practical Teaching System : The construction of the practical teaching system is mainly divided into two aspects: on-campus and off-campus. On-campus is mainly based on first-class hardware laboratory and training environments and a professional mentor system. Off-campus is mainly based on school-enterprise cooperation and professional practice bases established with specific industries or sectors to carry out social practice, career development education, cognitive internship, graduation internship, etc.

Appendix 1: Course and Graduation Requirements Matrix

Course Category	Course Name	Course Code	ECTS	Total Learning Time	Chinese Credits	Total Hours	Graduation Requirements																
							1	2	3	4	5	6	7	8	9	10	11	12					
General Education Courses	Ideological and Moral Cultivation and Law	914020016	3.0	75	3	54						√	√	√									
	An Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	914020031	3.0	75	3	54							√	√	√							√	
	Basic Principles of Marxism	914021011	3.0	75	3	54									√							√	
	An Outline of Modern and Contemporary Chinese History	914020007	3.0	75	3	54									√							√	
	An Outline of Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	914020003	3.0	75	3	54							√	√	√							√	
	Current Affairs and Policies	914020014	2.0	50	2	48								√	√							√	
	College Chinese	911090017	2.0	50	2	36														√		√	
	College Foreign Language	911090016	12.0	360	12	216															√	√	
	Beauty and Life - (Lady's/Gentleman's Academy)	911090022; 911090021	1.0	25	1	18									√					√			
	College Student Health Education	913021011	2.0	50	2	36														√		√	
	Military Theory and Training	913020021	5.0	148	4	36														√		√	
	College Sports (Club)	911070001	5.0	144	4	144														√		√	
	Career Planning and Employment Guidance	913020004	1.0	25	1	18									√	√						√	
	Entrepreneurship Education	911082001	2.0	50	2	36														√	√	√	√
Elective General Education Courses	—	14.0	350	14	252														√	√		√	
Discipline Professional Foundation Courses	Discrete Mathematics	100312001	3.0	84	3	54	√	√		√												√	
	Structured Programming	100312002	3.0	84	3	54	√	√	√		√												
	Advanced Mathematics	100312003	10.0	280	10	180	√	√														√	
	College Physic	100312004	4.0	112	4	72	√	√														√	
	Linear Algebra	100312005	3.0	84	3	54	√			√												√	
	Object-Oriented Programming	100312006	3.0	84	3	54	√	√	√		√											√	
	Principles and Applications of Databases	100312007	3.0	84	3	54		√	√		√												
	Probability Theory and Mathematical Statistics	100312008	3.0	84	3	54	√			√													√
	Data Structures and Algorithms	100312009	3.0	84	3	54		√	√	√													
	Operating Systems	100312010	3.0	84	3	54		√	√		√												
	Computer Networks	100312011	3.0	84	3	54		√	√		√												
Professional Core Courses	Human-Computer Interaction Technology	100312020	2.0	56	2	36		√	√		√												
	Introduction to Software Engineering	100312021	3.0	84	3	54	√	√	√	√	√				√								
	Software Requirements Engineering	100312022	2.0	56	2	36		√	√		√												
	Software Project Management	100312023	3.0	84	3	54	√		√			√								√	√		
	Software Architecture	100312025	4.0	112	4	72		√	√	√	√												
	Software Quality Assurance and Testing	100312026	3.0	84	3	54			√		√	√											
Professional Intensive Practice	Engineering Training	100312030	4.0	120	2	40					√	√								√			
	Cognitive Internship	100312031	2.0	60	1	8					√		√							√			

