

# Curriculum

## SE – Green Electronics

Bachelor | Full-time | english

| Semester 1                                        | ECTS |
|---------------------------------------------------|------|
| Mathematics for Science 1                         | 5    |
| Experimental Physics 1: Motion                    | 5    |
| Circuit Analysis Methods                          | 5    |
| Sustainability concepts and studying successfully | 5    |
| Starting Project                                  | 5    |
| Computer Science                                  | 5    |
| Sum                                               | 30   |

| Semester 2                              | ECTS |
|-----------------------------------------|------|
| Mathematics for Science 2               | 5    |
| Experimental Physics 2: Electrodynamics | 5    |
| Semiconductors and Circuits             | 5    |
| Circular Economy and Waste Materials    | 5    |
| Embedded Systems Programming            | 5    |
| Signals and Systems 1                   | 5    |
| Sum                                     | 30   |

| Semester 3                          | ECTS |
|-------------------------------------|------|
| Measurement Systems                 | 5    |
| AC Analysis                         | 5    |
| Signals and Systems 2               | 5    |
| Lifecycle Assessment and Eco Design | 5    |
| Embedded Systems Applications       | 5    |
| Digital Circuits Design             | 5    |
| Sum                                 | 30   |

| Semester 4                                   | ECTS |
|----------------------------------------------|------|
| Control Engineering                          | 5    |
| Analog Circuits Design                       | 5    |
| Power Electronics                            | 5    |
| Sustainable Materials and Smart Technologies | 5    |

| Elective Topic 1 (choose 1)             | 5  |
|-----------------------------------------|----|
| a Device Development (e)                |    |
| b Designing Experiments                 |    |
| c Mechanics of Materials (m)            |    |
| d Embedded Communication Systems        |    |
| e Energy generation and modern networks |    |
| <b>Project Workshop</b>                 |    |
| EDU Project + Projectmanagement         | 5  |
| Sum                                     | 30 |

| Semester 5                               | ECTS |
|------------------------------------------|------|
| FPGA Systems                             | 5    |
| Elective Topic 2 (choose 1)              | 5    |
| a Automotive Hybrids (m)                 |      |
| b Smart Automation (m)                   |      |
| c IIoT and Python Programming            |      |
| d ROS 2 for Industrial Robots (m)        |      |
| e Integrated Circuits Basics (e)         |      |
| f Computer Aided Systems Engineering     |      |
| g Power Electronics, Applications (e)    |      |
| Elective Topic 3                         | 5    |
| Open Choice Module                       |      |
| Renewable Energy Systems                 | 5    |
| <b>Capstone Projekt:</b>                 |      |
| Bachelor Project + Science Communication | 10   |
| Sum                                      | 30   |

| Semester 6                                                       | ECTS |
|------------------------------------------------------------------|------|
| <b>Industrial Training:</b><br>Internship + Seminar              | 15   |
| Skills for International Collaborations                          | 5    |
| Completion of Bachelor Degree:<br>Bachelor Thesis, Seminar, Exam | 10   |
| Sum                                                              | 30   |

|                  |            |
|------------------|------------|
| <b>Total Sum</b> | <b>180</b> |
|------------------|------------|

**Green Modules** = study-related sustainability topics

**Elective Topic 1 and 2:** Choose 1 out of proposed courses

**Elective Topic 3:** Open Choice Module = Choose from any internal or external courses

**ECTS:** European Credit Transfer System