Master of Science in Financial Markets,

2021-2022

******SYLLABUS TO BE UPDATED**: if it is still the same professor (s), you will find here, in gray, the description of the course of the previous academic year (2020-2021), **just** for information.*

GARP Global Association of Risk Professionals

Make an impact

SEMESTER 1

22_M2_VI_FE_FC_PDC_TRANSV_6979 - CORPORATE FINANCE & ASSET MARKETS

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	30	**ECTS**	5
SEMESTER	Semester 1	**CAMPUS**	Online/Virtual
COORDINATOR/EMAIL	Milos VULANOVIC		

COURSE OBJECTIVES

The objective of this course is to provide a solid grounding in the principles and practice of finance and develop the understanding of the tools necessary to make good financial decisions. This module aims to provide knowledge and understanding of key management issues in corporate finance and in the market for financial assets.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)

- LO1 use financial theory to solve practical problems
- LO2 to make financial decisions within the real-world constraints

More specifically, participants should be able to (skill- and competency-based outcomes)

- LO3 apply major valuation techniques
- LO4 maximize value of portfolio

PREREQUISITES

None

COURSE CONTENT

1. Goals and Governance of the Firm
2. How to Calculate Present Values
3. Valuing Bonds
4. The Value of Common Stocks
5. Net Present Value and Other investment criteria
6. Making Investment Decisions with NPV
7. Introduction to Risk and Return
8. Portfolio Theory and the Capital Asset Pricing Model
9. Risk and the Cost of Capital
10. Financial derivatives

MAIN TEACHING & LEARNING METHODS

Distance Learning Blended Learning Lectures

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continous Assessment Individual	40	Quiz outside class (Prof + schedule)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Final Exam	60	Exam outside class (Hub + schedule)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Principles of Corporate Finance by Richard Brealey, Stew- art Myers and Franklin Allen, McGraw-Hill, any addition after 10th

22_M2_VI_FE_FC_PDC_TRANSV_6991 - FIXED INCOME & DERIVATIVES

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Climate Change & Sustainable Finance	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	30	**ECTS**	5
SEMESTER	Semester 1	**CAMPUS**	Online/Virtual
COORDINATOR/EMAIL	Laurent DEVILLE & Fabrice GUEZ		

COURSE OBJECTIVES

Fixed Income and derivative instruments play a key role in transferring risks in the economy and are commonly used in investment and corporate financial management. This course offers a first exploration of the world of derivatives securities such as forwards, futures, swaps and options. The purpose of this course is to provide the grounds for a good understanding of how these instruments trade, how they can be valued and how they should be used

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)

- LO1 how no arbitrage can be used to value fixed income and derivatives securities
- LO2 the motives for using fixed income securities and derivatives

More specifically, participants should be able to (skill- and competency-based outcomes)

- LO3 build fixed income and derivatives portfolios fitting specific needs and/or expectations
- LO4 price fixed income and derivatives instruments

PREREQUISITES

None

COURSE CONTENT

Week 1 – The structure of Interest rate markets
Week 2 – Bond Risk Measures, Yield curve Modeling and bond management strategies
Week 3 – Futures and Forwards
Week 4 - Interest rate swaps and Counterparty Credit Risk Adjustments
Week 5 – Mechanics of options markets and discrete-time option pricing
Week 6 – Continuous-time option pricing, interest rate options, and the “Greeks”

MAIN TEACHING & LEARNING METHODS

Lectures	Distance Learning

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continuous Assessment Individual	45%	Take home assignment on Fixed Income securities	Over several days	☒LO1 ☒LO2 ☒LO3 ☒LO4
2	Continuous Assessment Individual	45%	Take home assignment on Derivatives	Over several days	☒LO1 ☒LO2 ☒LO3 ☒LO4
3	Continuous Assessment Individual	10%	Completion of all online modules and quizzes	Not apply	☒LO1 ☒LO2 ☒LO3 ☒LO4

REQUIRED READING

Complete scenario for this course is posted on Blackboard. It includes, for each week, recordings, factsheets, slides and exercises.
It is important to note that all this material is subjected to exam questioning.

22_M2_VI_FE_FC_PDC_TRANSV_6980 - DATA SCIENCE WITH R

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	30	**ECTS**	5
SEMESTER	Semester 1	**CAMPUS**	Online/Virtual
COORDINATOR/EMAIL	Edouard MATHIEU		

COURSE OBJECTIVES

This course is run as a combination of two modules: Basics in Statistics and Introduction to Coding with R through EDHEC's Online Unit. We strongly recommend completing the modules in parallel, one week at a time.
This Basics in Statistics module presents the basic principles of statistical data analysis (description, estimation, testing), as well as the most common statistical methods such as linear regression.
The Introduction to Coding with R module

- Introduces R, a standard and powerful programming language well suited for data analysis: its objects and its syntax
- Presents Anaconda and RStudio, two user-friendly working environments for R
- resents selected built-in functions that perform common tasks.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)

- LO1 Know the main statistical indicators to analyze empirical data; Know what a (random) variable is/ Know the standard probability distributions
- LO2 Understand the basics of good coding practice and habits

More specifically, participants should be able to (skill- and competency-based outcomes)

- LO3 Create appropriate graphs for statistical analysis, create or calculate and interpret confidence intervals and p-values, run and interpret linear regression models
- LO4 Write and test R code in a Jupyter notebook or R Studio, import and manipulate data from standard formats, use built in R functions to perform basic statistics

PREREQUISITES

Students must have knowledge of elementary algebra.
Students need a computer equipped with Windows Vista/7/8/10 or MacOS X (10.6 and above is fine for R, but 10.13 and above is needed for RStudio)
No knowledge of a specific coding language is expected, although some previous practice of coding is an asset, whatever the language (VBA, Python, Java, Matlab…). Students will be guided through the installation of Anaconda and RStudio at the start of the course, and will need at least one of them to complete the assignments.

COURSE CONTENT

For this course, we recommend that you run the two modules in parallel, week by week. The continuous assessment from the Basics in Statistics Module will account for 30% of your grade, likewise for the that of Introduction to Coding with R. The remaining 40% of your grade will be attributed for an individual project combining elements of both modules.

MAIN TEACHING & LEARNING METHODS

Distance Learning

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Duration (if invigilated exam) and format	Main Learning Objective Evaluated
1	Continous Assessment Individual	30	*See below*	☒LO1 ☐LO2 ☐LO3 ☐LO4
2	Continous Assessment Individual	30	*See below*	☐LO1 ☒LO2 ☐LO3 ☒LO4
3	Continous Assessment Individual	40	*See below*	☒LO1 ☒LO2 ☒LO3 ☒LO4

ASSESSMENT TYPE	TYPE	% TOTAL GRADE	DETAILS	LENGTH	EVALUATED LEARNIN
Multiple-choice questionnaire for each week + Final Multiple choice questionnaire in Basic Statistics	10 questions + 40 questions	30% (1/4 for weekly quizzes and ¾ for final questionnaire)	Multiple choice	30 minutes weekly 2 hours final	Course of the week Overall course
Weekly practical exercise to be done in R in Introduction to Coding with R		30%	Students are expected to submit an Excel file with the answers to the exercise	<= 1 hour	Content of current week and past weeks
Final mini-project to be done in R using statistical concepts		40%	Explicit directions will be forthcoming from professor	➢ Two hours	Content of both modules

REQUIRED READING

No mandatory reading for this course.

To check the syntax of a function (number of arguments, size and types of arguments…), see the reference manual at https://www.rdocumentation.org/.

To go way beyond the basics, two books co-authored by Hadley Wickham, a R expert and the author of several R packages, and freely available online:

- R for Data Science (https://r4ds.had.co.nz/)
- Advanced R (https://adv-r.hadley.nz/). This book dives into the structure of the language and deals with advanced programming themes, like functional programming, object-oriented programming and memory management.

For those interested in developing web applications with R and Shiny (intermediate to expert users), another book by Wickham:

- Mastering Shiny (https://mastering-shiny.org/)

No mandatory reading for this course.

Two complementary readings for this course can be:
Introduction to Statistics and Data Analysis, Heumann C. and Schomaker M. and Shalabh , Springer (2016)
Mann's Introductory statistics, 9th Edition, Global Edition, Wiley (2017).

22_M2_VI_FE_FC_PDC_TRANSV_6984 - EXCEL

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	30	**ECTS**	5
SEMESTER	Semester 1	**CAMPUS**	Online/Virtual
COORDINATOR/EMAIL	Jérémie LANIEZ		

COURSE OBJECTIVES

Once the basics of excel are obtained, this course will offer students a whole new range of tools to enhance their performance and allow them to create dynamic user-oriented interfaces. The overall understanding of Excel's mechanics will be greatly enhanced.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Excel UI, advanced design features for the modelling of dynamic spreadsheets
- LO2 Full understanding of formulas and functions, value types, and the very basics of VBA.

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Efficiently work with very large tables of dynamic data
- LO4 Use advanced features like names, dynamic pictures, controls, and macros.

PREREQUISITES

A basic experience with Excel: general UI, formulas, basic functions, and the address system (absolute & relative). Students not familiar with the basics of excel should take an introductory online course such as Linkedin Learning courses "Learning Excel 2016" or "Learning Excel 2019".

COURSE CONTENT

5 chapters of online videos and tutorials, with course support on PDF documents, to build a project step by step.
Dynamic pictures and controls, function INDEX, INDIRECT, LOOKUP, pivot tables, CSV file, formats, and charts.

MAIN TEACHING & LEARNING METHODS

Distance Learning

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Final Exam	60%	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continous Assessment Individual	40%	Assignment (Prof)	Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

If you are a beginner with Excel:
Chapters 1 to 14 from Excel 2013 Formulas and Functions, Paul McFedries,
Que Publishing, ISBN-10: 0-13-326072-0 ISBN-13: 978-0-13-326072-4
link:
http://www.quepublishing.com/store/excel-2013-formulas-and-functions-978013326072

22_M2_NI_FE_SUM_PDC_TRANSV_6575 - INTRODUCTION TO PORTFOLIO CONSTRUCTION AND ANALYSIS WITH PYTHON, ON COURSERA, OFFERED BY EDHEC RISK INSTITUTE

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	-	**ECTS**	-
SEMESTER	Semester 1	**CAMPUS**	Online/Virtual
COORDINATOR/EMAIL	Mario HERNANDEZ TINOCO		

COURSE OBJECTIVES

Online Course "Introduction to Portfolio Construction and Management with Python" by Vijay Vaidyanathan, PhD and Lionel Martellini, PhD, available on Coursera: The practice of investment management has been transformed in recent years by computational methods This course provides an introduction to the underlying science, with the aim of giving you a thorough understanding of that scientific basis. The course helps you build on that foundation in a practical manner, with emphasis on the hands-on implementation of those ideas in the Python Programming Language.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Identify and understand the fundamental concepts of Finance and Portfolio Construction.
- LO2 Understand and implement Python code in the field of Investments and Portfolio Construction and Analysis.

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 To get familiar and use industry-level Python programming language code and modules for Finance and Portfolio Construction and Analysis
- LO4 Translate investment, portfolio-construction, risk-management ideas into Python code and test their performance.

PREREQUISITES

Successfully complete the online Course "Introduction to Portfolio Construction and Management with Python" by Vijay Vaidyanathan, PhD and Lionel Martellini, PhD, available on Coursera. Students are required to pass all graded assignments to complete the online course.

COURSE CONTENT

The content of the Online Course "Introduction to Portfolio Construction and Management" (per week) by Vijay Vaidyanathan, PhD and Lionel Martellini, PhD, is the following:

1. Analyzing Returns
2. An Introduction to Portfolio Optimization
3. Beyond Diversification
4. Introduction to Asset Liability Management

Supervision and guidance will be provided.

MAIN TEACHING & LEARNING METHODS

Consulting	Coaching	Choose an item.	Choose an item.

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continous Assessment Individual	100%	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

22_M2_NI_FE_S1_CCO_TICD_6792 - TI&CD

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	45	**ECTS**	2
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Jérôme TROIANO, Student Career Center		

COURSE OBJECTIVES

The Talent Identification & Career Development assessment centre helps you prepare for competitive recruitment processes. It is the initial stage of a process that includes individual coaching, assessment centre workshops, and the possibility to further develop the competencies & attitudes that you will need to have a successful career.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- You will be able to present in a synthetic and structured way your opinion
- You will develop a transversal analysis
- You will understand the importance of attitudes and competencies when it comes to convincing someone
- You will be expected to pitch in a convincing way and understand the delivery is as important as the content
- You will not only focus on the current situation but also anticipate future challenges and opportunities

COURSE CONTENT

You will complete the following exercises:

- A case presentation
- A strength-based interview (see attached the list of the competencies evaluated by the facilitator)
- A group exercise

Followed by an Individual career coaching in October

MAIN TEACHING & LEARNING METHODS

Case Studies | Group Exercise | Indivudual case presentation | Coaching session

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continous Assessment Individual	25	Oral in class (Prof)	60 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continous Assessment Individual	25	Oral in class (Prof)	60 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
3	Continuous Assessment Group	25	Oral in class (Prof)	60 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
4	Continous Assessment Individual	25	Oral in class (Prof)	60 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

22_M2_NI_FMK_S1_CCO_7036 - ADVANCED PORTFOLIO MANAGEMENT

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	36	**ECTS**	6
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Laurent CALVET & Abraham LIOUI		

Part I: THE DISCRETE-TIME CASE with Laurent CALVET

COURSE OBJECTIVES

The objective of the course is to provide students with state-of-the-art answers to two fundamental questions: i) how do/should we measure risk? and ii) how do/should we measure risk reward? The answers to these questions will include Arbitrage Pricing Theory (APT), utility functions, optimal consumption-saving decisions, and equilibrium asset pricing.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Implement arbitrage pricing methods
- LO2 Understand the economic drivers of equilibrium pricing

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Use multifactor models
- LO4 Develop a thorough understanding of expected utility, Euler equations, and the consumption CAPM in discrete time

PREREQUISITES

Foundations of Finance, Portfolio Construction Theory, introductory courses in Probability and Statistics

COURSE CONTENT

Arbitrage Pricing Theory
Equilibrium I: The Certainty Case
Decision Making Under Uncertainty
Portfolio Choice Theory
Equilibrium II: The Uncertainty Case

MAIN TEACHING & LEARNING METHODS

Lectures Case Studies Class Discussions

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continuous Assessment Group	25%	Assignment (Prof)	Over several days	☒LO1 ☐LO2 ☒LO3 ☐LO4 ☐All LO
2	Final Exam	75%	Exam outside class (Hub + schedule)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Back, K., 2010, Asset Pricing and Portfolio Choice Theory, Oxford University Press.

