



Department
of Finance

MSc Finance & Economics Programme 2019/20

The MSc Finance and Economics is an interdisciplinary degree taught jointly by the Department of Finance and the Department of Economics. It gives you the opportunity to study in two of the most highly-rated departments, in their subject areas, in the world.

The programme draws on the School's strengths in economics, finance, and econometrics to impart a rigorous and deep understanding of financial markets, grounded in financial economics and econometric methods.

Key Information

Duration: 10 months full-time only (late August 2019 to June 2020).

Fee: £28,056 (home/EU), £28,608 (overseas). Financial support may be available.

Approximately 50 places.

Must have a good undergraduate degree, 2.1 or equivalent, in a quantitative subject, with at least a year of calculus and a semester of linear algebra.

Submission of GRE or GMAT test results is required for all applicants without a UK undergraduate degree and is recommended for applicants with UK undergraduate degrees who did not achieve or are not expected to achieve a first class degree.

Applications are made online via the Graduate Admissions Office website:
lse.ac.uk/study-at-lse/graduate

Further information can be found on the Department of Finance website:
lse.ac.uk/finance

Why study Finance and Economics at the LSE?

Professor Ian Martin MSc Programme Director



The MSc in Finance and Economics ("F&E") is the most academically oriented of our programmes, aimed at students who are interested in gaining a deep understanding of the theory and practice of financial markets.

As we teach you not only how to apply and use various well-known models, but also to understand the fundamental concepts on which they are based, you will learn how to alter, test and adapt these models in new market environments. In learning what makes the models tick, you will develop an awareness of the assumptions on which they rely, and - increasingly important in today's markets - of situations in which these assumptions can break down.

As well as developing your understanding of financial economics, financial econometrics, microeconomics and macroeconomics to a high level, you will have the opportunity to investigate two further specialist aspects of finance in elective courses.

The rigour of the F&E programme is recognised across the world; it provides an excellent grounding for students who are interested in progressing to a PhD in finance or in economics.

Successful applicants come from a variety of quantitative backgrounds including economics, mathematics, engineering, statistics, finance and others. To apply, you should have strong credentials in mathematics and a fascination for finance.

Programme Structure

Students on the Finance and Economics Programme complete courses to the total value of 4 units, comprising 3 full-unit core courses and 2 half-unit elective courses.

Students are also required to attend the pre-sessional Introductory Course in Mathematics and Statistics (EC400). This includes treatment of dynamic programming, continuous time dynamic optimisation, quadratic forms, Kuhn-Tucker theorem, joint and conditional probability distributions, Guss-Markov assumptions, and maximum likelihood estimation, amongst other topics.

The pre-sessional period, which begins in late August, enables students to get to know each other with social events, as well as providing a focus on career skills development to be ready for the competitive financial services job market.

Following the pre-sessional, students study three compulsory units. These are: financial economics (taught in the first term only), financial econometrics, and microeconomics (each taught over two terms). There is an option to replace the full-unit of microeconomics with a half-unit of microeconomics and a half-unit of macroeconomics for students who already have a sufficient background in macroeconomics.

In the second term students also take two elective courses to the value of one full-unit.

Teaching & Assessment

The general format of teaching is lectures followed by seminars. Some optional courses are taught in 3-hour interactive sessions, with no distinction between lectures and seminars. Students may be asked to present material either individually or in groups. Elective courses may include case studies and project work.

Courses are assessed either by 100% examination, or by a combination of project, coursework, and examination. Students will be required to write a 6,000-word dissertation (replacing the examination component) in one of the half-unit elective courses in the second term.

Financial Support

Candidates who demonstrate exceptional potential will be considered for the Sudipto Bhattacharya Scholarship. All offer-holders may also apply to the LSE graduate support scheme for financial support.

Applicants with undergraduate degrees in Science, Technology, Engineering, and Mathematics may be recommended to take LSE Summer School courses in economics, in which case they may also be offered an MSc Finance and Economics conversion scholarship to fund this.



Programme Year Plan

All students are required to attend the pre-sessional course starting in late August.

Late August - September: Orientation and Pre-Sessional	October - December: Michaelmas Term	January - March: Lent Term	April - June: Summer Term
Introductory Course in Maths and Statistics EC400	Microeconomics Financial Economics Financial Econometrics	Microeconomics or Macroeconomics Financial Econometrics	Review and Exam Period
Professional Development Programme	Financial Economics Preparatory Course	2 Half-Unit Elective Courses	Dissertation

Core Courses

Financial Economics

This course is taught entirely in the first term.

