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<th>Module level</th>
<th>Credit points</th>
<th>Language</th>
<th>Return annual</th>
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<td>Master</td>
<td>6</td>
<td>English</td>
<td>annual</td>
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**Module designation**

**Computational Fluid Dynamics (CFD)**

**Course(s)**

1. **Methods of Numerical Simulation**
2. **Mesh generation and Applications**

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**Person responsible for the module**

Prof. Dr. Andreas Meister, Prof. Dr.-Ing. Olaf Wünsch

**Lecturer**

1. Prof. Dr. Andreas Meister
2. Prof. Dr.-Ing. Olaf Wünsch

**Workload**

1. Workload: 90 h (15 h online presentation, 45 h private study, 30 h exercise)
2. Workload: 90 h (15 h online presentation, 45 h private study, 30 h exercise)

**Relation to curriculum**

Specialist studies, Simulation and Structural Technology, elective

**Type of teaching, contact hours**

Skype, virtual classrooms, online presentation, digital communication

**Requirements according to examination regulations**

Module Fluid Mechanics

**Recommended prerequisites**

Modules Fluid Mechanics, Theoretical Fluid Mechanics, Mathematics

**Module objective / intended learning outcomes**

Students know how to develop and apply methods for numerical simulations.

**Content**

**Methods of Numerical Simulation**

Part 1 Introduction to general numerical methods

Part 2 Advances in Finite Volume schemes and Applications

**Mesh generation and Application**

Part 1 Discretization of flow domains and mesh generation (structured/unstructured meshes, grid generation techniques, quality of meshes)

Part 2 Applications of CFD (simulations of fluid flows in technical apparatus)

**Study and examination requirements and forms of examination**

Multiple-choice-test (30min) and online oral examination (30 min) or Written exam (120 min). The examinations are going to 75% (oral examination) of the shares and 25% (Multiple-choice-test) in the final grade of the module.

**Media employed**

online script

**Reading list**


