Module name	**Software Engineering Advanced**
Module number	EuI-ET-C-SwEgV, EuI-BMT-C-SwEgV, EuI-MT-C-SwEgV
Lecturer in charge	Prof. Dr.-Ing. Dr. h. c. Frank H.P. Fitzek frank.fitzek@tu-dresden.de
Objectives	After completing the module, students will be able to apply their programming skills to an embedded system and select different programming environments based on their complexity and level of application.
Contents	The contents of the module are embedded systems such as Raspberry Pi Pico and the efficient and portable programming of data structures and algorithms in a typed procedural language such as C as well as the comparison with other languages such as Assembler or MicroPython. The module also includes object-oriented programming languages.
Modes of teaching and learning	2 hours per week lectures, 1 hour per week exercises, 1 hour per week practical lab courses and self-study.
Prerequisites	The skills to be acquired in the modules **Software Engineering Basics** are required.
Usability	The module is a compulsory module in the basic studies of the degree programmes Electrical Engineering, Biomedical Engineering, Mechatronics. It creates the prerequisites for the modules that list that module in the "Prerequisites" field.
Requirements for the award of credit points	The credit points are awarded when the module assessment is passed. The module assessment consists of a complex assignment of 60 hours.
Credit points and grades	5 credit points can be obtained by the module. The module grade is the grade of the examination.
Frequency	The module is offered every summer semester.
Workload	The total effort is 150 hours.
Duration	The module takes one semester.