



## Masters MATHEMATICAL FINANCE

The Masters in Mathematical Finance was designed to further the education in quantitative finance of students who already have a Bachelor's degree in Mathematics, Statistics, Physics, Economics, Finance or Management.

### Presentation:

The Masters Programme aims to develop students' mathematical and computational skills, and also those in financial modelling. The curriculum includes such subjects as probability theory, stochastic calculus, numerical methods, optimisation and control theory, stochastic finance, interest rate models and credit risk. It thus provides a thorough training in modern mathematical finance. In studying for our Masters, students are put in contact with the most important technical and quantitative topics of finance, both theoretical and applied, which range from mathematical background to the latest trends in the financial sector.

Increasingly, the financial sector demands a Masters degree in Mathematical Finance from a prestigious university as a prerequisite for recruitment. Our students have often been recruited by prominent companies whilst still preparing their Masters' thesis, at both a national and an international level. Amongst others, such companies include: EY, Mercer, KPMG,

Deloitte, CGD, the Bank of Portugal, BNP Paribas, BPI, Banque Européenne d'Investissement (EIB), Banque Centrale Européenne (ECB), Lloyds Bank, and Santander bank.

ISEG has well-established departments of Mathematics, Economics and Management, which enables our students to benefit from the consequent synergies, and provides excellent conditions for hosting the Masters in Mathematical Finance. This fact, together with the high quality of the academic staff of this Masters, all of whom hold PhDs from prestigious universities (such as the Stockholm School of Economics and the Universities of Oxford, Edinburgh and Barcelona), makes it unique in our country.

Double Degree in Mathematical Finance at ISEG with one semestre at Université de Lorraine, Nancy (France), or Uniwersytet Ekonomiczny w Poznaniu (Poland). This allows students to study for part of their degree at one of these other universities, obtaining two diplomas from ISEG and the other university.



**Start Date:**  
September



**Duration:**  
2 years



**Schedule:**  
Daytime



**Fees**  
**Students from UE:** €5.750  
**Students outside UE:** €6.750



**Scientific and Pedagogical Committee:**  
Professor (Ph.D)  
Maria do Rosário Grossinho

Professor (Ph.D)  
Onofre Simões

Professor (Ph.D)  
Jorge Barros Luís



**Language:**  
English



Ranked n°74 in the World  
Top 100 Best Masters in Financial Markets  
Global Ranking  
(www.best-masters.com)

ARPM - New York - Since 2016,  
a partnership of the Masters  
in Mathematical Finance with  
the Advanced Risk and Portfolio  
Management Bootcamp - ARPM  
at the University of New York



For further information please visit our website:  
[www.iseg.ulisboa.pt/cursos/mf](http://www.iseg.ulisboa.pt/cursos/mf)



# STUDY PROGRAMME

## 1<sup>st</sup> YEAR

CREDITS	1 <sup>st</sup> SEMESTER	CREDITS	2 <sup>nd</sup> SEMESTER
6	<b>MATHEMATICAL METHODS IN FINANCE</b> Maria do Rosário Grossinho	9	<b>STOCHASTIC CALCULUS</b> João Guerra
7.5	<b>FINANCIAL MARKETS AND INSTRUMENTS</b> Raquel Gaspar	6	<b>FINANCIAL ECONOMETRICS</b> Pierre Hoonhout
7.5	<b>PROGRAMMING TECHNIQUES</b> Raúl Brás	6	<b>FOUNDATIONS OF FINANCE THEORY</b> Agnieszka Bergel
9	<b>PROBABILITY THEORY AND STOCHASTIC PROCESSES</b> João Lopes Dias	9	<b>NUMERICAL METHODS IN FINANCE</b> Fernando Gonçalves

## 2<sup>nd</sup> YEAR

CREDITS	1 <sup>st</sup> SEMESTER	CREDITS	2 <sup>nd</sup> SEMESTER
6	<b>STOCHASTIC FINANCE IN CONTINUOUS TIME</b> Tomas Björk	30	<b>MASTERS FINAL WORK</b>
4.5	<b>INTEREST RATE AND CREDIT RISK MODELS</b> Jorge Barros Luís		
4.5	<b>OPTIMISATION AND CONTROL THEORY IN FINANCE</b> Manuel Guerra		
3	<b>LÉVY PROCESSES AND APPLICATIONS IN FINANCE</b> João Guerra		
12	<b>MASTERS FINAL WORK</b>		