Financial Economics provides students with an in-depth introduction to the theories of asset pricing and corporate finance. The course analyses investors' behaviour, market equilibrium, the pricing of securities, the valuation of real assets, and capital structure choice. Topics in asset pricing will encompass portfolio choice, complete and incomplete markets, mean-variance portfolio theory and equilibrium asset pricing, pricing with no arbitrage, Black-Scholes and other contingent claims pricing models, and the behaviour of financial markets during crises. Topics in corporate finance will encompass valuation methods and financing decisions in the presence of taxation, agency frictions, and asymmetric information.

Financial Econometrics

This course covers the techniques of empirical investigation in economics and finance. Students are introduced to recent empirical findings based on asset pricing and corporate finance models. The course includes a selection of the following topics: multivariate regression; maximum likelihood and methods of moments estimation; hypothesis testing; omitted variables and misspecification; asymptotic theory; measurement error and instrumental variables; time-series modelling; predictability of asset returns; event study analysis; econometric tests of the CAPM and multifactor models; volatility modelling; generalised method of moments estimation.

Microeconomics

The aim of the course is to develop the basic tools for analysing problems of resource allocation used by economists working in research, government and business. The course deals with positive and normative problems. It aims to include modern developments without being overly mathematical, and to develop a capacity to apply economic concepts to real-world problems. The first part of the course focuses on classical theories of market behaviour and strategic interaction. We begin by presenting foundations to utility maximization, by analysing the optimisation problems of price-taking consumers and firms, and by modelling market interactions and the formation of prices in perfectly competitive markets. Then we study models of decision making under uncertainty and game theoretic solution concepts. Novel developments in these fields are also discussed in lectures. The second part of the course focuses on models of imperfect competition and information economics. We begin with an analysis of models of monopoly, oligopoly, product differentiation, and public goods. Then, we study markets with imperfect and incomplete information including search, adverse selection, auctions, signalling, screening, and moral hazard. Special emphasis will be given to economic applications.

There is an option to replace the full unit of microeconomics with a half unit of microeconomics and a half unit of macroeconomics for students who can demonstrate that they already have a sufficient background in macroeconomics.

Microeconomics (half-unit)

The aim of the course is to develop the basic tools for analysing problems of resource allocation used by economists working in research, government and business. The course deals with positive and normative problems. It aims to include modern developments without being overly mathematical, and to develop a capacity to apply economic concepts to real-world problems. The course focuses on classical theories of market behaviour and strategic interaction. We begin by presenting foundations to utility maximization, by analysing the optimisation problems of price-taking consumers and firms, and by modelling market interactions and the formation of prices in perfectly competitive markets. Then we study models of decision making under uncertainty and game theoretic solution concepts. Novel developments in these fields are also discussed in lectures.

plus Macroeconomics (half-unit)

This course focuses on the main characteristics of business cycle fluctuations with a special emphasis on what happened during the financial crisis and different macroeconomic models to study business cycles. The course covers the Real Business Cycle model, the New-Keynesian model, models with frictions in labour and financial markets, agent-based models, the role of money, self-fulfilling beliefs, the role of monetary and fiscal policy (and in particular non-conventional monetary policy), and (un)sustainable sovereign debt.

Elective Courses

Forecasting Financial Time Series

This course examines the techniques involved with forecasting key variables in finance, and how to incorporate model uncertainty into financial forecasts. Students learn both the theory and the practice of forecasting in finance. The following topics are covered: introduction to time series analysis; Maximum Likelihood Estimation (MLE), and MLE based model selection; Bayesian inference, posterior probabilities, and Bayesian model averaging; Markov Chain Monte Carlo methods; present value regressions; multivariate models and Bayesian Vector Autoregressions; cointegration; asset pricing and the Generalized Method of Moments (GMM); dynamic factor models and their connection with principal components; introduction to machine learning and finance.

Entrepreneurial Finance

After introducing students to methods to assess business plans as well as methods to identify and value business ventures and growth opportunities in the opening part of the course, the next part of the course concentrates on obtaining financial resources. It covers a broad set of instruments (bank finance, angel finance, crowdsourcing) used by entrepreneurial firms. The final part of the course concentrates on Venture Capital (VC) financing. It describes the general structure and terms of a VC deal, the structure of a VC fund, the characteristics of venture debt and the exit strategies of VC funds.

