

Scientific C++ Programming (Advanced)					
Module-No./Abbreviation CE-WP32/SCPA	Credits 3 CP	Workload 90 h	Term 2 nd Sem.	Frequency Summer term	Duration 1 Semester
Courses Scientific C++ Programming (Advanced)			Contact hours 2 SWS (30 h)	Self-Study 60 h	Group Size: No Restrictions
Prerequisites -					
Learning goals / Competences: After successfully completing the module, the students <ul style="list-style-type: none"> • are familiar with advanced programming concepts and constructs in C++, • are able to design and develop modern C++ applications using latest language features, • can review and contribute to advanced C++ projects. 					
Content The lecture addresses advanced topics in C++ programming. Object-oriented programming concepts such as classes, inheritance and polymorphism as well as generic programming concepts such as templates are introduced. The standard template library (STL) and selected functionalities from C++14 and above are surveyed. Best practices as well as the organization and development of advanced C++ projects are discussed. In hands-on sessions, programming exercises are used to discuss and illustrate the presented content.					
Teaching methods / Language Lecture, Exercise (2h / week)/ English					
Mode of assessment Written examination (120 min., 100%)					
Requirement for the award of credit points Passed final module examination					
Module applicability -					
Weight of the mark for the final score -					
Module coordinator and lecturer(s) Prof. Dr. A. Vogel, Assistants					
Further information					