

# Syllabus

## *Descrizione corso*

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>Titolo insegnamento</b>              | Gestione dei rischi e titoli derivati                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Codice insegnamento</b>              | 25437                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Titolo aggiuntivo</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Settore Scientifico-Disciplinare</b> | SECS-S/06                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Lingua</b>                           | Tedesco                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Corso di Studio</b>                  | Corso di laurea magistrale in Accounting e Finanza                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Altri Corsi di Studio (mutuati)</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Docenti</b>                          | prof. Alex Weissensteiner,<br>Alex.Weissensteiner@unibz.it<br><a href="https://www.unibz.it/en/faculties/economics-management/academic-staff/person/1080">https://www.unibz.it/en/faculties/economics-management/academic-staff/person/1080</a><br>dr. Silvia Bressan,<br>Silvia.Bressan@unibz.it<br><a href="https://www.unibz.it/en/faculties/economics-management/academic-staff/person/37763">https://www.unibz.it/en/faculties/economics-management/academic-staff/person/37763</a> |
| <b>Assistente</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Semestre</b>                         | Secondo semestre                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Anno/i di corso</b>                  | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>CFU</b>                              | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Ore didattica frontale</b>           | 36                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Ore di laboratorio</b>               | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Ore di studio individuale</b>        | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Ore di ricevimento previste</b>      | 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Sintesi contenuti</b>                | The course Risk Management and Derivatives introduces students to the world of financial risks and the tools to manage them effectively. You will explore how to identify, measure, and hedge market, credit and liquidity risks by applying theory to real-world data. Through hands-on use of the software R, you'll practice techniques like Value-at-Risk, stress testing, and credit risk                                                                                           |

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|                                                                                            | modeling. Topics range from hedging with derivatives such as options, futures, and swaps to analyzing financial disasters and their lessons. With a mix of analytical methods and practical applications, the course equips you with the skills needed for a career in finance or further academic research.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Argomenti dell'insegnamento</b>                                                         | <p>(A) structure and mechanics of OTC and exchange markets</p> <p>(B) (coherent) risk measures</p> <p>(C) market risk: bond fundamentals, derivatives, introduction to market risk, sources of market risk (interest rate risks, equity risks, currency risks, commodity risks), hedging linear risk (forwards, futures, swaps), nonlinear risk (options), modeling risk factors, Value-at-Risk (VaR) and Conditional Value-at-Risk (CVaR or expected shortfall), VaR mapping, historical and parametric VaR estimation, back testing, stress testing and scenario analysis.</p> <p>(D) credit risk: introduction to credit risk, actuarial default risk (credit rating), default risk from market prices (Merton model, bonds with embedded prices), credit VaR, expected and unexpected credit losses, credit derivatives,</p> <p>(E) liquidity risk</p> <p>(F) financial disasters and risk management failures will be discussed.</p> <p>(G) climate risk</p> |
| <b>Parole chiave</b>                                                                       | market risk, credit risk, liquidity risk, climate risk, value-at-risk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Prerequisiti</b>                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Insegnamenti propedeutici</b>                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Modalità di insegnamento</b>                                                            | Lectures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Obbligo di frequenza</b>                                                                | Suggested, but not required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Obiettivi formativi specifici e risultati di apprendimento attesi</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Modalità di esame</b>                                                                   | Written exams after 2/3 of the semester and at the end of the semester.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Criteri di valutazione</b>                                                              | The assesement is based on a mid-term exam (33%, applicable for the June exam) and a final exam, where either the better result                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                                                 | from 66% of the final exam or 100% of the final exam is considered. After the June exam, the final exam counts for 100% of the evaluation. A minimum score of 18 out of 30 points is required for a positive result.                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Bibliografia obbligatoria</b>                | Philippe Jorion, Financial Risk Manager Handbook (GARP), 6th Edition, Wiley, 2011.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Bibliografia facoltativa</b>                 | <ul style="list-style-type: none"> <li>• John C. Hull, Risk Management and Financial Institutions, Wiley, 2015.</li> <li>• René Stulz, Risk Management &amp; Derivatives Thomson South-Western, 2002.</li> <li>• P. Wilmott, S. Howison and J. Dewynne, The Mathematics of Financial Derivatives: A Student Introduction, Cambridge University Press, 1995</li> <li>• Steve Allen, Financial Risk Management: A Practitioner's Guide to Managing Market and Credit Risk, Wiley, 2013.</li> <li>• Selected chapters from CFA Institute Curriculum 2018 edition, Level I –III</li> </ul> |
| <b>Altre informazioni</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Obiettivi di Sviluppo Sostenibile (SDGs)</b> | Lotta contro il cambiamento climatico, Istruzione di qualità                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |