### Scientific C++ Programming (Basics)

<table>
<thead>
<tr>
<th>Module-No./Abbreviation</th>
<th>Credits</th>
<th>Workload</th>
<th>Term</th>
<th>Frequency</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE-W09/SCP B</td>
<td>3 CP</td>
<td>90 h</td>
<td>1st Sem.</td>
<td>Winter term</td>
<td>1 Semester</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Courses</th>
<th>Contact hours</th>
<th>Self-Study</th>
<th>Group Size:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific C++ Programming (Basics)</td>
<td>2 SWS (30 h)</td>
<td>60 h</td>
<td>No Restrictions</td>
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### Prerequisites
- 

### Learning goals / Competences:
After successfully completing the module, the students
- are familiar with basic programming concepts and constructs in C++,
- are able to design and develop C++ applications and to work with C++ environments,
- can review and contribute to basic C++ projects.

### Content
The lecture provides an introduction to C++ programming. Basics programming concepts such as types, statements, functions, pointers, memory management and data structures are introduced. Best practices as well as the organization and development of C++ projects are discussed. An introduction to C++ compilers, debugging concepts and development tools is provided.

In hands-on sessions, programming exercises are used to discuss and illustrate the presented content.

### Teaching methods / Language
Block course (equiv. to 2 SWS) / 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