Applied Statistics (Financial Statistics) Undergraduate Training Program

(International Students))

I. Training Objectives

These major aims to develop morally, intellectually and physically [Goal 1], have good literacy in mathematics, statistics and finance [Goal 2], and master basic theories and methods of mathematics, statistics and finance [Goal 3]. Financial statistics professionals who are skilled in using modern statistical methods and software [Goal 4] to obtain data, organize data, analyze data and solve practical problems [Goal 5]. After graduation, students can work in the application and management of statistical survey, statistical information management, data analysis and data mining in enterprises and public institutions such as Internet, economy, finance and insurance and government administration departments, or engage in research and teaching in scientific research and education departments [Goal 6].

II. Training Objectives

Through professional study, graduates should acquire the following aspects of knowledge, ability and quality:

1. Ideological and physical quality: understand Chinese culture, Chinese development path and Chinese model, establish a scientific world outlook, outlook on life and values, have good physical and psychological quality;
2. Professional knowledge: to master calculus, linear algebra, probability theory and mathematical theory, master the basic theory and basic knowledge of statistics, master of economics, finance, financial markets, financial risk management, and other financial related theory, master the basic theory and knowledge of computer and big data technology, have good professional quality;
3. Problem solving ability: Master the basic ideas and methods of the major, have strong logical reasoning ability, abstract thinking ability, data analysis ability, have the ability to establish statistical models to analyze and solve practical problems and draw effective conclusions;
4. Statistical analysis and modeling ability: have the basic ability of collecting data, sorting data and analyzing data; Have the basic ability of data inquiry, literature retrieval and using modern information technology to obtain relevant information; Master modern popular statistical software (such as R, SPSS, SAS, etc.) and software programming technology for data modeling, data analysis and data mining ability;
5. Discipline vision: have a wide range of knowledge, understand the development trend of relevant theories, technologies and applications of the major;
6. Comprehensive application ability: Have the comprehensive ability of using the professional

methods to conduct data analysis, data mining and statistical modeling, and have strong innovation and entrepreneurship ability;

7. Team work ability: Able to communicate effectively with others, able to take the role of individual, team member and leader in a multidisciplinary team;
8. Lifelong learning ability: have the consciousness of independent learning and lifelong learning, and have the ability of continuous learning and adapting to development.

III. Graduation Requirements

"Training Objectives-Graduation Requirements" and "Graduation Requirements-Curriculum System" Correspondence Matrix

I. "Training Objectives-Graduation Requirements"

	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6
Requirements 1	●				●	●
Requirements 2		●	●			●
Requirements 3		●	●	●	●	●
Requirements 4		●		●	●	●
Requirements 5	●		●		●	●
Requirements 6	●			●	●	●
Requirements 7						●
Requirements 8	●				●	●

Note: Mark the appropriate column with "●".

II. "Graduation Requirements-Curriculum System" Correspondence Matrix

(Identify by relevance, the degree of relevance between the course and a certain graduation requirement is qualitatively estimated according to the strength of the course's satisfaction of the corresponding graduation requirement, **H**: Indicates **high** correlation; **M**: Indicates **medium** correlation; **L**: Indicates **low** correlation.)

Course Type	Course Title	Graduation Requirements							
		1	2	3	4	5	6	7	8
Ideological Education; Required Course	Initial education	H							
	Elementary Chinese synthesis I							H	M
	Elementary Chinese Listening and Speaking I							H	M
	Elementary Chinese synthesis II							H	M

