

Course Syllabus (Finance)

Course Chinese Title: 金融学	Course Category (Compulsory/ Elective) : Compulsory
Course English Title: Finance	
Total Hours/ Hours Per Week/ Credit(s): 48/3/3	Lab Practice/ Practical Hours: 16
Prerequisites: Microeconomics, Macroeconomics, Advanced Mathematics	
Time: 2018 FMI: 8:30-10:10, Wednesday; 14:30-16:10, Friday (week 9-16) 2019 FMI: 10:25-12:00, Wednesday; 16:25-18:05, Friday (week 9-16)	Classroom: R3401, Guancheng Campus
Class: 2018 Economics and Finance (Financial Management Industry-University International Program, FMI) 2019 Economics and Finance (Financial Management Industry-University International Program, FMI)	
College: School of Economics and Management	
Instructor Name/ Academic Title: Joseph Chih-Yuan Hung/Lecturer	
Office Hour: 14:00-17:00, Wednesday	
Course Assessment Method: Open book test () Close book test (✓) Report (✓) Other (✓), see Assessment and Grading table below	
Required Textbook: Lecture notes and slides. Supplementary Materials: <ol style="list-style-type: none"> 1. Bodie, Ziv, Robert C. Merton and David L. Cleeton (2014). <i>Financial Economics</i>, English reprint edition (2nd edition). China Renmin University Press. ISBN 978-7-300-13174-0. 2. Varian, Hal. (2014). <i>Intermediate Microeconomics: A Modern Approach</i>. 9th edition. W. W. Norton & Company. ISBN- 0393919676. 3. Williamson, Stephen D. (2014). <i>Macroeconomics</i>. 5th edition. Pearson Education. ISBN 978-0-13-299133-9. 4. Ackert, Lucy F. and Richard Deaves. (2010). <i>Behavioral Finance</i>. 1st edition. South-Western, Cengage Learning. ISBN- 0324661177. 5. Fabozzi, F. J., E. H. Neave and Guofu Zhou, (2012). <i>Financial Economics</i>, Wiley, ISBN: 978-0-470-59620-3. 6. Jones, Chris. (2008). <i>Financial Economics</i>, Routledge, ISBN13: 978-0-203-93202-5 (ebk). 7. Yahoo Finance. 	
Course Description:	

This course provides you the foundations of finance. In the Financial Management International Program (FMI), knowledge in mathematical background of finance is one of the fundamental tools to understand the world of finance. Comparing to other subjects in economics, finance deals with the activities with time and uncertainty in the economy, which means you will learn not only the aggregate behavior of financial market that you have learnt in Macroeconomics but also the individual behavior of the participates in the financial markets. This requires the students to equip an integrated viewpoint of markets. Analysis of financial behavior opens the fruitful toolbox of financial economists for you and helps you to investigate the vivid financial issues by using these shaped tools. Have fun!

<p>Course Objectives</p> <p>I. Objective for knowledge:</p> <p>CO1. Understand the important factors that affect financial environment, such as the distinguish between uncertainty and risk, the origin of interest and the role of symmetric versus asymmetric information plays;</p> <p>CO2. Determine and analyze the appropriate measures of risk and return for general financial environment.</p> <p>II. Objective for professional skills:</p> <p>CO3. Identify and evaluate the net present value, rate of return, risk evaluation and behavior finance to current events or topical issues;</p> <p>CO4. Apply research and analyze methods, such as mathematical programing, linear regression and experiments design, to specific problems or issues related to finance.</p> <p>III. Objectives for personal qualities:</p> <p>CO5. Train the students to have an active, positive, scientific and problem-solving oriented study attitude and ideology;</p> <p>CO6. Develop the proper attitude and knowledge about the connection between theoretical models and practical issues, the rigorously scientific behavior and the ethical emphasized career attitude.</p>	<p>Connection to the core competences (For students major in Science and Engineering) :</p> <p>☐LOs 1.</p> <p>☐LOs 2.</p> <p>☐LOs 3.</p> <p>☐LOs 4.</p> <p>☐LOs 5.</p> <p>☐LOs 6.</p> <p>☐LOs 7.</p> <p>☐LOs 8.</p>
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Course Plan								
Week	Topic	Instructor	Hours	Contents (Key point、Difficulty、Ethical and political learning)	Instructional Mode	Activities	Assignment	Expected Learning

