

# Courses Winter Semester 2026 MSc Communication and Information Technology

## Grouped according to FSPO 2025

The courses listed are from the Engineering Sciences, Computer Science and the Centre for Languages and Philology

Status 09.09.2026

Please address any questions to Dr. Sandra Mann

|                                           |
|-------------------------------------------|
| Course takes place                        |
| Still unclear, more information to follow |
| Course does not take place                |

### Categories of courses

- 1. On-Site-format:** The contents relevant to examinations are taught exclusively on site. In addition to organisational information, lecture recordings, additional materials for interested students and exercise materials can be made available on Moodle. The teaching of practical methods and techniques can be part of the teaching format. You must ensure that you can participate in the course on site.
- 2. Combi-format:** The exam-relevant content is taught on-site and online. Teachers can post exam-relevant online learning materials on Moodle. The teaching of practical methods and techniques may be part of the teaching format. You must ensure that you can participate in the course on site.
- 3. Hybrid-format:** The contents relevant to the examination are taught equally well both on-site and online. As a student, you have the choice between on-site or online participation. The lecturers can post exam-relevant online learning materials on Moodle. This teaching format does not usually teach practical methods and techniques. The lecturers decide whether people can switch between online and on-site participation during the semester.
- 4. Online-format:** The contents relevant to the examination are taught exclusively online. The lecturers can post exam-relevant online learning materials on Moodle. As a rule, no practical methods and techniques are taught in this teaching format. On-site participation is not required.

| <i>Lectures</i>                                                                         | <i>Lecturer</i>                      | <i>CP</i> | <i>Format</i> |
|-----------------------------------------------------------------------------------------|--------------------------------------|-----------|---------------|
| <b>B COMPULSORY ELECTIVE AREA</b>                                                       |                                      |           |               |
| <b>B1 CORE MODULES</b>                                                                  |                                      |           |               |
| Information Theory                                                                      | Fischer                              | 6         | On-site       |
| Integrierte Analogschaltungen (WS) / Integrated Analog Circuits (SS)                    | Ortmanns                             | 6         | On-site       |
| Introduction to Deep Learning                                                           | Karlen                               | 5         | On-site       |
| Microwave System Design                                                                 | Hitzler                              | 6         | On-site       |
| <b>B2 SPECIALISATION MODULES</b>                                                        |                                      |           |               |
| Advanced Optoelectronic Communication Systems                                           | Michalzik                            | 6         | On-site       |
| Algebraic Channel Coding                                                                | Schmidt                              | 4         | On-site       |
| Appropriate Medical Device Design                                                       | Karlen                               | 4         | On-site       |
| Circuit Design in Nanometer-Scaled CMOS Technologies                                    | Ortmanns                             | 5         | On-site       |
| Electronic System Design using C and System C                                           | Schubert, Becker, Prokein            | 6         | On-site       |
| Embedded Security                                                                       | Nölscher ( <i>Computer Science</i> ) | 6         | x             |
| Fundamentals of Sustainable Development                                                 | Karlen, Justiz                       | 3         |               |
| Information Theory                                                                      | Fischer                              | 6         | On-site       |
| Integrated Broadband Circuits                                                           | Kissinger                            | 6         | Online        |
| Integrierte Analogschaltungen (WS) / Integrated Analog Circuits (SS)                    | Ortmanns                             | 6         | On-site       |
| Introduction to Deep Learning                                                           | Karlen                               | 5         | On-site       |
| Introduction to Quantum Engineering                                                     | Braxmaier                            | 4         | On-site       |
| Medical Wearables I                                                                     | Karlen                               | 5         | On-site       |
| Microwave System Design                                                                 | Hitzler                              | 6         | On-site       |
| Mixed-Signal CMOS Chip Design                                                           | Ortmanns                             | 4         | Online        |
| Neuromorphic Engineering: Bio-inspired Sensing                                          | Lenk                                 | 6         | On-site       |
| Propagation and Antennas                                                                | Hitzler                              | 5         | On-site       |
| Quantum Sensing I                                                                       | Braxmaier                            | 4         | On-site       |
| RF-Design of Communication and Navigation Systems                                       | Damm                                 | 5         | On-site       |
| Space-Based Radar                                                                       | Villano                              | 4         | On-site       |
| Terahertz Sensors                                                                       | Damm                                 | 5         | On-site       |
| Thin Films                                                                              | Herr                                 | 4         | x             |
| <b>B3 SEMINARS</b>                                                                      |                                      |           |               |
| Seminar Communications Engineering                                                      | Stern                                | 3         | On-site       |
| Seminar High-Frequency Circuits in Silicon Technologies                                 | Kissinger                            | 3         | On-site       |
| Seminar Microelectronics                                                                | Ortmanns                             | 3         | On-site       |
| Seminar on Biomedical Signal and Data Processing                                        | Karlen                               | 3         | Combi         |
| Seminar Research Trends Metamaterials and Metasurfaces                                  | Damm                                 | 3         | On-site       |
| Seminar Research Trends Terahertz Technology and Applications                           | Damm                                 | 3         | On-site       |
| <b>B4 PRACTICAL MODULES</b>                                                             |                                      |           |               |
| Lab Vector Network Analysis                                                             | Kissinger                            | 5         | On-site       |
| Laboratory of Embedded Systems / Labor Eingebettete Systeme                             | Slomka ( <i>Computer Science</i> )   | 6         |               |
| Praktikum - Halbleitertechnologie                                                       | Kissinger                            | 5         | On-site       |
| Project Analog CMOS Circuit Design                                                      | Ortmanns                             | 6         |               |
| Project Design of Integrated Systems                                                    | Ortmanns                             | 6         | On-site       |
| Project High-Frequency Amplifier Design                                                 | Kissinger                            | 6         | On-site       |
| Project High-Frequency Integrated Circuit Design                                        | Kissinger                            | 6         | On-site       |
| Project Medical Wearables                                                               | Karlen                               | 6         | Combi         |
| Project Wireless Link Design                                                            | Hitzler                              | 5         | On-site       |
| Projekt Automatisiertes Fahren                                                          | Buchholz                             | 5         | Combi         |
| Projekt Dialogsysteme für Ingenieure                                                    | Minker                               | 6         | On-site       |
| Projekt Internet Measurement I                                                          | Wendzel ( <i>Computer Science</i> )  | 8         |               |
| <b>C COMPLEMENTARY AREA</b>                                                             |                                      |           |               |
| <b>C1 LANGUAGE SKILLS AND ELECTIVE KEY COMPETENCES</b>                                  |                                      |           |               |
| Deutsch für Communication and Information Technology II - Kurs 1 (GER A1)               | Husemann                             | 4         |               |
| Deutsch für Communication and Information Technology II - Kurs 2 (GER A2)               | Husemann                             | 4         |               |
| Deutsch für Communication and Information Technology II - Kurs 3 (GER B1)               | Husemann                             | 4         |               |
| <b>C2 INTERDISCIPLINARY COMPETENCES</b>                                                 |                                      |           |               |
| Design of Embedded Real-Time Systems / Entwurfsmethodik Eingebetteter Echtzeitsysteme   | Slomka ( <i>Computer Science</i> )   | 6         |               |
| Projectseminar Deep Learning Architectures / Projektseminar Deep Learning Architectures | Braun ( <i>Computer Science</i> )    | 8         |               |
| Project Learning Robots / Projekt Learning Robots                                       | Braun ( <i>Computer Science</i> )    | 8         |               |