Course Category	Course Name	Course Code	ECTS	Total Learning Time	Chinese Credits	Total Hours	Graduation Requirements											
							1	2	3	4	5	6	7	8	9	10	11	12
Professional Intensive Practice	Comprehensive Software Engineering Project Design	100312032	12.0	360	6	120		√	√		√	√					√	
	Software Engineering Course Practice	100312033	12.0	360	6	120		√	√		√			√	√			
	Graduation Internship	100312034	16.0	480	8	16周	√	√	√			√		√				
	Graduation Thesis (Design)	100312035	14.0	420	7	14周	√	√	√	√			√					
Professional Elective Courses	Web Design Fundamentals	100312040	4.5	126	3	54			√		√							
	Dynamic Web Development Technology	100312041	6.0	168	4	72			√		√							
	Mobile Application Development	100312042	6.0	168	4	72			√	√	√							
	Advanced JavaScript Programming	100312043	4.5	126	3	54			√	√	√							
	Vue.js Framework Technology	100312044	6.0	168	4	72			√	√	√							
	SSM Framework Technology	100312045	6.0	168	4	72			√	√	√							
	SpringBoot Framework Technology	100312046	6.0	168	4	72			√	√	√							
	Mini Program Development	100312049	6.00	168	4	72			√	√	√							
	Artificial Intelligence Technology and Application	100312054	4.50	126	3	54			√		√		√					
	Big Data Technology and Applications	100312055	4.50	126	3	54					√		√					
Medical Informatics	100312064	3.00	84	2	36						√		√					
Comprehensive Quality Education	Innovation and Entrepreneurship Practice Projects	100312080	3.0	75	3	60								√	√	√	√	
	Quality Education Expansion Projects	100312081	3.0	75	3	60								√	√	√		
	Social Practice	100312072	2.0	50	2	36						√			√	√		

Appendix 2: Teaching Plan Progress Table for Each Semester

		3.Course schedule for each semester (engineering/majors)										Number of teaching weeks and class hours per semester							
Course Category	Course Nature	Course Name	Course Code	ECTS	Total study time	Chinese credits	Total teaching hours	Among		First Year		Second Year		Third Year		Fourth Year			
								Theory	Practice	First Semester 18weeks	Second Semester 18weeks	Third Semester 18weeks	Fourth Semester 18weeks	Fifth Semester 18weeks	Sixth Semester 18weeks	Seventh Semester 18weeks	Eighth Semester 18weeks		
General Education Platform	Compulsory	Ideological and Moral Cultivation and Law	914020016	3.0	75	3	54	36	18	3.0									
		An Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	914020031	3.0	75	3	54	54	0	3.0									
		Basic Principles of Marxism	914021011	3.0	75	3	54	54	0		3.0								
		An Outline of Modern and Contemporary Chinese History	914020007	3.0	75	3	54	54	0			3.0							
		An Outline of Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	914020003	3.0	75	3	54	36	18				3.0						
		Current Affairs and Policies	914020014	2.0	50	2	48	48	0	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4		
		College Chinese	911090017	2.0	50	2	36	36	0			2							
		College Foreign Language	911090016	12.0	360	12	216	216	0	4	4	2	2						
		Beauty and Life - (Ladies & Gentlemen's Academy)	911090022; 911090021	1.0	25	1	18	8	10			1.0							
		College Student Health Education	913021011	2.0	50	2	36	32	4	1	1								
		Military Theory and Training	913020021	5.0	148	4	36	36	112	5.0									
		College Sports (Club)	911070001	5.0	144	4	144	16	128	1	1	1	1	2		0.4			
		Career Planning and Employment Guidance	913020004	1.0	25	1	18	8	10			0.3							
		Entrepreneurship Education	911082001	2.0	50	2	36	16	20					1.0	1.0				
		Elective General Education Courses (Including Four Histories, Excellent Traditional Chinese Culture, etc. Ideological and Political Selective Compulsory	—	14.0	350	14	252	252					6.0	6.0	6.0	2.0			
		Cumulative				61.0	1627	59	1110	902	240	17.3	15.6	6.3	11.6	7.4	2.8	0.0	0.0
Professional Education Platform	Subject-Specific Basic Courses	Compulsory	Discrete Mathematics	100312001	3.0	84	3	54	54	0	3								
			Structured Programming	100312002	3.0	84	3	54	36	18	3								
			Advanced Mathematics	100312003	10.0	280	10	180	180	0	5	5							
			College Physics	100312004	4.0	112	4	72	36	36	2	2							
			Linear Algebra	100312005	3.0	84	3	54	54	0		3							
			Object-Oriented Programming	100312006	3.0	84	3	54	36	18			3						
			Principles and Applications of Databases	100312007	3.0	84	3	54	36	18				3					
			Probability Theory and Mathematical Statistics	100312008	3.0	84	3	54	54	0				3					
			Data Structures and Algorithms	100312009	3.0	84	3	54	36	18				3					
			Operating Systems	100312010	3.0	84	3	54	36	18					3				
Computer Networks	100312011	3.0	84	3	54	36	18					3							
Subtotal				41.0	1148	41	738	594	144	13.0	13.0	9.0	6.0	0.0	0.0	0.0	0.0		

