

| Course Title  | Risk Management   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
|---|---|--|---------------------------|--|---------------------------|---|----------------|---|---------------------------|--|---------------------------|--|--------------------|--------------------------------------|----------------------|---|--------------------|--|--------------------|-------------------------|-----------------------|-------------------------------|--------------------|---------------------|-------------------------|------------------------|----------------|
| Course Code   | EBC4056   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| ECTS Credits  | 6,5   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Assessment  | Whole/Half Grades   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Period  | <table><tr><th>Period</th><th>Start</th><th>End</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thu</th><th>Fri</th></tr><tr><td>5</td><td>11-4-2022</td><td>3-6-2022</td><td>X</td><td></td><td></td><td>X</td><td></td></tr></table>  | Period   | Start                     | End  | Mon                       | Tue   | Wed            | Thu   | Fri                       | 5  | 11-4-2022                 | 3-6-2022                                   | X                  |                                      |                      | X   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Period  | Start   | End  | Mon                       | Tue  | Wed                       | Thu   | Fri            |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| 5   | 11-4-2022   | 3-6-2022                                       | X                         |  |                           | X   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Level   | Advanced  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Coordinator   | Dennis Bams For more information:w.bams@maastrichtuniversity.nl   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Language of instruction   | English   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Goals   | <p>Understand the different dimensions of risk in financial markets and financial institutions as well as financial risk management hedging strategies for corporations. Learn how to measure market-, credit-, liquidity- and operational risk and to apply it in risk assessment and risk mitigation strategies.</p> <p>Understand the concepts of regulatory- and economic capital in a Basel II context and how to integrate these in a firm wide framework for performance measurement and company steering.</p>   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Description   | <p>After completion of the course, participants should be able to measure alternative risk types, be able to carry out capital requirement calculations, and determine risk-mitigating strategies such as hedging and portfolio selection. Furthermore, participants should be able to gather corporate financial exposure information and financial data to arrive at a proper risk assessment. In the course, we will consider large historical data samples and carry out empirical analyses by making use of the risk management tools from the book. In particular, we will focus on extreme events as well as crisis periods to address the issue 'how bad things could get'. During the group sessions, we translate these findings into a desire for a balance between 'just enough risk taking' and profit optimization.</p> <p>The course is built around three topics: first, it is important to identify financial risks and to measure them. Topics, such as value-at-risk, volatility, correlation and copulas, as well as credit risk loss measurement will be addressed. The increased notion of concentration risk, warrants a proper discussion of alternative ways to model/measure co-movements (through copulas), as well as to provide alternative ways to represent the variability in a financial variable (this includes alternative volatility models, such as GARCH models).</p> <p>Second, this course focuses on understanding alternative approaches to manage risk. This includes the usage of derivative securities such as options and futures. It is a fact that derivatives markets are skyrocketing, and it is becoming increasingly common for both financial institutions and non-financial corporations to make use of financial derivatives. Internationally, over 60% of non-financial corporations are reported using derivatives. Financial risk management is considered the main reason for the use of financial derivatives by non-financial institutions.</p> <p>Third, this course will focus on regulatory developments for banks under Basel IV. Basel IV has set new capital requirements standards for credit risk, operational risk and market risk. We will review the Basel IV three pillar model and will discuss the three risk types mentioned above in detail as well.</p> |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Literature  | <p>Risk Management and Financial Institutions, 5th edition, John C. Hull, Pearson Prentice Hall, ISBN: 978-1-119-44811-2.</p> <p>Additional literature may be available through Canvas .</p> <p>Data and programs for assignments will be available through Canvas .</p>  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Prerequisites   | <p>Exchange students need to have obtained a Bachelor degree in economics, econometrics or business administration.</p> <p>An advanced level of English</p>   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Teaching methods  | PBL / Presentation / Lecture / Assignment / Groupwork   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Assessment methods  | Written Exam  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Evaluation in previous academic year                            | For the complete evaluation of this course please click <a href="http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM">http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM</a>   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| This course belongs to the following programme / specialisation | <table><tr><td>Master Business Research - Operations Research</td><td>Year 1 Elective Course(s)</td></tr><tr><td>Master Business Research - Operations Research</td><td>Year 2 Elective Course(s)</td></tr><tr><td>Master Econometrics and Operations Research</td><td>Free Electives</td></tr><tr><td>Master Economic and Financial Research - Econometrics</td><td>Year 1 Elective Course(s)</td></tr><tr><td>Master Economic and Financial Research - No specialisation</td><td>Year 1 Elective Course(s)</td></tr><tr><td>Master Financial Economics - Asset Pricing</td><td>Elective Course(s)</td></tr><tr><td>Master Financial Economics - Banking</td><td>Compulsory Course(s)</td></tr><tr><td>Master Financial Economics - Financial Analysis</td><td>Elective Course(s)</td></tr><tr><td>Master Financial Economics - No specialisation</td><td>Elective Course(s)</td></tr><tr><td>Master Fiscal Economics</td><td>Economics Elective(s)</td></tr><tr><td>Master Human Decision Science</td><td>Elective Course(s)</td></tr><tr><td>SBE Exchange Master</td><td>Master Exchange Courses</td></tr><tr><td>SBE Non Degree Courses</td><td>Master Courses</td></tr></table>  | Master Business Research - Operations Research | Year 1 Elective Course(s) | Master Business Research - Operations Research | Year 2 Elective Course(s) | Master Econometrics and Operations Research | Free Electives | Master Economic and Financial Research - Econometrics | Year 1 Elective Course(s) | Master Economic and Financial Research - No specialisation | Year 1 Elective Course(s) | Master Financial Economics - Asset Pricing | Elective Course(s) | Master Financial Economics - Banking | Compulsory Course(s) | Master Financial Economics - Financial Analysis | Elective Course(s) | Master Financial Economics - No specialisation | Elective Course(s) | Master Fiscal Economics | Economics Elective(s) | Master Human Decision Science | Elective Course(s) | SBE Exchange Master | Master Exchange Courses | SBE Non Degree Courses | Master Courses |
| Master Business Research - Operations Research                  | Year 1 Elective Course(s)   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Business Research - Operations Research                  | Year 2 Elective Course(s)   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Econometrics and Operations Research                     | Free Electives  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Economic and Financial Research - Econometrics           | Year 1 Elective Course(s)   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Economic and Financial Research - No specialisation      | Year 1 Elective Course(s)   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Financial Economics - Asset Pricing                      | Elective Course(s)  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Financial Economics - Banking                            | Compulsory Course(s)  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Financial Economics - Financial Analysis                 | Elective Course(s)  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Financial Economics - No specialisation                  | Elective Course(s)  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Fiscal Economics   | Economics Elective(s)   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| Master Human Decision Science                                   | Elective Course(s)  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| SBE Exchange Master   | Master Exchange Courses   |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |
| SBE Non Degree Courses  | Master Courses  |  |                           |  |                           |   |                |   |                           |  |                           |  |                    |                                      |                      |   |                    |  |                    |                         |                       |                               |                    |                     |                         |                        |                |