(Elective Courses continued)

Topics in Portfolio Management

The course covers a wide range of topics in portfolio management, with a strong focus on empirical applications. The first part of the course reviews the basics of portfolio theory and develops the Black-Litterman approach to portfolio optimization. The second part of the course introduces students to the implementation of several dynamic investment strategies and to the estimation of their performance; portfolio strategies include size, value, momentum, betting-against-beta, and quality minus- junk. The third part of the course focuses on selecting and monitoring portfolio managers, with particular emphasis on the identification of selectivity, allocation, and timing skills for mutual funds and hedge funds. The last part of the course examines trading costs and liquidity risk, as well as their impact on the profitability of investment strategies. The course is based on recent empirical studies and applied exercises using financial data.

Financial Engineering

This course provides a thorough grounding in the theory and practice of financial engineering. The emphasis is on the application of derivatives pricing and hedging methodology to equity and volatility derivatives and to structured products. The course aims to cover the basics in derivatives theory, and to apply them to a multitude of financial securities and structured products, with a special emphasis on recent products in the equity and volatility derivative worlds. We review selected case studies in order to gain a better understanding of their practical usage. We also implement the models numerically in R and VBA.

Risk Management in Financial Markets

The aim of this course is to offer an introduction to the analysis and management of risk within financial markets. The course develops a conceptual framework for thinking about financial risk and shows how these concepts are implemented in practice in a variety of contexts. First, the course offers an overview of risk management in the context of portfolios of fixed income securities and derivatives. Next, we discuss the implementation and the merits of Value at Risk measures. We will spend some time on endogenous risk and limits to arbitrage. In the context of credit risk we will cover ratings based and structural models, as well as credit risk on portfolios and credit derivatives. A final topic covers regulation and the recent credit crisis. Throughout, the course spends a significant amount of time on practical applications of the theories that are introduced. Some limitations of current approaches are also discussed.

Quantitative Security Analysis

This course is an applied course on quantitative analysis of investment opportunities in public debt and equity markets. We consider valuation of macro assets (such as government bonds, and diversified portfolios of equities and corporate bonds) as well as the valuation of equities of individual firms and of their risky debt. We rely on theoretical concepts that students have learnt in their core courses (such as the CAPM, no-arbitrage pricing of option and models of corporate debt as contingent claims on a firm's asset) and also examine in depth the historical behaviour of asset returns. The focus is on applying theoretical and empirical models of asset markets to evaluate investment opportunities in realistic, sometimes, live situations. The course involves in – class analysis of investment questions, extensive analysis of financial data, study of financial statements and analyst reports and two projects.

Applied Corporate Finance

This course examines the applications of commonly used tools and methodologies in corporate finance to various real-world settings. Through a combination of case studies and lecture notes, the course offers a detailed treatment of specific topics such as capital budgeting, discount rate analysis, capital structure decisions, and corporate valuation.

International Finance

This course examines key issues in international finance, focusing on recent developments and incorporating theoretical, empirical, policy and institutional dimensions. The course uses exchange rates as a unifying theme and considers them from four perspectives: theory, policy, global risk and international investors. The course examines models of exchange rate determination and related empirical evidence. It analyses the choice and coordination of exchange rate regimes, including the European Monetary Union. It examines exchange rates as one of the sources of global financial instability. It considers the risk exposure for investors arising from exchange rate volatility and its hedging with currency instruments. The course also explores the links, in each area, to current developments such as the internationalisation of the Chinese Renminbi, the EMU sovereign debt crisis, the recent financial crisis and global imbalances, forex carry trades and the high volatility of short term exchange rates. For MSc Finance and Economics students this course is assessed by dissertation, not examination.

Fixed Income Securities and Credit Markets

This course provides a thorough grounding in recent developments in fixed income securities pricing, hedging and portfolio management. By the end of the course, the students will be familiar with the fixed income state of the art business practice and a variety of topics including (i) an analysis of the main products traded in the credit markets, such as Government and corporate bonds, bond options, swaps, caps, floors, swaptions, callable, puttable and convertible bonds, and an analysis of the main credit derivatives such as total-return swaps, spread options and credit default swaps; (ii) the specific tools used in the industry practice to evaluate and hedge these products, which range from no-arbitrage trees and the calibration of yield curve derivatives to the main tools used to monitor and manage credit risk; (iii) the process of securitization, with particular reference to collateralized default obligations and mortgage-based securities.

Note: The topics and content of elective courses is illustrative, based on the current year's programme, and may change from year to year.



Professional Development Programme

Graduates of the MSc Finance and Economics programme go on to work in challenging jobs in a variety of organisations around the world. Examples include investment banks, central banks, economic and strategy consulting firms, professional services firms and financial boutiques. Recent destinations include The Brattle Group, Nera, Oxera, McKinsey and Company, the European Central Bank, the Bank of England, the Bank of China, China Asset Management Company, HSBC, Barclays, EY, Deloitte and many more. Graduates work in London and the other major financial centres around the world.

Each year a number of graduates are accepted into top PhD programmes in the UK, US, and Europe. Some students choose to take a pre-doctoral research position after graduation and commence a PhD later.

The Department of Finance runs an extensive Professional Development Programme alongside the Academic programme in order to support and prepare students to enter the job market. Starting in the pre-session course in August, students are given a wide range of careers support, from CV workshops and

application advice to technical finance interview preparation. There are numerous opportunities to meet and network with alumni who are working in London.

LSE Careers is a far-reaching resource available to LSE students and alumni, and is one of the best in the UK. Students have access to this whilst at LSE and for five years following graduation. The Department of Finance has a specialist careers consultant who is available for consultations every week during term time.

In addition to the internationally recognised research environment and academic rigour of its teaching programmes, a great advantage of studying at LSE is the reputation it holds amongst employers for producing high level graduates. Recruiters and alumni actively target LSE students from the Finance Department.

The Department of Finance

The Department of Finance is one of the largest finance groups in Europe and is recognised as being one of the leading finance research groups in the world. We are a research-led Department that is devoted to excellence in all fields of finance. Our world-leading faculty operate at the forefront of their fields internationally and we have a pre-eminent reputation for both our consistently excellent and cutting-edge research and rigorous, innovative and applicable taught degree programmes.

The development of the Department in recent years has been closely linked to the significant growth in finance research and teaching at LSE, feeding off the pioneering work of the LSE's Financial Markets Group and Department of Economics. As a result, we offer our diverse and international student body a range of academically challenging finance programmes that equip them with the tools to become future leaders in the finance sector and in academia.

“ We could very easily just teach students the current financial tools, the current ways in which firms finance their investments for example, but in 18 months that would all be old news. What is constant, however, are the underlying theories of Finance, so what we do at LSE is to help our students to fully understand these theories, this intuition, so that in the future they can encounter new problems and be able to adapt. ”

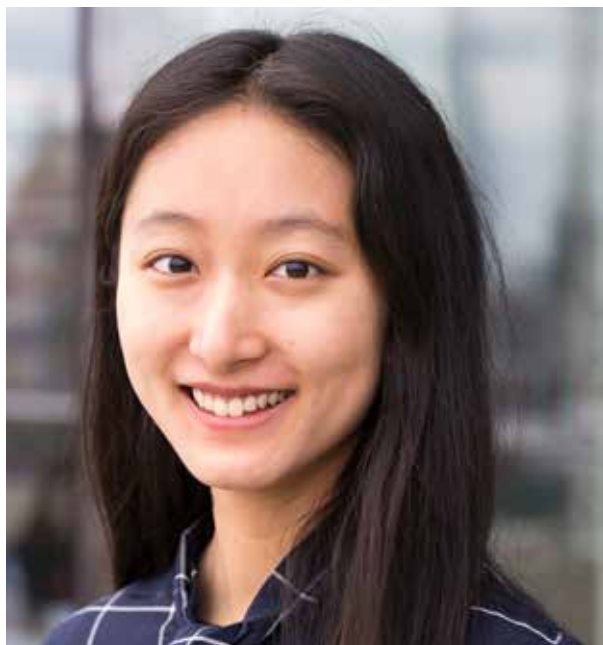
Professor Christopher Polk
Head of Department

The research activities of the Department are closely linked to the Financial Markets Group (FMG). Since its founding in 1987 by Charles Goodhart, Mervyn King and David Walker, the FMG has become one of the leading centres in Europe for academic research into financial markets, with strong links to the City and beyond. Its activities include weekly research seminars, funded research projects, post-doctoral research and a programme of major conferences and academic visitors that reflect its world-class prominence and reputation.

The FMG is currently headed by Professor Dimitri Vayanos, who is also a member of Finance faculty. Recent discussion papers cover topics as diverse as Bank Resolution and the Structure of Global Banks, Trading and Information Diffusion in Over-the-Counter Markets, Capital Requirements and Asset Prices, and the Quanto Theory of Exchange Rates. These are examples of ways in which our research continues to stimulate and lead debate in the finance field.

Alongside the FMG, the Department maintains strong links with research centres at other institutions around the world, as well as with the wider financial sector. Our proximity to the City and our reputation for excellence means that we are regularly able to attract high-profile professionals and sector leaders to speak at Department events, and to participate in conferences and practitioner seminars. This, in conjunction with the remarkably rich and stimulating events programme offered by LSE, enables us to give our students exposure to a quality of speakers that is unsurpassed in the world.

What our alumni say



The programme provides rigorous and challenging courses for financial economics, and helps to boost your academic research skills. I am impressed by the strong consistency of compulsory courses and preparatory courses. The fundamental knowledge learned in the preparatory courses are heavily applied in the courses that follow, and that truly reflects the careful design of the programme.

The programme offers great prospects for both research and professions, with top faculty and excellent career services. I strongly recommend students grasp all the opportunities and resources provided by the program to achieve their goals.

Xuan Ji

Bachelor in Civil Engineering and Construction Management, Bachelor in Economics, Tsinghua University, China

Now at China Investment Corporation



Working in Spain and in the USA in infrastructure finance gave me an international perspective on capital markets and investment decisions in the context of the infrastructure industry. My curiosity to develop an in-depth understanding of financial and economic issues, on a global scale, attracted me to the MSc in Finance & Economics.

I was awarded a Conversion Scholarship for Engineers to attend several Summer School courses before the start of the programme. These were key to enabling me to get to grips with the core courses quickly.

Looking back the programme provided me with a good integration of knowledge on financial markets and macroeconomics, which is extremely helpful for my work at the ECB, where I need to understand the interaction between monetary policy and money markets.

Jaime Gimeno Ribes

Master of Science in Civil Engineering, Polytechnic University of Valencia, Spain

Now at European Central Bank



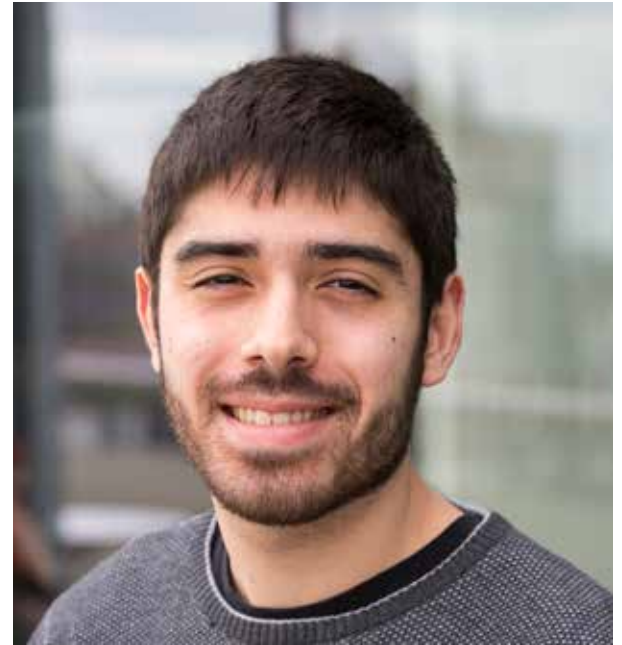
I came to the programme straight out of undergrad because I planned to pursue a PhD in economics or finance. Previous professors had told me that the F&E programme would provide a good foundation for PhD work (and a good chance of admission if I did well). This turned out to be true.

While at LSE, I was impressed by the commitment of the faculty and administration to help each student get where he or she wanted to be at the end of the year, whether that was a top PhD programme or a good job in industry. I would advise future F&E students to go to the faculty when they need some guidance about the programme or their future. I received some excellent advice from professors at LSE, who went out of their way to be helpful even to students they had not known for long.

Sarah Ridout

BA Philosophy, Politics and Economics, University of Oxford

Now a PhD Candidate in Economics, Harvard University



By joining the MSc Finance & Economics programme at such a prestigious university, you gain a competitive advantage, either in academia or in the corporate sector. The combination of both economics and finance, for someone who isn't sure which path to follow, is interesting due to the graduate-level exposure to both areas. The balance between theory (through the core courses) and practice (through the electives) was a key point in my decision.

The quality of the teaching and intensity of the programme, as well as the camaraderie with the cohort, have all helped my personal and professional development. I'd also highlight the support provided by the Department, specifically in terms of assisting with finding job openings and promoting several social networking events. Being at LSE has also made me consider the possibility of joining a PhD programme in the future.

Ricardo Rodrigues

Bachelor in Economics at Católica Lisbon, School of Business and Economics

Now at NERA Economic Consulting



Department of Finance Admissions
The London School of Economics and Political Science
Department of Finance
Room OLD 3.06, Old Building
Houghton Street
London WC2A 2AE

E-mail
finance.admissionsenquiries@lse.ac.uk

Tel

+44 (0)20 7955 6094

Websites
lse.ac.uk/finance
lse.ac.uk/finance/study

Photography: Nigel Stead, LSE Photographer, Simon J Tuck Photography,
Maria Moore

Produced by: Department of Finance, September 2018