Syllabus

Descrizione corso

Titolo insegnamento	Ingegneria finanziaria e analisi quantitative
Codice insegnamento	25424
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	SECS-S/06
Lingua	Inglese
Corso di Studio	Corso di laurea magistrale in Accounting e Finanza
Altri Corsi di Studio (mutuati)	
Docenti	prof. dr. Peter Alfons Schmid, PeterAlfons.Schmid@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/44766
Assistente	
Semestre	Primo semestre
Anno/i di corso	2
CFU	6
Ore didattica frontale	36
Ore di laboratorio	-
Ore di studio individuale	-
Ore di ricevimento previste	18
Sintesi contenuti	• Purpose: Introduction to a broad array of topics from financial engineering and provision of tools and methodologies for implementing quantitative investment strategies • Main contents: quantitative methods, credit risk transfer, structured products, alternative investments, especially real assets, private equity & hedge funds, active management and investment strategies (theoretical foundations and empirical testing) • Overall: Knowledge and skills to solve real world quantitative finance problems

Argomenti dell'insegnamento	• Quantitative methods: Review of financial mathematics and modelling. • Credit risk transfer: Determination of credit risk and usage of instruments like credit default swaps, total return swaps, asset backed securities, etc. • Structured products: Development and pricing of products - based on equities and fixed income securities - that exhibit specific return, risk or other attributes. • Alternative investments: Fundamentals of the alternative investment space, especially real assets, private equity & hedge funds. Adding value through active management (absolute & relative returns, risk reduction through diversification). • Investment strategies: Theoretical foundation and empirical testing of trend following, and momentum strategies, fixed-income strategies and relative value & event driven strategies
Parole chiave	credit risk transfer, structured products, alternative investments, investment strategies
Prerequisiti	
Insegnamenti propedeutici	
Modalità di insegnamento	lectures and empirical applications
Obbligo di frequenza	Highly recommended
Obiettivi formativi specifici e risultati di apprendimento attesi	
Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)	
Modalità di esame	Students may opt between two different types of assessment: 1) Standard assessment for the course is an obligatory final written examination (100% of the final grade). 2) Moreover, there is the possibility of an optional assessment, where students write a project paper and have their performance assessed by both the project paper (50% of the final grade) and the

	obligatory final examination (50% of the final grade). The optional assessment is only available for attending students having notified the lecturer of their choice at the latest on the date of the 9thlecture. The optional course project can be done in groups of 2 students.
Criteri di valutazione	Theoretical knowledge of models and concepts covered in the class as well as knowledge of their empirical applications.
Bibliografia obbligatoria	Selected chapters from: • Financial Engineering and Computation: Principles, Mathematics, Algorithms by Y.-D. Lyuu, 2002, Cambridge University Press. • Principles of Financial Engineering by R. Kosowski and S.N. Neftci, 2015, Academic Press. • Alternative Investments: CAIA Level I, 4th edition, by D.R. Chambers, M.J.P. Anson, K.H. Black, H.B. Kazemi, 2020, Wiley Finance Editions.
Bibliografia facoltativa	
Altre informazioni	
Obiettivi di Sviluppo Sostenibile (SDGs)	Istruzione di qualità, Utilizzo responsabile delle risorse, Innovazione e infrastrutture, Buona occupazione e crescita economica