Course Type	Course Title	Graduation Requirements							
		1	2	3	4	5	6	7	8
	Elementary Chinese Listening and Speaking II							H	M
	Intermediate Chinese synthesis I							H	M
	Intermediate Chinese Listening and Speaking I							H	M
	Intermediate Chinese synthesis II							H	M
	Intermediate Chinese Listening and Speaking II							H	M
	HSK intensive tutoring I							H	M
	HSK intensive tutoring II							H	M
	Overview of China I	H							
	Overview of China II	H							
	Chinese roads and Chinese	H							
	Social Practice	H							
Subject Basics; Platform Course	Advance Mathematics I		H	H					M
	Advance Mathematics II		H	H					M
	Linear Algebra		H	H					M
	Probability theory		H	H					M
	Statistical model		H	H					M
Professional Core Courses	Introduction to Computer Science		M	M	H	M	M	M	M
	Microeconomics		M	H	M	M	M	M	M
	China Economy		M	H	M	M	M	M	M
	Finance		M	H	H	M	M	M	M
	Macroeconomics		M	H	H	M	M	M	M
	Statistical software application		M	H	H	M	M	M	M
	Data structure		M	H	H	M	M	M	M
	Financial marketing		M	H	M	M	M	M	M
	Time series analysis		M	H	M	M	M	M	M
	Quantitative research method		M	H	M	M	M	M	M
	Multivariable statistics		M	H	H	M	M	M	M
	Regression analysis		M	H	H	M	M	M	M
	Mathematical finance		H	H	H	M	M	M	M

Course Type	Course Title	Graduation Requirements							
		1	2	3	4	5	6	7	8
	Financial Risk Management		M	H	M	M	M	M	M
	Data mining		M	H	M	M	M	M	M
	Applied stochastic process		M	H	M	M	M	M	M
	Design and pricing of financial derivatives		H	H	M	M	M	M	M
Internship and Practice Graduation Thesis (Design) and Others	Novitiate			M	M	H	H	M	M
	Practical training			M	M	H	H	M	M
	Graduation Thesis Design			M	M	H	H	M	M
	Practice								
	Thesis			M	M	H	H	M	M

IV. Fundamental Subject Platform Courses and Professional Core Courses

1. Fundamental Subjects Platform Courses

Advance Mathematics I, Advance Mathematics II, Linear Algebra, probability theory, statistical model

2. Professional Core Courses

Introduction to Computer Science, Microeconomics, China Economy, Finance, Macroeconomics, Statistical software application, Data structure, Financial marketing, Time series analysis, Quantitative research method, Multivariable statistics, Regression analysis, Mathematical finance, Financial Risk Management, Data mining, Applied stochastic process, Design and pricing of financial derivatives

V. Professional Admission and Graduation Standard

1. Admission Course Requirements and Diversion Time

Students who have completed the following credits are allowed to study in the major of Financial Statistics at the end of the second semester.

Access to course：Advance Mathematics I, Advance Mathematics II, Linear Algebra

2. Graduation Courses Requirements

Students have completed the following 72 points, including: Discipline foundation platform courses (18 credits), professional core courses (31 credits), professional novitiate, professional practice, graduation thesis (23 credits)

VI. Length of Schooling and Degree

The basic length of schooling is four years and students can complete it in three to six years, depending on their own circumstances. To be awarded bachelor degree in Economics in accordance with relevant regulations of the university.

VII. Minimum Graduation Credits and Class Hours

The minimum credit for graduation is 134 credits. Among them, 40 credits are required courses of ideological education, 18 credits are basic courses of discipline and specialty, 53 credits are core courses of discipline and specialty, and 23 credits are arranged for practice.

VIII. Course Structure, Curriculum and Distribution of Credits

1. Course Structure

The course structure consists of ideological education courses and professional courses:

Ideological education courses include: Orientation, Chinese language, China Overview, China Road and China Model, as well as Social Project.

Professional Courses include: Fundamental subject platform courses and core professional courses.

Table 1: Course Structure

Course Type	Type of Study	Number of Courses	Credit		Internship and Practice Credits	
			Credits (numbers)	Credit Ratio	Internship and Practice Credits (numbers)	Internship and Practice Credits Ratio
Ideological Education Courses	Orientation	1	1	0.625 %		
	Chinese Language		30	18.75 %		
	China Overview	2	4	2.5%		
	China Road and China Model	1	3	1.875 %		
	Social Project	1	2	1.25%		
Fundamental Subject Platform Courses	Required Courses	5	18	13.3%		
Professional Core Courses	Required Courses	17	53	40%		
Internship and Practice	Required Courses	5	23	17.2%		
Total				134	100%	