Part II: THE CONTINUOUS TIME CASE

COURSE OBJECTIVES

This is an advanced course in portfolio management. It addresses the usual financial issues like portfolio choice and asset pricing from the perspective of a long-term investor in the economy. A standing assumption is the realistic ability of traders/investors/consumers to rebalance frequently their portfolios. Horizon dependent investment strategies emerge naturally together with multifactor asset pricing models.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 How investment horizon tilts asset allocation
- LO2 What are the implications for asset prices of the relevance of investment horizons

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Solve dynamic portfolio choice problems
- LO4 Compute equilibria in dynamic economies

PREREQUISITES

All the required mathematical background will be provided.

COURSE CONTENT

Lecture 1: Introduction
Lecture 2: Mathematical tools for continuous-time finance
Lecture 3: Dynamic Portfolio Management: the dynamic programming approach
Lecture 4: The Martingale Approach to Finance
Lecture 5: Dynamic Portfolio Management: the Martingale Approach
Lecture 6: Equilibrium Asset Pricing (CAPM, ICAPM, CCAPM)

MAIN TEACHING & LEARNING METHODS

Lectures	Case Studies	Class Discussions	Choose an item.

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continuous Assessment Group	25	Assignment (Prof)	Over several days	☒LO1 ☐LO2 ☒LO3 ☐LO4 ☐All LO
2	Final Exam	75	Exam outside class (Hub + schedule)	120 minutes	☒LO1 ☒LO2 ☒LO3 ☒LO4 ☒All LO

REQUIRED READING

Stochastic Calculus for Finance II Continuous-Time Models, S. Shreve, Springer Finance - Chapters 1, 2, 3 and 4
Introduction to the Economics and Mathematics of Financial Markets, Jaksa Cvitanic and Fernando Zapatero, MIT Press - Chpters 3, 4, 6, 12 and 13

22_M2_NI_FE_S1_CCO_TRANSV_6997 - LEADERSHIP AND MANAGERIAL SKILLS

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	12	**ECTS**	2
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Anne WITTE		

COURSE OBJECTIVES

This seminar aims to develop the cognitive and behavioural abilities to manage and lead effectively across cultures particularly for students pursuing careers in finance.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)

- LO1 The role of managers and their leadership challenges
- LO2 Cultural analysis and sense making in the context of country risk analysis

More specifically, participants should be able to (skill- and competency-based outcomes)

- LO3 Gain practical experience with diversity by working in international teams effectively and productively
- LO4 Question stereotypes through heightened cultural awareness and the critical analysis of diverse leadership styles

PREREQUISITES

Three years of general business courses or Bac + 3 Business Administration.
Proficiency in English
A background communication course can be helpful

COURSE CONTENT

- Phase 1: World Culture Challenge –(these quiz will benchmark your familiarity with places around the world)
- Phase 2: Leadership and Finance – required reading and viewing (presentation 1)
- Phase 3: What are the qualities of a leader? See the film by Clint Eastwood 2016, “Sully” Warner Bros.
- Phase 4: Group Simulation (presentation 2)

MAIN TEACHING & LEARNING METHODS

Case Studies | Class Discussions | Blended Learning | Field Trips

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continuous Assessment Group	50	Oral in class (Prof)	30 minutes	☒LO1 ☒LO2 ☐LO3 ☐LO4 ☐All LO
2	Continuous Assessment Group	50	Oral in class (Prof)	30 minutes	☐LO1 ☐LO2 ☒LO3 ☒LO4 ☐All LO

REQUIRED READING

Daniel Goleman, Michael D. Watkins, Herminia Ibarra, Michael E. Porter.
HBR’s 10 Must Reads on Leadership, Vol. 2 (with Bonus Article “The Focused Leader” By Daniel Goleman). Harvard Business Review Press; 2020. https://search-ebscohost-com.ezproxy.univ-catholille.fr/login.aspx?direct=true&db=nlebk&AN=2201520&site=ehost-live&scope=site (chapters Strategic Leadership & “The Focused Leader””.

22_M2_NI_FMK_S1_CCO_2764 - ADVANCED FIXED INCOME ANALYSIS

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Riccardo REBONATO		

COURSE OBJECTIVES

The objective of the course is to build on the concepts learnt in the course Introduction to Fixed Income, and to deepen the understanding of how fixed-income markets work. The main focus is on the Government Bond Markets and the LIBOR markets, with a secondary focus on credit bonds. The purpose of the course is to blend a solid understanding of fixed-income principles with the reality of market features and products such as bond futures, trading strategies, the role of liquidity, embedded options, etc.

LEARNING After taking the course, the student will be able to

- **understand, calculate and critically use yield to maturities, par coupon rates, duration, convexity, etc;**
- **decompose a market risk curve in its components of expectation, convexity and risk premia**
- **identify the factors (macrofinancial – such as inflation, real rates, etc – and yield-curve based – such as Principal Components) that explain changes in the shape of the yield curve**
- **build a smooth par yield curve (eg, Nelson-Siegel)**
- **assess the relative value of different bonds (fundamentals of cheap/dear analysis) and various classic trading strategies ("carry" trades, roll-down, steepeners, barbells, etc)**
- **hedge a fixed-income portfolio**
- **understand various equivalent formulations of the conditions of no-arbitrage for bonds**
- **understand the basics of an affine dynamic Gaussian model (such as Vasicek and its extensions)**
- **gather the conceptual tools to be able to read the modern fixed-income literature**
- **make the connections between the Government bond market and the swap (LIBOR) market**
- **understand the mechanics of bond futures, repo market, and asset swaps, and how and why swaps are used.**
- **Understand the basics of pricing for risky bonds and empirical default data.**

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- The components of a yield (expectations, risk premia and convexity) and to relate them to real market conditions
- understand the concept of no-arbitrage and risk premia.

More specifically, participants should be able to (skill- and competency-based outcomes):

- Hedge complex interest-rate portfolios
- Value risky and risk-less fixed income instruments
- Understand how fixed income products (swaps, bonds, etc) are used n in practice
- Understand the essence of fixed-income trading

PREREQUISITES

The mathematical requirements will be kept to what is strictly necessary, but the student must have a solid understanding of basic calculus (partial derivatives, integrals, elementary series, etc); Have taken an introductory course on Fixed Income. Be familiar with MS Excel and with a programming language such as MatLab or Visual Basic; C++ not needed. Be willing and happy to work with real data.

