

<b>General Information</b>	
Academic subject	Financial Mathematics
Degree course	Economics and business administration
Curriculum	
ECTS credits	6
Compulsory attendance	
Language	Italian

<b>Subject teacher</b>	Name Surname	Mail address	SSD
	Lucianna Cananà	Lucianna.canana@uniba.it	SECS-S06

<b>ECTS credits details</b>	Area		CFU/ETCS
Basic teaching activities	13		6

<b>Class schedule</b>	
Period	I semester
Year	II year
Type of class	Lectures in attendance

<b>Time management</b>	
Hours	
In-class study hours	48 (6x25)
Out-of-class study hours	102

<b>Academic calendar</b>	
Class begins	15/09/2020
Class ends	21.10.2020

<b>Syllabus</b>	
Prerequisites/requirements	Basic notions of calculus and linear algebra. Basic notions of economics.
Expected learning outcomes	<p><i>Knowledge and understanding:</i> The course provides students with the knowledge and analytical tools needed to understand the functioning of financial markets and to analyze economic and financial phenomena.</p> <p><i>Applying knowledge and understanding:</i> The student must be able to interpret the main economic and financial phenomena. In particular he/she must be able to construct simple models to formulate and solve basic problems of modern finance on all the topics included in the course program.</p> <p><i>Making informed judgements and choices</i> The student must be able to independently assess the necessary information, to conduct surveys and to set up quantitative analysis of financial phenomena.</p> <p><i>Communicating knowledge and understanding</i> The student must be able to communicate effectively on economic and financial issues, using an appropriate technical</p>

	<p>language. The ability to communicate on a multidisciplinary level on economic-financial and mathematical-statistical topics is, in this respect, the main target of the course.</p> <p><i>Capacities to continue learning</i> The student must acquire a significant analytical ability and a well-founded quantitative survey method to be able to deal with subsequent teachings.</p>
Contents	<ul style="list-style-type: none"> <li>The course is a basic course on the modern finance theory that provides the economic notions and quantitative analysis tools needed to interpret financial phenomena. The teacher will adopt a unified point of view to deal with specific topics of market finance and corporate finance, such as the valuation of bonds, the valuation of stocks and the valuation of investment projects.</li> </ul>
Course program	<p>The time value of money. Discounting. The Internal Rate of Return (IRR). The bond market. Valuing bonds. The term structure of interest rates. Forward rates. Interest rate risk. Perpetuities and Annuities. Amortizing loans. The stock market. Valuing projects. The Net Present Value (NPV) decision rule. Interest Rate Bond Duration Immunization Fischer-weil Theorem (proof) Investment Accumulation and Duration Classic Immunization Theory Hedging fixed income securities Introduction to Hedging Hedging with Duration and Convexity.</p> <p>The course topics are covered in the following textbooks:</p>
Bibliography	<p>Moriconi F., <i>Matematica finanziaria</i>, Il Mulino, 1995. C. Mari, <i>Appunti di Matematica Finanziaria</i> (downloadable from the e-learning platform of the University).</p>
Notes	None: <a href="mailto:lucianna.canana@uniba.it">lucianna.canana@uniba.it</a>
Teaching methods	The course structure is the following one: 48 hours of frontal lessons. The lessons include the progressive construction of the theoretical reference system with applications and examples.
Assessment methods	The learning test consists in a written exams to solve in one hour and half and concerning the different modules.

	<p>The assessment of learning will be carried out passing a written and oral test which involves the resolution of numerical exercises on the topics of the course. Students will be asked to illustrate the procedures followed in solving the exercises. Further details on how the tests will be conducted will be provided in the classroom.</p>
<p>Evaluation criteria</p>	<p><i>Knowledge and understanding</i>  The course is in line with the general objective of the course of study to provide economic skills and mathematical-statistical techniques for an adequate understanding of the economic system and the functioning of financial markets.</p> <p><i>Applying knowledge and understanding</i>  The course, in particular, aims at equipping students with the technical tools necessary for understanding financial phenomena.</p> <p><i>Autonomy of judgment</i>  To learn the basic concepts and tools of modern finance;  To know how to formulate and solve basic problems of modern finance.</p> <p><i>Communicating knowledge and understanding / Capacities to continue learning</i></p> <p>The student is expected to assimilate the fundamental notions of understanding the functioning of financial markets and of analyzing economic-financial phenomena; to adequately know the main economic and financial phenomena; to be able to correctly set and solve basic problems of modern finance; to be able to communicate effectively on economic and financial issues, using an appropriate technical language.</p>
<p>Further information</p>	<p>Lucianna.canana@gmail.it</p>