Department of Finance

Program of Finance

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.

The Department of Finance has seven full-time academic staff, including three professors and four assistant professors. Among them, one is Changjiang Scholar and one is Shenzhen Leading Talent. Six of the academic members hold doctoral degrees from highly reputable overseas universities and most of them have experience in financial industries or financial supervision experience in regulatory institutions.

Our faculty has published over 50 papers through 2015. "The financial crisis and government bailout" authored by Prof. He Jia was published in the 65th Anniversary of "China Finance." The latest research of Mrs. Chen Kun, an assistant professor, entitled "Design Theory Securities Market Surveillance System" was published in the "Journal of Management Information Systems." Besides these, our department has

regular academic seminars, featuring top talent speakers from well-known institutions and financial companies. A well-equipped finance laboratory is ready for students to use, which is currently equipped with virtual exchanges, high-frequency databases, financial modeling dynamic simulation systems, a laboratory management platform, a large-screen management system, a multi-screen GTA integrated financial information system, MATLAB, etc. Our facilities are comprised of high performance workstations, projection systems, sound systems, switches, line counters, cabinets, etc., and our hardware facilities can accommodate up to 40 people for teaching and training.

In 2015, our department graduated its first cohort. Some of our students have begun their careers in the financial industry sector, with institutions such as Minsen Capital Management. Some of them are pursuing higher degree in Finance, such as PhDs in schools such as The University of Pittsburgh.

II. 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.

III. Period of Study and Degree Requirement

Time length：4 years

Degree conferred: Bachelor of Economics

The minimum credit requirement for graduation: 125credits

IV. Discipline

Economics

V. Main Courses

Major Foundational Courses: Probability and Statistics, Microeconomics, Macroeconomics, Financial Accounting, Corporate Finance

Major Core Courses: Special Topics in Finance and Entrepreneurship, Financial Data Analysis and Data Mining, Financial Investments, Econometrics, Options, Futures and Other Financial Derivatives, Empirical Methods in Finance

VI. Practice-Based Courses

Internship Programs

Our internship program provides students with professional and real-life business experience during their university years. We encourage students to get first-hand knowledge of how corporations operate on a day-to-day basis by recognizing their hard-work with credits towards graduation and by providing internship subsidies to cover their daily expenses. On top of this, we have established some connections with the business community for internship opportunities with corporations such as the Bank of China.

VII. Course Structure and Credit Requirements

General Education (GE）Required Courses : 48.5credits（Not include English）

General Education (GE) Elective Courses: 10 credits

Major Foundational Courses: 15 credits

Major Core Courses: 21 credits

Major Elective Courses: 20.5 credits

Undergraduate Thesis/Projects: 8 credits;

Research Projects(Practice of Financial Theory)：2 credits;

The minimum credit requirement for graduation:125 credits（Not include English
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VIII. Requirement for GE Required Courses

Course Code	Course Name	Credits
MA101B	Calculus I A	4
MA102B	Calculus II A	4
MA103A	Linear Algebra I A	4
PHY103C	General Physics I C	3
PHY105C	General Physics II C	3
CH101B	General Chemistry B	3
BIO102B	General Biology B	3
CS102A	Introduction to Programming A	3
PHY104	Experiment for Foundation of Physics	1.5
NOTE:English must meet the requirements prescribed by the school.		

IX. Pre-requisites for Major Declaration

Course Code	Course Name	Notes
MA101B	Calculus I A	
MA102B	Calculus II A	
MA103A	Linear Algebra I A	
CS102A	Introduction to Programming A	
MA212	Probability and Statistics	
FIN201	Microeconomics	
FIN204	Macroeconomics	
Note: At least, the above courses should be pass for the grades.		