COURSE CONTENT

- **Lecture 1: Revisiting fundamental concepts. The mechanics of coupon bonds, zero-coupon bonds, and indexed-linked bonds. Clean and dirty prices. Forward rates, forward yields, forward par rates; yields to maturity, par-coupon rates, discount factors, duration, convexity. Understanding uses and limitations of each. Decomposition of yields into its expectations, convexity and risk premium components.**
- **Lecture 2: The risks of a bond. The macrofinancial variables that affect the value of bonds: inflation risk, real-rate risk, liquidity risk. Synthetic description of yield curve changes via Principal Components. First 'informal' introduction of a mean-reverting model (such as Vasicek's). Its strengths and shortcomings.**
- **Lecture 3: Building an exact and a smooth par yield curve. Exact fitting versus best-fit. How to construct a par-coupon curve – Nelson Siegal and other methods. Relative value analysis. Rationale for different trading strategies: carry trades, roll-down, convexity trading, barbells, etc. Forwards-come-true versus yields-do-not change. The historical profitability for these trades, and economic reasons.**
- **Lecture 4: Case study: After accessing publicly available data from the Fed, the students will engage in the building of the discount curve, the evaluation of cheap/dear bonds, the assessment of the Sharpe ratios of various simple trading strategies.**
- **Lecture 5: No Arbitrage: A Dynamic Affine No-Arbitrage modelling Beyond Vasicek. Simple derivation of the conditions of no-arbitrage for bonds, in several equivalent formulations. Simple introduction to the stochastic discount factor. Discussion of, and theoretical results from, a non-trivial mean-reverting affine model. The P and Q measure distinction. Analysis of the properties of the model: mean reversion, volatility, expectations, no-arbitrage, etc. Emphasis on how to fit an affine model.**
- **Lecture 6: Hedging a fixed-income portfolio. Model-based and model-independent hedging. Duration and convexity revisited and generalized. Hedging a complex portfolio: KRDs, risk-factor (Principal Components) hedging, "bumping", recalibration, etc. "Reverse stress testing" of a linear fixed income portfolio.**
- **Lecture 7: Market features and products.** Liquidity, market segmentation, bond futures (conversion factor, fundamentals of delivery option, timing option, quality option), repo market. Active and passive management of fixed-income portfolios. Bond indices: construction, tracking error, introduction to "smart beta".

- **Lecture 8: The LIBOR market.** The links between the government and the LIBOR swap market. The equilibrium swap rate. Interest Rate Swaps, FRAs, futures. The OIS curve. Valuing a swap (new and aged). Hedging using Eurodollar futures. The swap-Treasury basis and its behaviour. Inflation swaps. Asset swaps.
- **Lecture 9: Evaluating the optionality embedded in bonds.** Reasons for issuing callable and puttable bonds. Why the "yield-to-first" and "yield-to-worst" do not work. Evaluation of the embedded options (stand-alone and using a no-arbitrage model). The option value of the near-zero bound. The "default option" – with applications to European peripheral bonds.
- **Lecture 10: Case study 2: Analysis of a market event: the 2013 'Taper tantrum". After downloading data from the Fed, the students will analyze the changes in the real and nominal yield curve, explore which hedges would have worked well ex-ante, and attempt to decompose the observed market changes in expectations on the real rate and inflation, liquidity, risk premia, etc.**

ASSESSMENT Final exam

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Final Exam	100 %	Exam outside class (Hub + schedule)		☒LO1 ☒LO2 ☒LO3 ☒LO4 ☒All LO

REQUIRED READING

The compulsory readings will be:

- "Fixed-Income Securities" by Lionel Martellini, Philippe Priaulet (John Wiley),
- "Bond Pricing and Yield Curve Modelling" by Riccardo Rebonato (Cambridge University Press, pdf distributed before the course) and selected papers that will be distributed during the course.

Several optional books and articles (not necessarily textbooks) will be suggested.

22_M2_NI_FMK_S1_CCO_5403 - INTRODUCTION TO MACHINE LEARNING

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Dominic O'KANE		

COURSE OBJECTIVES

This course is a hands-on introduction to the main Machine Learning approaches, explaining their theory and practical application via a broad set of case studies. It also teaches the student the powerful and popular Python ML modelling framework Scikit-learn.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Be familiar with the most used machine learning approaches for supervised learning.
- LO2 Know what the important metrics are in ML and their significance.
- LO3 Be able to perform a full ML analysis from start to finish.
- LO4 Be able to assess the statistical importance of an ML analysis.

PREREQUISITES

Good Python knowledge.

COURSE CONTENT

- Overview of machine learning – supervised and unsupervised learning.
- Data preparation, categorical data, missing data, and visualization for supervised learning.
  Linear and polynomial regressions using batch and stochastic gradient descent.
- Classification models – Decision Trees, KNN, SVM, Bayes, Ensembles – Random Forests and Boosting, Multilayer Neural Nets.
- Performance metrics – Accuracy, error rate, confusion matrices, ROC and AUC curves.
- Unsupervised learning – clustering, dimensionality reduction, PCA.
- Lots of case studies – credit scoring, cancer detection, house price prediction, SPAM classification.

MAIN TEACHING & LEARNING METHODS

Lectures Case Studies Group Work

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Final Exam	70	Exam outside class (Hub + schedule)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continuous Assessment Group	15	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
3	Continuous Assessment Group	15	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Recommended text: Hands-on Machine Learning by Aurelien Geron

22_M2_NI_FE_S1_CCO_TRANSV_6998 - RESEARCH METHODOLOGY **

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	12	**ECTS**	2
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	TBD		

NEW COURSE

COURSE OBJECTIVES

Click or tap here to enter text.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Tap here to enter text.
- LO2 Tap here to enter text.

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Tap here to enter text.
- LO4 Tap here to enter text.

PREREQUISITES

Click or tap here to enter text.

COURSE CONTENT

Tap here to enter text.

MAIN TEACHING & LEARNING METHODS

Choose an item. Choose an item. Choose an item. Choose an item.

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
2	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
3	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
4	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO

REQUIRED READING

Tap here to enter text.

22_M2_NI_FMK_S1_CCO_5662 - MARKET MICROSTRUCTURE - IMPLEMENTING PORTFOLIO DECISION

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Gianpaolo PARISE		

COURSE OBJECTIVES

The course focuses on the interactions between volatility, liquidity, price discovery, and market design. The main goal of the course is to provide a framework for the analysis of price movements and trading volume. After the course students will be aware of models of microstructure and how they can be adapted to study the effects of recent changes in market structures and trading technologies (e.g., high frequency trading).

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 The importance of liquidity
- LO2 How financial markets work

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Be able to measure liquidity
- LO4 Understand the role of asymmetric information and risk-aversion in price formation

PREREQUISITES

Basics of capital markets, microeconomics, and econometrics. Some coding skills are required

COURSE CONTENT

Lecture 1: Trading mechanisms and market structure
Lecture 2: Measuring liquidity
Lecture 3: Trading and information
Lecture 4: Competition and inventories
Lecture 5: Trade size and market depth
Lecture 6: Market fragmentation
Lecture 7: Asset prices and liquidity
Lecture 8: Exam simulation and wrap up

MAIN TEACHING & LEARNING METHODS

Lectures	Class Discussions	Group Work	Choose an item.

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Final Exam	70%	Exam outside class (Hub + schedule)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continuous Assessment Group	20%	Written Work in class (Prof)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
3	Continous Assessment Individual	10%	Oral in class (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Foucault, T., Pagano, M., Roell, A., & Röell, A. (2013). Market liquidity: theory, evidence, and policy. Oxford University Press.
Hasbrouck, J. (2007). Empirical market microstructure: The institutions, economics, and econometrics of securities trading. Oxford University Press.

22_M2_NI_FMK_S1_CCO_848 - ADVANCED DERIVATIVES

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Dominic O'KANE		

COURSE OBJECTIVES

The main objective is to provide an in-depth survey of the main derivatives markets, the main products traded, why they are used, and how they are priced and hedged. Coverage is broad and includes equity, currency, interest rate and credit derivatives.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Be familiar with the main derivative types traded in the financial markets
- LO2 Know which models are used for different products and why.
- LO3 Be able to analyze a structured product and determine if the price is correct.
- LO4 Be able to build a simple valuation model or determine a possible hedging strategy for a new derivative payoff.

PREREQUISITES

Good Excel and Python knowledge. A basic knowledge of financial derivatives.

