

## Course Descriptions None 2019-2020

| Course Title  | Business Analytics   |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
|---|--|---|----------------------|-----|-----|-----|-----|-----|-----|---|----------|------------|--|---|--|--|---|
| Course Code   | EBC4220  |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| ECTS Credits  | 5,0  |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Assessment  | None   |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Period  | <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>1</td> <td>2-9-2019</td> <td>25-10-2019</td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>  | Period  | Start                | End | Mon | Tue | Wed | Thu | Fri | 1 | 2-9-2019 | 25-10-2019 |  | X |  |  | X |
| Period  | Start  | End   | Mon                  | Tue | Wed | Thu | Fri |     |     |   |          |            |  |   |  |  |   |
| 1   | 2-9-2019   | 25-10-2019                                      |                      | X   |     |     | X   |     |     |   |          |            |  |   |  |  |   |
| Level   | Advanced   |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Coordinator   | Rui Jorge De Almeida e Santos Nogueira For more information:rj.almeida@maastrichtuniversity.nl   |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Language of instruction   | English  |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Goals   | <p>The course introduces conventional quantitative techniques for business decision making and obtaining hands-on experience in analyzing business processes using available data and quantitative techniques. After successfully finishing this course, you will be able to:</p> <ul style="list-style-type: none"> <li>* List several data analytics methods</li> <li>* Analyse data by using data science concepts.</li> <li>* Understand and develop how data can be used to provide new insights into business and create value for the business.</li> <li>* Translate business problems into canonical data mining tasks and study business problems from a data perspective.</li> <li>* Interpret and communicate application results from data science concepts in a business context.</li> </ul>  |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Description   | <p>This course introduces data analytics methods which are often used to support business decisions, particularly data-intensive decision problems. Data science topics such as predictive modeling, data mining, different types of modeling problems, model evaluation and model deployment are discussed. Students also obtain hands-on experience in using the relevant tools and develop basic programming/scripting skills, using the R programming language for real data applications. This course relates to several application areas where business problems are studied from a data perspective, business decision making is supported using systematic data analysis. Examples of applications are operations, manufacturing, supply-chain management, customer behavior modeling, marketing campaign performance, workflow procedures, and so on. Many decision problems in these application areas are characterized by large uncertainty in data. Uncertainty modeling techniques, discussed in this course, are designed to support data driven analysis under these circumstances.</p> |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Literature  | <p>Lecture slides.<br/>           Foster Provost &amp; Tom Fawcett (2013). Data Science for Business: What you need to know about data mining and data-analytic thinking. O'Reilly Media; 1st edition (August 19, 2013), ISBN-10: 1449361323, ISBN-13: 978-1449361327.<br/>           Selection of scientific papers.</p>  |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Prerequisites   | <p>No predefined prerequisites. Knowledge of principles of business modeling, statistics and probability theory are recommended. Having basic computer programming/scripting skills in programming languages such as R/S-plus, C++ or MATLAB is a plus.</p>  |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Keywords  |  |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Teaching methods  | PBL / Lecture  |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Assessment methods  | Participation / 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 border="0"> <tr> <td>Master Business Intelligence and Smart Services</td> <td>Compulsory Course(s)</td> </tr> </table>  | Master Business Intelligence and Smart Services | Compulsory Course(s) |     |     |     |     |     |     |   |          |            |  |   |  |  |   |
| Master Business Intelligence and Smart Services                 | Compulsory Course(s)   |   |                      |     |     |     |     |     |     |   |          |            |  |   |  |  |   |