Department of Finance

Program of Finance for International Students (2022)

I. Introduction

The Department of Finance is one of the first five departments of SUSTC founded in 2011. Our department aims to build a strong, domestically, and internationally recognized finance discipline. Our department adheres to the SUSTC's motto of "Research, Innovation and Entrepreneurship" in research. We strive to contribute our research to the national strategic plans and the regional development in the Pearl River Delta and Shenzhen. The research projects undertaken by the department in financial asset pricing theory and empirical analysis, Chinese finance theory and practice, E-finance trades and mechanism, risk measurement and monitoring in E-finance, and quantitative finance are all driven by the important issues in today's economy. Our department is committed to educating students with the most contemporary financial knowledge, critical thinking, entrepreneurship, and global vision so that they are ready to solve practical and challenging problems in China's finance and economy.

Academic subject area: Finance; Program code: 020301K

II. Objectives and Learning Outcomes

1. Objectives

The Finance program is committed to educating students with a solid foundation of financial and economics knowledge, skills, methodology and theory. The program also aims to train students to be professional in the most contemporary forms of finance, which prepares them to pursue challenging careers in the financial sector as investment bankers, financial engineers, hedge fund managers, policy advisors for China's financial reforms and innovative entrepreneurs in the finance industry. This program not only provides a strong foundation for critical thinking, entrepreneurship, and global vision, but also develops innovative and visionary talents to solve the practical problems of China's financial reforms.

2. Learning Outcomes

1) Have a basic understanding of classic theory, growth theory and business cycles theory, should be able to employ qualitative and quantitative methods to analyze and explain to others how various behaviors of economic agents and government policies can be explained by economics.

2) Students will be able to explain basic Corporate Finance concepts, such as time value of money and risk-return trade-off, evaluate firms' capital budgeting projects, dividend policy and capital structure, Read and analyse financial statements. Evaluate financial statements of a listed company.

3) You need to be familiar with commonly used financial database such as WIND (China) and WRDS (Global data), and master some statistical packages such as SAS, Matlab , Python or R. You will be required to apply methods to do your own empirical work. To learn hands-on skills in investment. Econometrically model the real economic problems and interpret empirical findings.

III. Study Length, Degree, and Graduation Requirements

1. Study length: 4 years. The academic credit system of SUSTech allows flexible study years, but not less than 3 years or more than 6 years.

2. Degree conferred: Students who complete and meet the degree requirements of the undergraduate program will be awarded a bachelor's degree in Economics.

3. The minimum credit requirement for graduation: 152 credits. The specific requirements are as follows.

Module		**Category**	**Minimum Credit Requirement**
General Education Courses	Chinese Language and Culture Module	Chinese Language and Culture	16
	Arts and Physical Education Module	Physical Education	4
		Arts	2
	Competence Development Module	Computer Programming	3
		Writing	2
		Chinese Studies	2
		Foreign Languages	14
	Humanities and Social Sciences Module	Humanities	6
		Social Sciences	
	Mathematics and Natural Sciences Module	Mathematics	12
		Physics	10
		Chemistry	3
		Biology	3
	Introduction to Majors Module	Introduction to Majors	2
Major Courses	Major Required Courses	Major Foundational Courses	21
		Major Core Courses	21
		Practice-based Learning (Undergraduate Thesis, Internships, Research projects, etc.)	17
	Major Elective Courses	Major Elective Courses	14
Total			152
Note: please see the General Education Requirement for more details on Chinese Language and Culture Module, Arts and Physical Education Module, Competence Development Module（Foreign Languages & Chinese Studies & Writing）, Humanities and Social Sciences Module, and Introduction to Majors Module.			

IV. Course Requirements for the Mathematics and Natural Sciences Module and Computer Programming

Course Category	Course Code	Course Name	Credits	Terms	Prerequisite	Dept.
Mathematics	MA117	Calculus I	4	1 Fall		Department of Mathematics
	MA127	Calculus II	4	1 Spring	Calculus I	
	MA113	Linear Algebra	4	1 Spring & Fall		
Physics	PHY105	College Physics I	4	1 Fall		Department of Physics
	PHY106	College Physics II	4	1 Spring	College Physics I	
	PHY104B	Experiments of Fundamental Physics	2	1-2 Spring & Fall		
Chemistry	CH105	Chemistry: The Central Science	3	1-2 Spring & Fall		Department of Chemistry
Biology	BIO102B	Introduction to Life Science	3	1-2 Spring & Fall		Department of Biology
Computer Programming	CS112	Introduction to Python Programming	3	1-2 Spring & Fall		Dept. of Computer Science and Engineering

Note:

1. Mathematics: MA101a Mathematical Analysis I and MA102a Mathematical Analysis II can replace MA117 Calculus I and MA127 Calculus II; MA118 Single-variable Calculus can replace MA113 Linear Algebra.
2. Physics: PHY101 General Physics I and PHY102 General Physics II can replace PHY105 College Physics I and PHY106 College Physics II.
3. Chemistry: CH103 General Chemistry can replace CH105 Chemistry: The Central Science.
4. Biology: BIO103 Principles of Biology can replace BIO102B Introduction to Life Science.
5. Computer Programming: CS109 Introduction to Computer Programming / CS110 Introduction to Java Programming / CS111 Introduction to C Programming / CS113 Introduction to Matlab Programming can replace CS112 Introduction to Python Programming.
6. The replace courses above also apply to the " Prerequisites for Major Declaration ".

