

## Master programme Data Science

### Modules to earn missing qualifications (requirements in case of conditional admission):

#### Mathematics:

- *Advanced Mathematics:*  
Module MD Req1: “Advanced Engineering Mathematics” as in the programme “Automation & Robotics” of the Faculty of Mathematics.  
7 credit points

#### Computer Science:

- *Reading Course Data Structures and Programming:*  
Module MD Req2: Examination on the books  
- James T. Streib, Takako Soma: Guide to Data Structures: A Concise Introduction Using Java. Springer 2017: complete.  
- Takako Soma, James T. Streib: Guide to Java: A Concise Introduction to Programming. Springer 2014: complete.  
10 credit points
- *Reading Course Information Systems:*  
Module MD Req3: Examination on the lecture materials (in English), and some references given therein, of the course “Informationssysteme” by Prof. Teubner of the Faculty of Computer Science.  
5 credit points

#### Statistics:

- *Reading Course Probability:*  
Module MD Req4: Examination on the book:  
Jim Pitman: Probability. Springer 1993: chapters 1, 2.1, 2.2, 2.5, 3.1-3.5, 4.1, 4.2, 4.4, 4.5, 5.1-5.3, 6.  
5 credit points
- *Reading Course Inference:*  
Module MD Req5: Examination on the book:  
Alexander M. Mood, Franklin A. Graybill, Duane C. Boes: Introduction to the Theory of Statistics. McGraw-Hill 1974: chapters VII, VIII, IX.1-IX.6.  
5 credit points
- *Reading Course Linear Models:*  
Module MD Req6: Examination on the book:  
Thomas Kneib, Stefan Lang, Ludwig Fahrmeir, Brian D. Marx: Regression: Models, Methods and Applications. Springer 2015: chapters 1, 2.1-2.3, 3.  
5 credit points
- *Introductory Case Studies:*  
Module MD Req7: Parts of the course “Fallstudien I” of the Module BD 14: “Projektarbeit” of the Bachelor programme “Data Science” of the Faculty of Statistics: 3 projects (in English).  
5 credit points  
(valid for the previous requirements of both *Major* and *Minor Bachelor Case Studies*)