3.Course schedule for each semester (engineeringmajors)											Number of teaching weeks and class hours per semester								
Course Category	Course Nature	Course Name	Course Code	ECTS	Total study time	Chinese credits	Total teaching hours	Among		First Year		Second Year		Third Year		Fourth Year			
								Theory	Practice	First Semester 18weeks	Second Semester 18weeks	Third Semester 18weeks	Fourth Semester 18weeks	Fifth Semester 18weeks	Sixth Semester 18weeks	Seventh Semester 18weeks	Eighth Semester 18weeks		
Core professional courses	Compulsory	Human-Computer Interaction Technology	100312020	2.0	56	2	36	0	36			2							
		Introduction to Software Engineering	100312021	3.0	84	3	54	36	18			3							
		Software Requirements Engineering	100312022	2.0	56	2	36	18	18					2					
		Software Project Management	100312023	3.0	84	3	54	54	0						3				
		Software Architecture	100312025	4.0	112	4	72	54	18									4	
		Software Quality Assurance and Testing	100312026	3.0	84	3	54	36	18									3	
		Subtotal				17.0	476	17	306	198	108	0.0	0.0	5.0	2.0	3.0	7.0	0.0	0.0
		Engineering Training	100312030	4.0	120	2	40	0	40					4					
		Cognitive Internship	100312031	2.0	60	1	8	0	8			2							
		Comprehensive Software Engineering Project Design	100312032	12.0	360	6	120	0	120									12	
		Software Engineering Course Practice	100312033	12.0	360	6	120	0	120						4			4	
		Graduation Internship	100312034	16.0	480	8	16weeks	0	16weeks									10	6
		Graduation Thesis (Design)	100312035	14.0	420	7	14weeks	0	14weeks									14	
		Professional Education Platform	Limited selection/cross-disciplinary elective	Subtotal		60.0	1800	29	280	0	280	0.0	2.0	4.0	4.0	4.0	4.0	4.0	22.0
Web Design Fundamentals	100312040			4.5	126	3	54	36	18			4.5							
Dynamic Web Development Technology	100312041			6.0	168	4	72	36	36			6							
Mobile Application Development	100312042			6.0	168	4	72	54	18						6				
Advanced JavaScript Programming	100312043			4.5	126	3	54	0	54			4.5							
Vue.js Framework Technology	100312044			6.0	168	4	72	0	72					6					
SSM Framework Technology	100312045			6.0	168	4	72	54	18					6					
SpringBoot Framework Technology	100312046			6.0	168	4	72	54	18						6				
Artificial Intelligence Technology and Applications	100312054			4.50	126	3	54	36	18						4.5				
Mini Program Development	100312049			6.00	168	4	72	0	72								6		
Big Data Technology and Applications	100312055			4.50	126	3	54	36	18								4.5		
Medical Informatics	100312064			3.00	84	2	36	36	0								3.0		
Subtotal						33.0	924	22	396	162	234	0.0	0.0	4.5	6.0	12.0	10.5	0.0	0.0
Cumulative						151.0	4348	109	1720	954	766	13.0	15.0	22.5	18.0	19.0	21.5	22.0	20.0
Comprehensive quality education	Compulsory	Innovation and Entrepreneurship Practice Projects	100312080	3.0	75	3	(60)	0	(60)					3					
		Quality Education Expansion Projects	100312081	3.0	75	3	(60)	0	(60)						3				
		Social Practice	100312072	2.0	50	2	(36)	0	(36)						2				
		Subtotal				8.0	200	8	(156)	0	(156)	0.0	0.0	0.0	0.0	5.0	3.0	0.0	0.0
Total				220.0	6175	176	2880	1856	1006	30.3	30.6	28.8	29.6	31.4	27.3	22.0	20.0		

Appendix 3: Course Topology Diagram

