

## Information Technology (Master): Full-time Curriculum

| Subject No.                         | Subject   | Code | 1st sem. | 2nd sem. | 3rd sem. | 4th sem. | CH | CR     |
|-------------------------------------|---|------|----------|----------|----------|----------|----|--------|
| <b>Compulsory Subjects</b>          |   |      |          |          |          |          |    |        |
| 5915                                | Advanced Topics in Algorithms                       | ATA  | 4        |          |          |          | 4  | 5 CR   |
| 5914                                | Discrete Signals and Systems                        | DSS  | 4        |          |          |          | 4  | 5 CR   |
| 5913                                | Probability and Statistics                          | PAS  | 4        |          |          |          | 4  | 5 CR   |
| 5916                                | Usability Engineering                               | UEN  | 4        |          |          |          | 4  | 5 CR   |
| 5911                                | Scientific Methods and Writing                      | SMW  | 4        |          |          |          | 4  | 5 CR   |
| 5906                                | Management Skills and Business Administration       | MBA  | 4        |          |          |          | 4  | 5 CR   |
| 5912                                | Innovation and Development Strategies               | IDS  |          | 4        |          |          | 4  | 5 CR   |
|                                     | Sum of compulsory subjects                          |      | 24       | 4        |          |          | 28 | 35 CR  |
| <b>Compulsory Optional Subjects</b> |   |      |          |          |          |          |    |        |
| 5918                                | Communication for Distributed Systems <sup>1)</sup> | CDS  |          | 4        |          |          | 4  | 5 CR   |
| 5917                                | Embedded Systems Design <sup>1)</sup>               | ESD  |          | 4        |          |          | 4  | 5 CR   |
| 5923                                | Industrial Software Engineering <sup>1)</sup>       | ISE  |          | 4        |          |          | 4  | 5 CR   |
| 5919                                | Information Fusion <sup>1)</sup>                    | IFU  |          | 4        |          |          | 4  | 5 CR   |
| 5922                                | Intelligent Technical Systems <sup>1)</sup>         | ITS  |          | 4        |          |          | 4  | 5 CR   |
| 5920                                | Network Security <sup>1)</sup>                      | NWS  |          | 4        |          |          | 4  | 5 CR   |
| 5924                                | Advanced Topics in Machine Learning <sup>1)</sup>   | AML  |          | 4        |          |          | 4  | 5 CR   |
| 5928                                | Authentication <sup>1)</sup>                        | AUT  |          | 4        |          |          | 4  | 5 CR   |
| 5636                                | Autonomous Vehicles <sup>1)</sup>                   | AUV  |          | 4        |          |          | 4  | 5 CR   |
|                                     | N. N. <sup>1) 2)</sup>                              |      |          |          |          |          | 4  | 5 CR   |
|                                     | Sum of compulsory optional subjects                 |      |          | 20       |          |          | 20 | 25 CR  |
| 5925                                | Research Project                                    | RES  |          |          | x        |          |    | 30 CR  |
| -                                   | Master's Thesis                                     | MAT  |          |          |          | x        |    | 30 CR  |
|                                     | Sum of CH   |      | 24       | 24       |          |          | 48 |        |
|                                     | Sum of CR   |      | 30 CR    | 30 CR    | 30 CR    | 30 CR    |    | 120 CR |

CR = Credits (1 CR corresponds to 30 hours)

CH = Contact hours per week (equivalent to the German abbreviation SWS for 'Semesterwochenstunden')

<sup>1)</sup> In total, 5 out of 10 compulsory optional subjects have to be selected.

<sup>2)</sup> Compulsory optional subject from the range of subjects offered by TH OWL or other universities, as approved by the examination board with a minimum of 4 CH, 5 CR.