

Module name	<b>Software Technology</b>
Module number	INF-IST-C-SWT, INF-MT-E-SWT
Lecturer in charge	Prof. Dr. Uwe Aßmann uwe.assmann@tu-dresden.de
Objectives	After completing the module, students know the methods for developing software systems. They are able to apply a systematic engineering-technical approach using the concepts of object orientation and to apply object-oriented modeling and programming languages in analysis, design and implementation.
Contents	The contents of the module are the introduction to an object-oriented modeling language such as the Unified Modeling Language (UML) as well as reuse aspects in an object-oriented programming language such as Java, with particular emphasis on the use of class libraries and design patterns. The module also includes an introduction to object-oriented analysis, design and architecture. Basic information on project management, agile software development and software quality assurance round off the content.
Modes of teaching and learning	2 hours per week lectures, 2 hours per week exercises and self-study.
Prerequisites	In the Diploma programme Information Systems Engineering the skills acquired in the modules <b>RoboLab</b> and <b>Algorithms and Data Structures</b> , in particular the programming of class structures and procedures, are required. In the Diploma programme Mechatronics skills acquired in the modules <b>Software Engineering Basics</b> and <b>Software Engineering Advanced</b> are required.
Usability	The module is a compulsory module in the basic studies of the degree programme Information Systems Engineering. Further, it is a compulsory elective module from the compulsory elective area Methods and Applications according to § 6 paragraph 3 SO and § 33 paragraph 3 PO of the main course of study in the Diploma degree programme 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 written exam of 120 minutes. A bonus to the written exam is the completion of 15 hours of exercises.
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.
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