COURSE CONTENT

- Introduction to Derivatives markets and structured products
- Mathematical intro – modelling uncertainty
  Beyond Black Scholes – Volatility skew, smile, transaction costs
- Monte Carlo Simulation in Excel and Python – Variance reduction methods
  Equity and FX option types: Digitals, Barriers, One-touch, Cliquet, Baskets, Variance swaps, Principal protection
- IR derivatives: Libor, Deposits, FRAs, OIS, Risk-Free rates, Interest rate swaps, One-curve vs Two-curve, Caps, Floors, Swaptions
- Credit Derivatives: CDS, CDS Indices, CVA
- Using Bloomberg and FinancePy.

MAIN TEACHING & LEARNING METHODS

Lectures Case Studies Group Work

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Final Exam	70	Exam outside class (Hub + schedule)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continuous Assessment Group	15	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
3	Continuous Assessment Group	15	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Options, Futures and other Derivative Securities, John Hull.

22_M2_NI_FMK_S1_CCO_7041 - VBA PROGRAMMING SOLUTIONS FOR FINANCE

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	12	**ECTS**	2
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Alessandro GASTALDELLO		

COURSE OBJECTIVES

This course is designed to introduce students to Visual Basic for Application (VBA). Students will implement solutions for fixed income and asset pricing tasks. The course presents how to create codes as well as how to present them in a proper format on spreadheets.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Excel and VBA pocedures and tools
- LO2 Structure of the codes

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Read codes and spreasheets produced by other users
- LO4 Solve and implement financial problems in VBA

PREREQUISITES

A basic knowledge of Excel proves useful.

COURSE CONTENT

Lecture	Contents	Examples
L1. VBA: variables, subs and functions	• VBA, general functioning • Defining variables • Recording Macros • Statistical analysis	• Practical applications in VBA
L2. Solver & Efficient Frontier, Binomial Trees vs Black & Scholes (Part 1)	• How to program the solver • Recap on the Efficient Frontier • Binomial Model for Option Pricing	• Case study: portfolio optimization • Building the Efficient Frontier
L3. Binomial Trees vs Black & Scholes (Part 2), Monte Carlo and Rates Interpolation	• Black & Scholes • Comparison • Monte Carlo and Short Term Rate models	• Implementations in Excel and VBA • GBM and Monte Carlo
L4. Error handling, Hedging strategies and Presentation of the assignment	• Error Handling • Stop Loss • Delta Hedging	• Practical applications in VBA

MAIN TEACHING & LEARNING METHODS

Lectures	Class Discussions	Case Studies	Group Work

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Final Exam	75%	Assignment (Prof)	Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continous Assessment Individual	25%	Assignment (Prof)	Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

The Final Exam consists of an group take-home assignment (the text will be posted on Blackboard) for which students will be required to produce a report (max 5 pages) explaining the codes applied and the financial interpretation of results obtained. Copying will result in a score of zero. No submission on delay will be evaluated.

REQUIRED READING

Slides, examples, homeworks and codes implemented during classes are fundamental and useful, although not strictly mandatory.
The following textbooks are not mandatory, but highly recommended:

- Walkenbach, J. (2013) Excel VBA programming for dummies, John Wiley & Sons, Hoboken , New Jersey
- Jelen, B. and T. Syrstad (2014) VBA and macros: Microsoft Excel 2010, Que Publishing, Indianapolis, Indiana
- M. Jackson and M. Staunton (2001), Advanced Modelling in Finance using Excel and VBA, John Wiley & Sons, Hoboken , New Jersey.

22_M2_NI_FE_S1_CCO_HUM_INCOMNODD_173 - VALUE, COOPERATION AND TRUST (ONLY FOR VISITING)

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	36	**ECTS**	6
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Anne WITTE		

COURSE OBJECTIVES

The course proposes a comparative analysis of world cultures from the perspective of values and values change drawing essentially from the World Values Surveys. By investigating how different value systems generate economic behaviour and sustain political frameworks, it is possible to evaluate critically those that respond well or less well to competition, capitalism and social justice.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)

- LO1 Values theory and the implications of these theories on businesses and society
- LO2 The moral, historical and cultural factors impacting economies over history

More specifically, participants should be able to (skill- and competency-based outcomes)

- LO3 Evaluate the impact of public and private institutions (education, courts, religion) on economic outcomes and the ability to generate human, cultural and social capital
- LO4 Take a critical perspective on how cultural, social and ethical priorities of societies have enduring impact on economic behavior and the organization of trade

PREREQUISITES

Three years of general business courses or Bac + 3 Business Administration. Descriptive statistics are helpful as well as general knowledge of contemporary political and social contexts worldwide.

COURSE CONTENT

- Definitions of Key Concepts: Values, Cooperation & Trust
- Measuring & Testing in the Social Sciences – social, cultural and political surveys
- Morality – Review of traditional models and Jonathan Haidt's models
- Trust
- Social capital
- Political Systems and Value Systems
- Economics Systems and Value Systems

MAIN TEACHING & LEARNING METHODS

Lectures | Group Work | Blended Learning | Class Discussions

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continuous Assessment Group	40%	Oral in class (Prof)	Less than 30 minutes	☐LO1 ☐LO2 ☒LO3 ☒LO4 ☐All LO
2	Continous Assessment Individual	10%	Oral in class (Prof)	Over several days	☒LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
3	Continuous Assessment Group	10%	Oral in class (Prof)	30 minutes	☐LO1 ☒LO2 ☐LO3 ☐LO4 ☐All LO
4	Final Exam	40%	Exam outside class (Hub + schedule)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Schwartz, S. (2010) An Overview of the Schwartz Theory of Basic Values, Online Readings in Psychology and Culture, 2(1). http://dx.doi.org/10.9707/2307-0919.1116
Graham, J., Iyer, R., Nosek, B., Haidt, J., Koleva, S., Ditto, P. (2011) Mapping the Moral Domain, Journal of Personality and Social Psychology, Vol. 101:2, 366-385.
Welzel, Ch. & Delhey, J. (2015) Generalizing Trust: The Benign Force of Emancipation, Journal of Cross Cutlural Psychology, 46(7), 875-896.

22_M2_NI_FE_S1_LV2_FLE_INCOMINGNODD_1351 - FRENCH COURSE (ONLY FOR VISITING & IC)

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	30	**ECTS**	3
SEMESTER	Semester 1	**CAMPUS**	Nice
COORDINATOR/EMAIL	Liz DICKSON		

COURSE OBJECTIVES

Level 1: knowledge of basic grammatical structures, basic daily communication vocabulary, socio-cultural life of France. A1 (CEFR) level.
Level 2: master the most common communication situations, discover France (geography, customs, social life), participate in discussions and present one's opinions clearly, fill gaps in grammar. A2/B1 (CEFR) level.
Level 3: discover business French and life of an enterprise in the French socio-economic context, communicate in the business world. B2/C1 (CEFR) level.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)
Level 1:
LO1: Master basic conversation skills.
LO2: Carry out basic everyday tasks in the French language.
Level 2:
LO1: Master written and spoken French in a social context.
LO2: Master written and spoken French in a business context.
Level 3:
LO1: Be able to use French in various business simulations.
LO2: Master business French.
LO3: Understand French companies and how they work.

PREREQUISITES

Level 1: None. A0 (CEFR) level.
Level 2: To be able to speak, write and understand basic French. A1 (CEFR) level.
Level 3: To be able to speak, write and understand French at advanced level B1 (CEFR) level.