V. Prerequisites for Major Declaration

Major Declaration Time	Course Code	Course Name	Prerequisite
Declare major at the end of the first academic year	MA117	Calculus I	
	MA127	Calculus II	Calculus I
	MA113	Linear Algebra	
Declare major at the end of the second academic year	MA117	Calculus I	
	MA127	Calculus II	Calculus I
	MA113	Linear Algebra	
	FIN102/FET205	Finance/ Introduction to Accounting	
	CS112	Introduction to Python Programming	

Note:

1. **If the number of students entering a major at the end of the first academic year in the department is greater than or equal to the total number of the teaching-research faculty (PI)*2*60%, all majors in the department may implement the prerequisites for major declaration at the end of the second academic year.**
2. **If the number of students entering a major at the end of the first academic year in the department is less than the total number of the teaching-research faculty (PI)*2*60%, all majors in the department do not implement the prerequisites for major declaration at the end of the second academic year.**
3. **Suppose the number of students applying for a major at the end of the first academic year exceeds four times the total number of the teaching-research faculty (PI), then the department may select students according to predetermined rules. In principle, the rules set by the department shall examine the students' suitability for the major and not based on weighted GPA (Specific rules shall be set by the department and announced in advance).**
4. **For departments that do not implement prerequisites for major declaration at end of the second academic year, if the cumulative number of students applying for a major at the end of the second academic year and the number of students who have entered a major at the end of the first academic year exceeds four times the total number of the teaching-research faculty (PI), the department may select students according to predetermined rules. In principle, the rules set by the department shall examine the students' suitability for the major and not based on weighted GPA (Specific rules shall be set by the department and announced in advance).**

VI: Major Course Arrangement

Table 1: Major Required Courses

Program of Finance

Course Category	Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
Major Foundational Courses	FIN201	Microeconomics	3	0	1 Fall & Spring		Dept. of Finance
	FIN204	Macroeconomics	3	0	1 Fall & Spring		
	MA212	Probability and Statistics	3	0	2 Fall & Spring	Calculus II	Dept. of Mathematics
	FIN203	Financial Accounting	3	0	2 Fall		Dept. of Finance
	FIN215	Political Economics	3	0	2 Fall		
	FIN206	Corporate Finance	3	0	2 Fall		
	FIN303	Econometrics	3	0	3 Fall	Microeconomics、Macroeconomics、Probability and Statistics	
	Total		21	0			
Major Core Courses	FET204	Commercial Bank	3	0	2 Fall		Dept. of Finance
	FIN210	Economics of Money and Banking	3	0	2 Spring		
	FIN301	Financial Investments	3	0	3 Fall	Microeconomics、Macroeconomics、Probability and Statistics	
	FIN417	Corporate Finance Case analysis	3	0	3 Fall	Microeconomics、Macroeconomics、Corporate Finance	
	FET303	Financial Risk Management	3	0	3 Spring	Corporate Finance、Probability and Statistics	
	FIN305	Options, Futures and Financial Derivatives	3	0	3 Spring	Corporate Finance、Financial Investments	
	FIN310	China Economics and Finance	3	0	3 Spring	Microeconomics、Macroeconomics、Corporate Finance、Financial Investments	
	Total		21	0			
Practice-based Courses	FETS301	Internship	3	3	3 Summer		Dept. of Finance
	FIN480	Projects of Science and Technology Innovation	2	2	ANY		
	FIN491	Thesis	12	12	4 Spring		
	Total		17	17			

Total	59	17	

Note:
FMA301 Econometrics can replace FIN 303 Econometrics;
FMA304 Asset Pricing and Risk Management can replace FET 303 Financial Risk Management

Table 2: Major Elective Courses

Program of Finance

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
FIN101	Finance Marketing	3	0	1 Fall		Dept. of Finance
FET102	Principles of Fintech	3	0	2 Fall		
MA201b	Ordinary Differential Equations B	4	0	2 Fall	Calculus II	Dept. of Mathematics
FIN213	Financial Markets and Institutions	3	0	2 Fall		Dept. of Finance
FIN209	Entrepreneurial Finance and Innovation I	3	0	2 Fall		
FET219	Life Contingencies Practicum	1	1	2 Fall		
FIN217	Investment and Risk Management	1	1	2 Fall		
FET202	Cases in FinTech I	1.5	0	2 Fall		
FIN218	Managerial Accounting	3	0	2 Fall	Financial Accounting	
FIN205	Special Topics in Finance and Entrepreneurship I	1.5	0	2 Fall		
FIN202	Special Topics in Finance and Entrepreneurship II	1.5	0	2 Spring		
FET301	Cases in FinTech II	1.5	0	2 Spring		
FIN214	Securities Investment Practicum	1	1	2 Spring		
FET206	Data Structures and Financial Applications	3	0	2 Spring	Introduction to Python Programming	
FIN5022	Financial Statement Analysis	3	0	2 Spring	Microeconomics、Macroeconomics、Corporate Finance	
MA208	Applied Stochastic Processes	3	0	2 Spring	Probability and Statistics	
FIN411	International Finance	2	0	3 Spring	Corporate Finance、Financial Investments	
FIN409	Financial Modeling and Analysis	3	0	3 Fall	Probability and Statistics	
FIN311	Artificial Intelligence and Its Applications in Finance	3	0	3 Fall	Introduction to Python Programming	
FIN307	Database Management Systems and Financial Applications	3	1	3 Fall		
FIN5017	Financial Time Series	3	0	3 Fall	Microeconomics、Macroeconomics、Probability and Statistics	
FIN314	Frontier and Practice of Securities Market	1	1	3 Fall	Microeconomics、Macroeconomics	

