FINANCIAL ECONOMICS

Summer course to be offered within HSE International Summer University

Title:	Financial Economics
Workload:	2 ECTS credits, 16 academic hours
Language:	English
Course instructor:	Runjie Geng, PhD, Assistant Professor of Finance, ICEF
Dates:	August 1-12, 2022

Overview:

This course aims to build a bridge between the economic knowledge the students acquired previously to the principles of asset pricing in finance.

First part of the course, starting from knowledge about choices and utility in microeconomics, we will introduce how one can make optimal choices when we introduce financial markets. We will expend from microeconomics in two dimensions: first, we introduce the concept of dynamic programming and show how to optimize in dynamic models; second, with the knowledge (only basic needed) of probability theory, we show how to optimize in stochastic models.

Second part of the course, we introduce the concept of competitive equilibrium. We will show through simply examples how the prices of financial assets are decided when everyone tries to optimize his or her own utility. We will use simple concrete examples to illustrate relatively abstract concepts that are potentially used in later study or in the financial industry. Those abstract concepts include what is arbitrage; what is risk and uncertainty; what is relative and absolute risk aversion; what are Arrow securities; what are complete markets, etc.

The exercises and the exam of the course will be testing if the students could fully understand the concepts covered in the course and figure out asset prices in simple example-economies.

Learning Outcomes:

Successful students are expected to:

- Understand the basic concepts in asset pricing;
- Understand the economic meaning and underlying logic of those concepts;
- Be able to solve simple optimization exercises;
- Be able to calculate asset prices in simple economic models;
- Be able to interpret phenomena in financial markets and understand the economic logic behind them.

Teaching methods: Lectures, home assignment, practical classes, and self-study

Assessment: The final grades will be given out of 10.
There will be a homework (solution and participation in discussion) worth 50% and a final exam worth 50%.

Suggested reading: Hens, T., and M. O. Rieger (2010): Financial Economics: A Concise Introduction to Classical and Behavioral Finance, Springer

LeRoy,S. And J. Werner (2014): Principles of Financial Economics, Cambridge University Press

Course plan:

Topics	**Workload**
Real interest rates	4 academic hours
Expected utility, uncertainty, and risk aversion	4 academic hours
Arbitrage, complete financial market, and Arrow securities	4 academic hours
Fundamental theorem of asset pricing, incomplete financial market	4 academic hours

Prerequisites: The course is intended for the undergraduate students in their final years. The summer course will be beneficial for prospective applicants who wish to pursue the ICEF MSc degree programme in Financial Economics in the future.

To enroll in this course students should:

1. Be familiar with **essential topics of mathematics** (Multidimensional calculus, basics of optimization; Linear Algebra; Convex analysis and Kuhn-Tucker theorem; Theory of Be probability and statistics);
2. Be familiar with fundamental economics (Micro- and Macroeconomics, Elements of Econometrics); and
3. Have the level of English language skills advanced enough to take English-taught courses (IELTS 6.0+ or equivalent).