COURSE CONTENT

Level 1: Introducing / Speaking about oneself and someone / Making simple reservations / Asking for directions or for information / Shopping / Making simple descriptions.
Level 2: Communicate with ease / Undertake administrative procedures / Make reservations / Write, send e-mail messages, letters / Understand documents and discuss a particular topic.
Level 3: Various aspects of a firm's life internally and in its relations with the outside world / Legal business forms / Employment / Advertising / Banking / Suppliers.

MAIN TEACHING & LEARNING METHODS

Lectures | Group Work | Class Discussions | Presentations (oral or group)

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continous Assessment Individual	60% continous assessment		Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continous Assessment Individual	15% participation		Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
3	Continous Assessment Individual	For levels 2 & 3: 25% final oral	Oral in class (Prof)	Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
		For level 1: 25% final oral	Oral in class (Prof)		☒LO1 ☒LO2 ☐LO3 ☐LO4 ☐All LO

REQUIRED READING

"Grammaire Progressive du Français", CLE INTERNATIONAL/ French newspapers or online news.

SEMESTER 2

22_M2_NI_FE_S2_CCO_TRANSV_760 - REGULATION & ETHICS IN FINANCE **

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Geert DEMUIJNCK		

NEW COURSE

COURSE OBJECTIVES

Click or tap here to enter text.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Tap here to enter text.
- LO2 Tap here to enter text.

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Tap here to enter text.
- LO4 Tap here to enter text.

PREREQUISITES

Click or tap here to enter text.

COURSE CONTENT

Tap here to enter text.

MAIN TEACHING & LEARNING METHODS

Choose an item. Choose an item. Choose an item. Choose an item.

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
2	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
3	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
4	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO

REQUIRED READING

Tap here to enter text.

22_M0_NI_FE_S2_CCO_HUM_INCOMNODD_87 - SOCIO-CULTURAL FRANCE (FOR VISITING ONLY)

DEGREE	Non Degree	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	36	**ECTS**	6
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Anne WITTE, anne.witte@edhec.edu		

COURSE OBJECTIVES

This course takes a panoramic approach to the socio-cultural complexity of the environments in which French business takes place. It takes an historical and comparative perspective when evaluating French industrial, retail, service and high-tech businesses in the context of Europe.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)

- LO1 Overview of France – historical events, geographic specificities, social structure and economic strengths
- LO2 Contemporary French business, niche markets, consumer specificities, and sectors of excellence including luxury, military equipment, retail and food

More specifically, participants should be able to (skill- and competency-based outcomes)

- LO3 Speak and write critically about the corporate sector in France
- LO4 Name, describe and analyze the top companies and firms of French contemporary business

PREREQUISITES

Three years of general business courses or Bac + 3 Business Administration, Introduction to Economics course, General Management course

COURSE CONTENT

- Overview of key history and geography of France
- French Revolution and Napolean and the Five Republics
- Contemporary economic sectors and relationship to colonial history
- Key Business History and companies
- Innovation
- Social Capital, cultural capital (+ focus on Pierre Bourdieu)
- Management styles and organizational trends
- Language, Art & Aesthetics
- Review

MAIN TEACHING & LEARNING METHODS

Lectures | Presentations (oral or group) | Group Work | Blended Learning

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continuous Assessment Group	15	Oral in class (Prof)	Less than 30 minutes	☒LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
2	Continous Assessment Individual	15	Quiz outside class (Prof + schedule)	30 minutes	☐LO1 ☒LO2 ☒LO3 ☐LO4 ☐All LO
3	Continuous Assessment Group	30	Oral in class (Prof)	Less than 30 minutes	☐LO1 ☒LO2 ☐LO3 ☒LO4 ☐All LO
4	Final Exam	40	Exam outside class (Hub + schedule)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Landes, D. (2007) "Peugeot, Renault and Citroën", in Dynasties: Fortune and Misfortune in the World's Great Family Businesses. London: Viking.
FUKUYAMA, F. (1995) "FACE TO FACE FRANCE" IN TRUST.
Stovall, Tyler Edward, Mark, Linda (2015) Transnational France: The Modern History of a Universal Nation. Boulder: Westview Press.

22_M2_NI_FE_S2_LV2_FLE_INCOMINGNODD_1352 - FRENCH COURSE (ONLY FOR VISITING & IC)

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	30	**ECTS**	3
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Liz DICKSON		

COURSE OBJECTIVES

Level 1: knowledge of basic grammatical structures, basic daily communication vocabulary, socio-cultural life of France. A1 (CEFR) level.
Level 2: master the most common communication situations, discover France (geography, customs, social life), participate in discussions and present one's opinions clearly, fill gaps in grammar . A2/B1 (CEFR) level.
Level 3: discover business French and life of an enterprise in the French socio-economic context, communicate in the business world. B2/C1 (CEFR) level.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)
Level 1:
LO1: Master basic conversation skills.
LO2: Carry out basic everyday tasks in the French language.
Level 2:
LO1: Master written and spoken French in a social context.
LO2: Master written and spoken French in a business context.
Level 3:
LO1: Be able to use French in various business simulations.
LO2: Master business French.
LO3: Understand French companies and how they work.

PREREQUISITES

Level 1: None. A0 (CEFR) level.
Level 2: To be able to speak, write and understand basic French. A1 (CEFR) level.
Level 3: To be able to speak, write and understand French at advanced level B1 (CEFR) level.

COURSE CONTENT

Level 1: Introducing / Speaking about oneself and someone / Making simple reservations / Asking for directions or for information / Shopping / Making simple descriptions.
Level 2: Communicate with ease / Undertake administrative procedures / Make reservations / Write, send e-mail messages, letters / Understand documents and discuss a particular topic.
Level 3: Various aspects of a firm's life internally and in its relations with the outside world / Legal business forms / Employment / Advertising / Banking / Suppliers.

MAIN TEACHING & LEARNING METHODS

Lectures | Group Work | Class Discussions | Presentations (oral or group)

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continous Assessment Individual	60% continous assessment		Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continous Assessment Individual	15% participation		Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
3	Continous Assessment Individual	For levels 2 & 3: 25% final oral	Oral in class (Prof)	Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
		For level 1: 25% final oral	Oral in class (Prof)		☒LO1 ☒LO2 ☐LO3 ☐LO4 ☐All LO

REQUIRED READING

"Grammaire Progressive du Français", CLE INTERNATIONAL/ French newspapers or online news.

22_M2_NI_FMK_S2_DSF_ELE_FIN_842 - RISK MEASUREMENT **

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	TBD		

NEW COURSE

COURSE OBJECTIVES

Click or tap here to enter text.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Tap here to enter text.
- LO2 Tap here to enter text.

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Tap here to enter text.
- LO4 Tap here to enter text.

PREREQUISITES

Click or tap here to enter text.

COURSE CONTENT

Tap here to enter text.

MAIN TEACHING & LEARNING METHODS

Choose an item. Choose an item. Choose an item. Choose an item.

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
2	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
3	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
4	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO

REQUIRED READING

Tap here to enter text.

22_M2_NI_FMK_S2_DSF_ELE_FIN_7039 - MACHINE LEARNING APPLICATIONS IN FINANCE

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Dominic O'KANE		

COURSE OBJECTIVES

This course extends the Introduction to Machine learning course to include deep learning (multilayer neural networks) and reinforcement learning. It then applies all that you have learned to a set of finance-related machine learning case studies.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Be able to perform a full machine learning project from start to end
- LO2 Know how to visualize and assess data, handle unbalanced data sets, different datasets, missing data
- LO3 Know which models to try and how to assess their performance.
- LO4 Be able to assess the statistical importance of an ML analysis.

PREREQUISITES

Good Python Scikit Learn knowledge gained from ML Introduction course.

COURSE CONTENT

- Deep Learning using Keras and TensorFlow.
- Reinforcement Learning
- Case Study I: Credit Card Fraud Detection.
- Case Study II: P2P Loan risk assessment.
- Case Study III: ML Stock price prediction
- Case Study IV: Enron person of interest list
- Case Study V: Reinforcement Learning

MAIN TEACHING & LEARNING METHODS

Lectures Case Studies Group Work

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Final Exam	60	Exam outside class (Hub + schedule)	120 minutes	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continuous Assessment Group	20	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
3	Continuous Assessment Group	20	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Recommended text: Hands-on Machine Learning by Aurelien Geron

22_M2_NI_FMK_S2_DSF_ELE_FIN_5407 - DATA VISUALIZATION

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Christophe CROUX		

COURSE OBJECTIVES

In business and society in general there is an abundancy of data available. The process of retrieving useful information from these data is called data mining. In this course we focus on the visualization of data. We learn how to retrieve and visualize the main features of data structures in different forms. There is a particular focus on financial time series.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Multivariate data structures: scatterplots, boxplots, biplots, outlier detection methods
- LO2 Features of time series and network data

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Write scripts to import, process, and visualize multivariate data
- LO4 Represent and visualize network data, and multiple financial series

PREREQUISITES

Students need to have a good understanding of the basic statistical theory, they should be familiar with mathematical notation and calculus, and they should have some programming experience in R and/or Python.

COURSE CONTENT

1. Visualizing Univariate and multivariate data
2. Flagging outliers
3. Dimension reduction with principal components analysis
4. Network data
5. Visualizing financial time series.

MAIN TEACHING & LEARNING METHODS

Blended Learning	Lectures	Class Discussions	Choose an item.

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continous Assessment Individual	100	Assignment (Prof)	Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO

REQUIRED READING

Course notes will be distributed. There is no compulsory reading list.

22_M2_NI_FMK_S2_DSF_FIN_7040 - PREDICTION AND SEQUENTIAL INVESTMENT STRATEGIES

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	18	**ECTS**	3
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Mario HERNANDEZ TINOCO		

COURSE OBJECTIVES

Portfolio managers observe market transactions and analyze relevant data to decide on placing buy or sell orders to achieve alpha. The sequence of orders defines the portfolio holdings that aim to produce returns over time. Both accurate predictions and the ability to act on independently made forecasts are key drivers of performance. Hence, a key to generating alpha is forecasting. This course objective is to learn how algorithms, a sequence of steps to achieve a specific goal, and the use of Machine Learning for algorithmic Trading in particular, facilitate optimization through the investment process, from idea-generation to asset-allocation, trade execution, and risk management.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Understand and apply the main sequential investment strategies employed in financial institutions with a particular emphasis on alpha generating algorithmic trading strategies.
- LO2 Understand and evaluate the prominent role of predictive sequential models to alpha generation through the application of machine learning to algorithmic trading and financial modeling.

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Understand the main concepts in machine learning and prediction for algorithmic trading strategies.
- LO4 Understand and apply in practice the main algorithms used in prediction and sequential investment strategies.

PREREQUISITES

22_M2_NI_CCSFFMK_SUM_PDC_TRANSV_6575 : INTRODUCTION TO PORTFOLIO CONSTRUCTION & ANALYSIS WITH PYTHON
Basic knowledge of Python for Finance

COURSE CONTENT

1. Introduction to prediction and sequential investment strategies
2. Market and fundamental data: Modules, sources and techniques
3. The machine learning process for prediction in algorithmic investment strategies
4. Machine learning models for signal generation in sequential investment strategies
5. Vectorized and Event-based Backtesting in Trading Strategies
6. Practical Case studies

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Final Exam	70%	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☒All LO
2	Continous Assessment Individual	30%	Written Work in class (Prof)	60 minutes	☐LO1 ☐LO2 ☒LO3 ☒LO4 ☐All LO

REQUIRED READING

22_M2_NI_FMK_S2_CIS_ELE_FIN_1161 - INVESTMENT SOLUTIONS

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Lionel MARTELLINI		

COURSE OBJECTIVES

This course is intended to provide students with an in-depth appreciation of the concepts and techniques that are reshaping the future of investment management. It will also equip them with practical tools to improve asset allocation and risk management processes, and develop new investment solutions as a dedicated response to problems faced by some of the largest asset owners or asset managers. Upon successful completion of this course students will obtain the coveted Advanced in Asset Allocation certificate, which has been used by EDHEC-Risk Institute as a training platform for sophisticated investment professionals over the last 20 years.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Understand how to use factor investing to efficiently harvest risk premia within and across asset classes;
- LO2 Understand the benefits and limits of liability-driven investment strategies and goal-based investing.

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Develop improved forms of multi-asset multi-factor investment solutions;
- LO4 Use the principles of goal-based investing to design new investment solutions for institutions and individuals.

PREREQUISITES

Empirical Methods in Finance
Asset Management
Fixed-Income Securities
Derivatives Pricing and Hedging

COURSE CONTENT

Section 1 - Efficient diversification methods for improved investment solutions – Lecture & case studies
Section 2 - Efficient hedging methods for improved investment solutions – Lecture & case studies
Section 3 - Efficient insurance methods for improved investment solutions – Lecture & case studies

MAIN TEACHING & LEARNING METHODS

Lectures	Case Studies	Blended Learning	Group Work

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Continous Assessment Individual	20%	Quiz outside class (Prof + schedule)	60 minutes	☒LO1 ☒LO2 ☐LO3 ☐LO4 ☐All LO
2	Continuous Assessment Group	80%	Assignment (Prof)	Over several days	☐LO1 ☐LO2 ☒LO3 ☒LO4 ☐All LO

REQUIRED READING

Martellini , L., and V. Milhau, Investment Solutions, forthcoming textbook, available as 9 Lecture Notes and 9 associated Technical Supplements.

22_M2_NI_FMK_S2_CIS_ELE_FIN_1063 - STRUCTURED PRODUCTS / ALTERNATIVE INVESTMENTS **

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	TBD		

NEW COURSE

COURSE OBJECTIVES

Click or tap here to enter text.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes):

- LO1 Tap here to enter text.
- LO2 Tap here to enter text.

More specifically, participants should be able to (skill- and competency-based outcomes):

- LO3 Tap here to enter text.
- LO4 Tap here to enter text.

PREREQUISITES

Click or tap here to enter text.

COURSE CONTENT

Tap here to enter text.

MAIN TEACHING & LEARNING METHODS

Choose an item. Choose an item. Choose an item. Choose an item.

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Format - Invigilation	Duration	Main Learning Objective Evaluated
1	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
2	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
3	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO
4	Choose an item.	Click or tap here to enter text.	Choose an item.	Choose an item.	☐LO1 ☐LO2 ☐LO3 ☐LO4 ☐All LO

REQUIRED READING

Tap here to enter text.

