

Module title		Module code
Programming 1		
Person responsible for the module	Faculty	
Prof. Dr. Florian Heinz	Computer Science and mathematics	

Semester taught according to the curriculum	Level of study	Module type	Credit value
1.	1.		8

Mandatory requirements
No previous knowledge required
Recommended previous knowledge
No previous knowledge required

Content
see next page

Assigned submodules

Nr.	Submodule title	Teaching hours	Credit value
1.	Programming 1	6 SWS	8

Submodule		Submodule abbreviation	
Programming 1		PG1	
Responsible person		Faculty	
Prof. Dr. Florian Heinz		Computer Science and mathematics	
Lecturer		Availability of module	
Sebastian Fischer (LBA)			
Teaching method			
Seminar teaching (4 SWS) and tutorial (2 SWS)			

Semester taught according to the curriculum	Teaching hours	Teaching language	Credit value
1	6 SWS		8

Study hours required

Hours in attendance/lectures	Hours for self-study
90h	150h

Method of assessment
written exam 90 minutes

Content
<ul style="list-style-type: none"> - Coding, compiling, linking and debugging (with and without IDE) program structure / modules - Statements, expressions - Data types, variables, constants and their visibility - Standard input/output functions - Operators (including arithmetic, relational, logical, bit operators) - Preprocessor - Control structures - Array handling - String handling - Functions (e.g. main with/without arguments) call by value, call by reference - Recursive functions - Variable qualifiers (const, external, static, volatile) - Pointers (including double pointers and functions, pointer arithmetic) - User-defined data types (e.g. enum, struct, union, typedef) - Dynamic memory management (malloc, realloc, free) - Linked lists
Learning objectives: Subject competence
<p>After successful completion of the submodule, students are able to,</p> <p>... understand the concepts of procedural languages (1)</p> <p>... understand and apply the syntax of the programming language C (3)</p>