					(Online/ Blending/ Offline)			Outcomes
1	Introduction	Chih-Yuan Hung	2	<p>Finance as a resource allocation decision for time and risk</p> <p>Key points: definition of finance, why study finance</p> <p>Difficulties: the value of finance</p> <p>Ethical and Political Learnings: introduce the great person in the history of finance, emphasize the impact on the human beings.</p>	Offline	Lecture	<p>Homework for Ethical and Political Learnings: Read an article of Chinese history related to finance.</p>	CO1 CO5
2	Resource allocation decision I	Chih-Yuan Hung	2	<p>Budget constraint</p> <p>Key points: individual income and simplified goods markets</p> <p>Difficulties: linear equation and algebra.</p> <p>Ethical and Political Learnings: introduce the problem faced by a typical consumer in the market economy. Students will recognize the resource allocation problem and cautious consumption.</p>	Offline	Lecture	None	OC1 OC3
3	Resource allocation decision II	Chih-Yuan Hung	2	<p>Consumer Preferences</p> <p>Key points: rational behavior, marginal rate of substitution, specific examples of preferences such as perfect substitutes, perfect complements.</p> <p>Difficulties: the meaning of rational in</p>	Offline	Lecture	Problem set 1	OC1 OC3

				economics and finance, mathematics of binary relations.				
4	Resource allocation decision III	Chih-Yuan Hung	2	Utility Function Key points: cardinal utility, ordinal utility, example of utility, marginal rate of substitution. Difficulties: from preferences to utility with some certain types of example.	Offline	Lecture	None	OC1 OC3
5	Resource allocation decision IV	Chih-Yuan Hung	2	Optimal Choices Key points: utility maximization under certain income; expenditure minimization under certain utility level. Difficulties: Lagrangian method/ non-linear programming.	Offline	Lecture	None	OC1 OC4
6	Resource allocation decision V	Chih-Yuan Hung	2	(Individual) Demand Function Key points: price consumption curve, income consumption curve, substitution effect, income effect. Difficulties: Calculate the Slutsky equation	Offline	Lecture	Problem set 2	C01 C04
7	Midterm Review session	Chih-Yuan Hung	2	Key points: review of individual consumption choice models. Difficulties: analysis of price and income (exogenous variable) change.	Offline	Lecture Q&A	None	C01 C02 C03
8	Midterm Exam	Chih-Yuan Hung	2	Ethical and Political Learnings: emphasize the academic integrity. Students will be punished when there is academic dishonesty.	Offline	Exam	None	C05 C06
9	Resource allocation	Chih-Yuan	2	Buying and Selling Key points: endowment, resource	Offline	Lecture	None	C01 C03

	decision VI	Hung		supply, resource exchange Difficulties: calculation the budget and optimal choice with real assets/goods instead of monetary income.				
10	Resource allocation decision VII	Chih-Yuan Hung	2	Intertemporal Choice Key points: interest, discount rate, saving and lending. Difficulties: optimal choice in imperfect capital market Ethical and Political Learnings: through this lecture, students will recognize the importance of the value of time and learn allocating resources across time efficiently.	Offline	Lecture	None	CO1 CO3
11	Resource allocation decision VIII	Chih-Yuan Hung	2	Asset Markets Key points: rate of return, arbitrage and present value, financial bubbles Difficulties: Ethical and Political Learnings: through this lecture, students will recognize the risk in financial market and avoid the bubble assets in the market.	Offline	Lecture	Problem set 3	CO1 CO2 CO3
12	Resource allocation decision IX	Chih-Yuan Hung	2	Uncertainty Key points: expected utility function, risk attitude, state dependent decision Difficulties: using probability to re-model the utility analysis	Offline	Lecture	None	CO1 CO2 CO3
13	Resource allocation	Chih-Yuan Hung	2	Risky Assets Key points: Difficulties: Calculation the price of	Offline	Lecture	None	CO1 CO2

	decision X			risky assets with computer or calculators				CO3
14	Theory of Behavior Finance	Chih-Yuan Hung	2	Key points: Frame effect, time inconsistency, mental model, prospect theory Difficulties: non-rational behavior with psychological explanations	Offline	Lecture	None	CO1 CO4
15	Asymmetric Information	Chih-Yuan Hung	2	Introduction to economics of information Key points: Adverse selection, Moral Hazard, Market Signaling. Difficulties: Calculate the optimal decision problems with inequality constraints.	Offline	Lecture	Problem set 4	CO1 CO4
16	Review	Chih-Yuan Hung	2	Review for final exam. Key points: from knowledge points to exam question. Difficulties: synthesize the different situation of time horizon and uncertainty models in a more practical financial model. Ethical and Political Learnings: emphasize the academic integrity. Students will be punished when there is academic dishonesty.	Offline	Lecture Q&A	None	CO1 CO2 CO6
Total:			32					
Practice Plan								
Week	Topic	Instructor	Hours	Contents (Key point、Difficulty、Ethical and political learning)	Practice Type (Verified / Integrated /	Activities	Supporting Course Objectives	