MA228	Nonlife Actuarial Models	3	0	3 Fall	Probability and Statistics	Dept. of Mathematics
MA303	Partial Differential Equations	3	0	3 Fall	Ordinary Differential Equations B	
FMA303	Security Investments	3	0	3 Fall	Probability and Statistics	
MA322	Life Insurance Actuarial Science	3	0	3 Spring	Probability and Statistics	
FIN312	Actuarial Modelling with Applications in Insurance	3	0	3 Spring	Econometrics、Probability and Statistics	Dept. of Finance
FIN302	Empirical Methods in Finance	3	0	3 Spring	Financial Investments、Econometrics	
FET306	Business Analytics with Big Data	3	1	3 Spring		
FIN208	Financial data analysis and Data Mining	3	1	3 Spring	Probability and Statistics	
FIN407	Investment Banking	3	0	3 Spring	Corporate Finance	
FIN306	Fixed Income: Models and Applications	2	0	3 Spring	Options, Futures and Financial Derivatives	
FIN308	Financial Economics	3	0	3 Spring	Corporate Finance、Probability and Statistics	
MA308	Statistical Computation and Software	3	0	3 Spring	Probability and Statistics	Dept. of Statistics and Data Science
MA304	Multivariate Statistical Analysis	3	0	3 Spring	Probability and Statistics	
FIN403	Cases in Financial Innovations	3	0	4 Fall		Dept. of Finance
FIN5011	Quantitative Investment Analysis	3	0	4 Fall	Financial Investments、Econometrics	
Total		96	7			

Note:

A minimum of 14 credits MUST be taken to fulfill Major Elective Courses

MA201a Ordinary Differential Equations A can replace MA201b Ordinary Differential Equations B;

MA211 Data structure and Algorithms / CS203B Data Structures and Algorithm Analysis B / Data Structures and Algorithm Analysis can replace FET206 Data Structures and Financial Applications;

CS303B Artificial Intelligence B can replace FIN311 Artificial Intelligence and Its Applications in Finance;

MA309 Time Series Analysis can replace FIN5017 Financial Time Series;

CS307 Principles of Database Systems/ MIS205 Data Management and Databases can replace FIN307 Database Management Systems and Financial Applications.

Table 3: Overview of Practice-based Learning

Program of Finance

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
CS112	Introduction to Python Programming	3	1	1-2 Spring & Fall		Dept. of Computer Science and Engineering
PHY104B	Experiments of Fundamental Physics	2	2	1-2 Spring & Fall		Dept. of Physics
FET219	Life Contingencies Practicum	1	1	2 Fall		Dept. of Finance
FIN217	Investment and Risk Management	1	1	2 Fall		
FIN214	Securities Investment Practicum	1	1	2 Spring		
FIN307	Database Management Systems and Financial Applications	3	1	3 Fall		
FIN314	Frontier and Practice of Securities Market	1	1	3 Fall	Microeconomics、Macroeconomics	
FET306	Business Analytics with Big Data	3	1	3 Spring		
FIN208	Financial data analysis and Data Mining	3	1	3 Spring	Probability and Statistics	
FETS301	Internship	3	3	3 Summer		
FIN480	Projects of Science and Technology Innovation	2	2	ANY		
FIN491	Thesis	12	12	4 Spring		
Total		35	27			

Curriculum Structure of Finance

Freshman	Sophomore	Junior	Senior
General Education Courses	General Education Courses	General Education Courses	General Education Courses
Microeconomics	Political Economics	Financial Investments	Quantitative Investment Analysis
Macroeconomics	Commercial Bank	Options, Futures and Financial Derivatives	Projects of Science and Technology Innovation
Probability and Statistics	Financial Statement Analysis	China Economics and Finance	Thesis
Principles of Fintech	Financial Markets and Institutions	Empirical Methods in Finance	
	Financial Accounting	Corporate Finance Case analysis	
	Corporate Finance	Financial Economics	
	Economics of Money and Banking	Financial Modeling and Analysis	
		Econometrics	
		Internship	
Note: The above is the recommended semester. Students can make adjustments according to their own academic plans.			