22_M2_NI_FMK_S2_CIS_ELE_FIN_5665 – PRIVATE EQUITY

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	24	**ECTS**	4
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Cyril DEMARIA		

COURSE OBJECTIVES

Knowing what venture capital, growth capital, leveraged buy-out, turnaround/restructuring and mezzanine are offering as financing options is a must for future managers. Understanding what private equity financing implies and delivers is also determinant, especially given the growing influence of this sector of the global economy.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)

- LO1: Understand the context of the intervention of private equity funds and their constraints
- LO2: Identify which financing technique fits corporate needs and actively manage relationships with private equity funds

More specifically, participants should be able to (skill- and competency-based outcomes)

- LO3: Understand how to select and invest in private equity funds and/or companies
- LO4: Understand the methods, processes and dynamics involved in structuring transactions and apply the financial structuring of a leveraged buy-out transaction

PREREQUISITES

Participants should have passed and are encouraged to review their accounting, valuation (in particular DCF, multiples), M&A and corporate finance classes to prepare for this course.

COURSE CONTENT

Private equity: a business framework
LBO: theory and application (structuring, due diligence, valuation, value creation, exit)
PE fund structuring and operations, investors and fund managers perspectives
Business cases and live competitions

MAIN TEACHING & LEARNING METHODS

Lectures	Case Studies	Class Discussions	Group Work

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Duration (if invigilated exam) and format	Main Learning Objective Evaluated
1	Final Exam	50%	60 minutes exam Room	☑LO1 ☑LO2 ☑LO3 ☑LO4
2	Continuous Assessment Group	50%	Not apply	☐LO1 ☐LO2 ☑LO3 ☑LO4
3	Continous Assessment Individual	Bonus	Not apply	☐LO1 ☐LO2 ☐LO3 ☐LO4

REQUIRED READING

Demaria, C. (2020) Introduction to Private Equity, Private Debt and Private Real Assets (John Wiley & Sons)

22_M2_NI_FMK_S2_CIS_FIN_3673 - TACTICAL ASSET ALLOCATION

DEGREE	Master FE (MSc Financial Economics)	**LEVEL**	Master 2 FE
PROGRAMME	MSc in Financial Markets	**ACADEMIC YEAR**	2021-2022
STUDENT HOURS	18	**ECTS**	3
SEMESTER	Semester 2	**CAMPUS**	Nice
COORDINATOR/EMAIL	Nikolaos TESSAROMATIS		

COURSE OBJECTIVES

This is a course on the theory and practice of tactical asset allocation. The course discusses the models, techniques and applications of tactical asset allocation strategies. It reviews the different types of asset allocation, the academic empirical evidence on the question of asset return and risk predictability and the modeling issues involved in building successful asset return prediction models. The course concludes with case studies of asset allocation strategies for different investment strategies and assets – global stock and bond markets, investment styles, currencies and volatility.
The focus of the course will be on the application of modern portfolio management principles to bridge the gap between the theory and practice of tactical asset allocation.

LEARNING OUTCOMES

After having taken this course, participants will be able to/are expected to know or understand (knowledge-based outcomes)

- LO1 appreciate the academic literature on asset return predictability.
- LO2 appreciate the many conceptual and technical challenges involved in the development of tactical asset allocation strategies

More specifically, participants should be able to (skill- and competency-based outcomes)

- L03 Estimate and test asset/factor return and risk prediction models
- LO4 Create tactical asset/factor allocation strategies and evaluate their performance

PREREQUISITES

Empirical Methods in Finance
Asset Management

COURSE CONTENT

Lecture 1: What is TAA, Types of TAA strategies, TAA for short and long term investors
Lecture 2: Estimation error and tactical asset allocation strategies
Lecture 3: Recent developments in asset return and risk prediction modelling
Lecture 4: Risk based timing strategies; designing, building and evaluating TAA strategies
Lecture 5: Equity factor rotation strategies; volatility, currency and commodity strategies

MAIN TEACHING & LEARNING METHODS

Lectures | Case Studies | Class Discussions | Group Work

ASSESSMENT METHODS

	Evaluation Type	% of Grade	Duration (if invigilated exam) and format	Main Learning Objective Evaluated
1	Continuous Assessment Group	50%	Not apply	☐LO1 ☐LO2 ☒LO3 ☒LO4
2	Final Exam	50%	90 minutes exam Room	☒LO1 ☒LO2 ☐LO3 ☐LO4

REQUIRED READING

None

Your Courses over the year…

SEM.	CYCLE	STATUS	N°	COURSE NAME	Hours per Student MSc	ECTS for M2 student	ECTS for MSc Student	VISITING DD	QTEM
SUM	FOUNDATIONS	PDC	6991	Fixed Income & Derivatives*	30		5	5	
SUM	FOUNDATIONS	PDC	6979	Corporate Finance & Asset Markets *	30		5	5	
SUM	FOUNDATIONS	PDC	6980	Data Science with R *	30		5	5	
SUM	FOUNDATIONS	PDC	6984	Excel*	30		5	5	
PREREQUIS	OFF	PDC	6575	Introduction to Portfolio Construction and Analysis with Python, on COURSERA	-	-	-	-	-
				SUM/PREREQUIS =	90	0	15	15	0
1		SCC	1008	TI&CD	45	2	2	2	
1	OFF	CC	7036	Advanced Portfolio Management	36	6	6	6	6
1	OFF	CC	6997	Leadership and Managerial skills	12	2	2	2	2
1	A	CC	2764	Advanced Fixed Income Analysis	24	4	4	4	4
1	A	CC	5403	Introduction to Machine Learning	24	4	4	4	4
1	A	CC	6998	Research Methodology	12	2	2	2	
1	B	CC	5662	Market Microstructure - Implementing Portfolio Decision	24	4	4	4	4
1	B	CC	848	Advanced Derivatives	24	4	4	4	4
1	B	CC	7041	VBA programming solutions for Finance	12	2	2	2	2
1		INC	173	Value, Cooperation and Trust (ONLY for VISTING)	36				6
1		LVX	1351	French course (ONLY for VISTING & IC)	30		-	-	3
				SEM 1 =	213	30	30	30	35
2	C	CC	760	Regulation & Ethics in Finance	24	4	4	4	4
2		INC	87	Socio-cultural France (ONLY for VISITING)	36				6
2		LVX	1352	French course (ONLY for VISTING)	30		-	-	3
ack									
2	C	ELE	842	Risk Measurement **	24	4	4	4	4
2	C	ELE	7039	Machine Learning applications in Finance**	24	4	4	4	4
2	C	ELE	5407	Data Visualization**	24	4	4	4	4
2	C	ELE	7040	Prediction and sequential investment strategies	18	3	3	3	3
2	C	ELE	1161	Investment Solutions**	24	4	4	4	4
2	C	ELE	1063	Structured Products / Alternative Investments**	24	4	4	4	4
2	C	ELE	368	Private Equity **	24	4	4	4	4
2	C	ELE	3673	Tactical Asset Allocation	18	3	3	3	3
2	D	ELE	7026	CERTIFICATES (NOT for VISI) / ELECTIVES / STUDY TRIP (NOT for VISI & QTEM)	90		15	15	15
				SEM 2 =	180	15	30	30	39
0	OFF	MP	5486	Master Project	90	15	15	15	
3	D	INT	7028	Internship / Work Expérience (only for IC)			30	30	
				SEM 3 =	90	15	45	45	0
				FULL YEAR =	573	60	120	120	74

** Fondation courses: 3 out of 4 depending on background*
*** Take 2 out of a list of 3 cours*