					Designed)		
9	Introduction to behavior finance, laboratorial experiments, and R program	Chih-Yuan Hung	2	Key points: behavior models, regression, R program. Difficulties: using the knowledge of regression to run the statistical software.	Integrated	Lecture, learn the essential tools for empirical study.	CO5
10	Experiment I: Pit Market	Chih-Yuan Hung	2	Key points: market exchange Difficulties: knowing the random assigned value Ethical and Political Learnings: using of oneself information to gain a better bargain, students will learn the truth of market economy and may try to figure out the way to cooperation and respect to other participates in the market.	Verified	Experiment. Each student hold one unit of good with random assigned value. Keep the trading record for final report.	CO1 CO6
11	Experiment II: Lottery Choice	Chih-Yuan Hung	2	Key points: choice under uncertainty Difficulties: recognize the probability distribution Ethical and Political Learnings: students will learn to buy goods more cautious and find a more safety way of investment	Verified	Experiment. Each student completes a survey for lottery choice. Keep the trading record for final report.	CO2 CO6
12	Experiment III: Price/Quality	Chih-Yuan Hung	2	Key points: asymmetric information, product pricing. Difficulties: guess which seller is good	Verified	Experiment. Students take turns play buyer and seller. A group of 4 students forms a	CO1 CO2 CO6

	Market			<p>quality with proper price.</p> <p>Ethical and Political Learnings: through this experiment, the student will recognize that although providing low quality goods with high price is profitable in the short run, propose a proper price for its own product quality is more profitable in the long run.</p>		<p>fictitious firm, which determine the price with a random quality of its products. Keep the trading record for final report.</p>	
13	Online experiment IV: Limit Order Asset Market	Chih-Yuan Hung	2	<p>Key points: computerized ordering Difficulties: calculation of trading price.</p> <p>Ethical and Political Learnings: through this experiment student will recognize the beauty contest of stock market, and hence try to guess the behavior of thousands of opponents is difficult. A conservative and robust investment might be more profitable in the long run.</p>	Verified	<p>Experiment. Each student hold one unit of good with random assigned value. Keep the trading record for final report.</p>	CO2 CO3 CO6
14	Experiment V: Bayes' Rule	Chih-Yuan Hung	2	<p>Key points: Bayes' updating for the belief on uncertainty assets. Difficulties: probability calculation of Bayes formula.</p>	Verified	<p>Experiment. Each student completes a survey for lottery choice. Keep the trading record for final report.</p>	CO2 CO6
15	Presentation I	Chih-Yuan Hung	2	<p>Key points: summary of the experiments, report behavior data with statistical tools Difficulties: statistical analysis with</p>	Designed	<p>Presentation for the group result of experiments.</p>	CO4 CO6

				<p>economic intuition.</p> <p>Ethical and Political Learnings: objectively analyze the data we collect from the market which the report also participated in is a key characteristic for a good financial worker.</p>			
16	Presentation II	Chih-Yuan Hung	2	<p>Key points: summary of the experiments, report behavior data with statistical tools</p> <p>Difficulties: statistical analysis with economic intuition.</p> <p>Ethical and Political Learnings: objectively analyze the data we collect from the market which the report also participated in is a key characteristic for a good financial worker.</p>	Designed	Presentation for the group result of experiments.	CO4 CO6
Total:			16				
Assessment and Grading							
Assessment Method				Evaluation Criteria		Percentage (%)	Supporting Course Objectives
Attendance and Participation				<p>If you are late or leave early, your grade will be taken one point each time. If you are absent for one class, the taken point will be 2 for each absentee. Give questions is a good way to get points in attendance.</p> <p>Also, participate every in-class discussion is needed. Raise good question to discuss will have bonus.</p>		10	OC5 OC6

Homework	4 problem sets will be delivered. Each student should hand in their-own answers. Discussion among student fellows is allowed.	20	CO1 CO2 CO3 CO4
Experimental Report	The report of class experiments is a group work, which is composed by two parts: presentation (10%) and paper (10%). The presentation shows the data we collected from experiments. The paper should include the setup of the experiment, the process of the experiment, the theoretical and statistical analysis of the essential variables.	20	CO2 CO4 CO6
Midterm Exam	Closed book exam. There will be questions for 100 points on the test paper and will be weighted to be 20% in your grade.	20	CO1 CO2 CO3 CO4
Final Exam	Closed book exam. There will be questions for 100 points on the test paper and will be weighted to be 30% in your grade.	30	CO1 CO2 CO3 CO4

Syllabus Submission Date: 2020.08.25

School Reviewal:

Approved

Signature: 洪志远

Date: 2020. 08. 29