X. Course Arrangement

Table 1: Major Required Course (Foundational and Core Courses)

Course Category	Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	Advised term to take the course	Instruction language	Prerequisite*	Dept.
	FIN201	Microeconomics	3		3	Fall	1/F	C/E	NA	FIN
	FIN204	Macroeconomics	3		3	Spr	1/Spr	C/E	NA	FIN
	FIN203	Financial Accounting	3		3	Fall	2/F	C/E	NA	FIN
	MA212	Probability and Statistics	3		3	Spr	2/Fall ,Spr.		Calculus II A	MATH
	FIN206	Corporate Finance	3		3	Spr	2/Spr	C/E	Financial Accounting	FIN
		Total	15		15					
Major Core Courses	FIN205	Special Topics in Finance and Entrepreneurship I	1.5	0.5	2	Fall	2/Fall	C		FIN
	FIN202	Special Topics in Finance and Entrepreneurship II	1.5	0.5	2	Spr	2/Spr	C		FIN
	FIN301	Financial Investments	3		3	Fall	2/F	C/E	Microeconomics, Macroeconomics, Probability and Statistics	FIN
	FIN303	Econometrics**	3		3	Fall	3/F	C/E	Microeconomics, Macroeconomics, Probability and Statistics	FIN
	FIN305	Options, Futures and Financial Derivatives	3		3	Spr	3/Spr	C/E	Corporate Finance, Financial Investments	FIN
	FIN302	Empirical Methods in Finance	3		3	Spr	3/Spr	C/E	Econometrics, Options, Futures and Financial Derivatives	FIN
	FET204	Commercial Bank	3		3	Spr.	2/Spr.	C/E		FIN
	FIN310	China Economics and Finance	3		3	Spr.	3/Spr.	C/E	Microeconomics,	FIN

Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	to take the	Instruction language	Prerequisite*	Dept.
								Macroeconomics Corporate Finance, Financial Investments	
	Total	21	2	23					
FIN480	Research Projects ***	2	2	4	F/Spr/Summer	After the first term	C/E		FIN
FIN490	Undergraduate Thesis	8	8	16	F/Spr	4/Fall &Spr	C/E		FIN
	Total	46	12	72					

*Note: Prerequisite includes the requisite of the prerequisite.
** Note: The credits FIN301 Econometrics can replace the credits of FIN303 Econometrics partly.
***Note: Students may choose to carry out the Projects of Science and Technology Innovation in any year after the first year. The two credits requirements ask for 64 hours in total.

Table 2: Major Elective Courses

Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	to take the	Instruction language	Prerequisite*	Dept.
CS209A	Computer System Design and Application A	3	1	4	Fall	2/Fall	C/E	Introduction to Programming A	CS
MA104	Linear algebra II	4		4	Spr	1/Spr		Linea Algebra I	MATH
MA205	Discrete Mathematics	3		3	Spr.	2/Spr.	C	Mathematical Analysis III or Real Analysis	MATH
MA201b	Ordinary Differential Equations B	4		4	Fall	2/F		Calculus II A	MATH
FIN213	Financial Market, Institutions	3		3	Fall	2/F			FIN
FIN209	Entrepreneurial Finance and Innovation I	3		3	Fall	2/F	C/E		FIN
FIN210	Economics of Money and Banking	3		3	Spr	2/Spr	C/E		FIN
MA208	Applied Stochastic Processes	4		4	Spr	2/Spr		Probability and Statistics or Statistics	MATH
FIN307	Database Management Systems and Financial Applications	3	1	4	Fall	3/F	C/E	Computer System Design and	FIN

Code	Course Name	Lecture	Lab	Credit	Term	Year/Term	C/E	Prerequisite	Dept
								Applications	
MA303	Partial Differential Equations	3		3	Fall	3/F		Ordinary Differential Equations A	MATH
FIN311 **	Artificial Intelligence and Financial Applications	3	1	4	Fall	3/F	C/E	Computer programming design principle/ Data structures and algorithm analysis	FIN
FMA303	Security Investments	3		3	Fall	3/F	C/E	Probability and Statistics or Statistics	MATH
FIN411	International Finance	2		2	Fall	3/F	C/E		FIN
FIN208	Financial data analysis and Data Mining	3	1	4	Spr	3/Spr	C/E	Probability and Statistics	FIN
MA313	Stochastic Analysis	3		3	Spr	3/Spr	C/E	Mathematical Analysis III or Real Analysis	MATH
FIN304	Financial Time Series**	3		3	Fall	3/Fall	C/E	Econometrics	FIN
MA304	Multivariate Statistical Analysis	3		3	Spr.	3/Spr.	C/E	Probability and Statistics or Statistics	MATH
FIN306	Fixed Income: Models and Applications	2		2	Spr	3/Spr	C/E	Options, Futures and Financial Derivatives	FIN
FIN308	Financial Economics	3		3	Spr	3/Spr	C/E	Corporate Finance	FIN
MA308	Statistical Computation and Software	3	1	4	Spr	3/Spr	C/E	Probability and Statistics or Statistics	MATH
FIN407	Investment Banking	3		3	Spr	3/Spr	C/E	Corporate Finance	FIN
MA216	Computational Finance	3		3	Fall	3/F	C/E	Mathematical Analysis III or Real Analysis	MATH
FIN403	Cases in Financial Innovations	3	1	4	Fall	4/F	C/E	Options, Futures and Financial Derivatives	FIN
FIN409	Financial Modeling and Analysis	3		3	Fall	4/F	C/E	Probability and Statistics	FIN
FIN413	Quantitative Investment Analysis	3		3	Fall	4/F	C/E	Econometrics/Financial	FIN

Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	Advised term to take the course	Instruction language	Prerequisite	Dept.
								Investments	
FIN415	Internet Finance Topics /Quantitative Finance Topics /Contemporary Financial Topics of China	3		3	Fall	4/F	C/E	Financial data analysis and Data Mining/Econometrics/China Economics and Finance	FIN
FIN417	Corporate Finance Case analysis	3	1	4	Fall	4/F	C	Microeconomics, Macroeconomics, Corporate Finance	FIN
FET303	Financial Risk Management**	3		3	Fall	4/F		Probability and Statistics ,Corporate Finance	FIN
FIN402	Big Data Analysis	2	1	3	Spr	4/Spr	C/E	Financial data analysis and Data Mining	FIN
FINS301	Behavioural Finance	1		1	Summer	3/Su	C/E		FIN
FETS301	Internship***	3	3	6	Summer	3/Su	C/E		FIN
	Total	87	11	96					

Note: Courses above should be study at least 20.5 credits for every student.
*Note: Prerequisite includes the requisite of the prerequisite.
**Note: The credits of CS303B Artificial intelligence can replace the credits of FIN309 Artificial Intelligence and Financial Applications partly. The credits of MA309 Time series analysis can replace the credits of FIN304 Financial Time Series partly. The credits of FET303Financial Risk Management can replace the credits of FMA319 Financial Risk Management partly.
***Note: Students should carry out the Internshipin the summer term after the third year. The three credits requirements ask for 96 hours in total.

Table 3: Overview of Practice-Based Courses

Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	Advised term to take the course	Instruction language	Prerequisite	Dept.
CS209A	Computer System Design and Application A	3	1	4	Fall	2/Fall	C/E	Introduction to Programming A	CS
FIN205	Special Topics in Finance and Entrepreneurship I	1.5	0.5	2	Fall	2/Fall	C		FIN
FIN202	Special Topics in Finance and Entrepreneurship II	1.5	0.5	2	Spr	2/Spr	C		FIN
FIN208	Financial data analysis and Data Mining	3	1	4	Spr	3/Spr	C/E	Probability and Statistics	FIN
FIN307	Database Management Systems and Financial	3	1	4	Fall	3/F	C/E	Computer	FIN

Code	Course Name							Prerequisite	Department
	Applications			9				System Design and Applications	
MA308	Statistical Computation and Software	3	1	4	Spr	3/Spr		Probability and Statistics or Statistics	MATH
FIN403	Cases in Financial Innovations	3	1	4	Fall	4/F	C/E	Options, Futures and Financial Derivatives	FIN
FIN417	Corporate Finance Case analysis	3	1	4	Fall	4/F	C	Microeconomics, Macroeconomics, Corporate Finance	FIN
FIN402	Big Data Analysis	2	1	3	Spr.	4/Spr.	C/E		FIN
FIN480	Projects of Science and Technology Innovation	2	2	4	F/Spr./Smr.	After first term	C/E		FIN
FETS301	Internship	3	3	6	Smr.	3/Smr	C/E		FIN
FIN490	Thesis	8	8	16	Fall/Spr	4/F&Spr.	C/E		FIN
Total		39	22	61					

Table 4: Overview of Course Hours and Credits

Course Category	Total Course Hours	Total Credits	The Minimum Credit Requirement
General Education (GE) Required Courses	880	48.5	48.5
General Education (GE) Elective Courses		10	10
Major Foundational Courses	304	19	15
Major Core Courses	368	21	21
Major Elective Courses	1600	87	20.5
Research Projects, Internship and Undergraduate Thesis/Projects	320	10	10
Total			125