Module name	**Programming and RoboLab**
Module number	INF-IST-C-Prg
Lecturer in charge	Prof. Dr. Christof Fetzer christof.fetzer@tu-dresden.de
Objectives	After completing the module, students are familiar with the structure and functioning of programming languages, have programming skills, and can apply these in a practical manner. They are able to solve problems independently, learn additional programming languages on their own, and transfer their skills to these languages. They can analyze and evaluate programming languages. This enables them to analyze and evaluate programming languages in order to select the appropriate language for solving various problems. Students acquire skills in solving complex tasks within a team.
Contents	The module covers the use and development of formal tools, the fundamentals of computation, translation of program constructors, program transformations, and the verification of program properties.
Modes of teaching and learning	2 hours per week lectures, 2 hours per week exercises, 4 hours per week practical lab courses and self-study.
Prerequisites	Mathematical knowledge at basic A-level are required.
Usability	The module is a compulsory module in the basic studies of the degree programme Information Systems Engineering. 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 90 minutes and a complex exam of 80 hours. Both exam components are relevant to passing the module. Bonus points for the exam can be earned by completing 15 hours of practice exercises.
Credit points and grades	9 credit points can be obtained by the module. The module grade is the unweighted mean of the examinations.
Frequency	The module is offered every winter semester.
Workload	The total effort is 270 hours.
Duration	The module takes one semester.