2. Curriculum and Distribution of Credits

Table 2: Ideological Education Curriculum and Credit Distribution

2.1. Ideological Education Required Courses: 40credits

Course Code	Course Title	Course Credit	Class hours		Recommended Semester	Note Extra-hours
			Lecture class	Labs / Training		
801111001	Orientation	1	16		Semester One Year One	
801112001	Comprehensive Course in Elementary Chinese I	4	64		Semester One Year One	
801113001	Elementary Chinese Listening and Speaking I	4	64		Semester One Year One	
801112002	Comprehensive Course in Elementary Chinese II	4	64		Semester Two Year One	
801113002	Elementary Chinese Listening and Speaking II	4	64		Semester Two Year One	
801114001	Comprehensive Course in Intermediate Chinese I	4	64		Semester One Year Two	
801115001	Intermediate Chinese Listening and Speaking I	4	64		Semester One Year Two	
801114002	Comprehensive Course in Intermediate Chinese II	2	32		Semester Two Year Two	
801115002	Intermediate Chinese Listening and Speaking II	2	32		Semester Two Year Two	
801116001	HSK Intensive Course	2	32		Semester One Year Three	
801117001	Overview of China I	2	32		Semester One Year One	
801117002	Overview of China II	2	32		Semester Two Year One	
801118001	China Road and China Model	3	48		Semester One Year Two	
801119001	Social Project	2	32		Semester Two Year Three or Semester One Year Four	

Table 3: Professional Courses Curriculum and Credit Distribution

1. Fundamental Subjects Platform Courses: 18 Credits

Course Code	Course Title	Course Credit	Class Hours		Recommended Semester	Note Extra-hours		
			Lecture Class	Labs / Training		Admission courses	Graduation courses	Minoring in courses
254111001	▲Advance Mathematics I	4*	64		Semester One Year One	√	√	√
254112001	▲Advance Mathematics II	4*	64		Semester One Year One	√	√	√
254111002	▲Linear Algebra	4*	64		Semester One Year Two	√	√	√
254113001	▲Probability theory	3*	48		Semester Two Year One		√	√
254114001	▲Statistical model	3*	48		Semester Two Year One		√	√

2. Professional Core Courses: **Credits

Course code	Course title	Course credit	Class hours		Recommended Semester	Note Extra-hours		
			Lectu Clas	Labs / Training		Admission courses	Graduation courses	Minor courses
224111001	Introduction to Computer Science	3*	48		Semester One Year One			
274111001	Microeconomics	4*	64		Semester One Year Two			
274112001	China Economy	3	48		Semester One Year Two			
274113001	Finance	3	48		Semester Two Year One		√	√
274114001	Macroeconomics	3*	48		Semester Two Year One			
254115001	Statistical software application	3	32	16	Semester Two Year One		√	√

254116001	Data structure	3	32	16	Semester Two Year Two			
274115001	Financial marketing	3*	48		Semester Two Year Two		√	√
254117001	Time series analysis	3	32	16	Semester Two Year Two		√	√
254118001	Quantitative research method	4	64		Semester Two Year Two		√	√
254119001	Multivariable statistics	3	32	16	Semester Three Year One		√	√
254120001	Regression analysis	3	32	16	Semester Three Year One		√	√
254121001	Mathematical finance	3*	48		Semester Three Year One		√	√
274116001	Financial Risk Management	3	48		Semester Three Year One		√	√
254121001	Data mining	3	32	16	Semester Three Year Two			
274116001	Applied stochastic process	3	48		Semester Three Year Two		√	√
274117001	Design and pricing of financial derivatives	3	32	16	Semester Three Year Two			

Table 4: Internship and Practice Setup and Credit Distribution

1. Internship and Practice: **Credits

Course Code	Course Title	Course Credit	Class hours		Recom-mended Semester	Note Extra-hours		
			Lecture class	Labs / Training		Admission courses	Graduation courses	Minor courses
254124301	Novitiate	2		32	Semester Three Year One		√	√
254125301	Practical training	10		320	Semester Four Year One		√	√
254126001	Graduation Thesis Design	3		96	Semester Four Year One		√	√

254127301	Practice	5		160	Semester Four Year Two		√	√
254128001	Thesis	3		96	Semester Four Year Two		√	√

Note: 1. Course Standard Description: Degree Course▲; Bilingual Course★, Separate Internship (training) Courses◆; Exam Course *.

2. Admission course, graduation courses, minoring in courses, leave a check mark (√).