Study Card

Module No. Geo_M102  
Semester 1  
Teaching staff Prof. Dr.-Ing. Delf Egge  
Module-coordinator (designated each sem.) Prof. Dr.-Ing. Delf Egge

<table>
<thead>
<tr>
<th>Module name</th>
<th>Subject areas</th>
<th>Duration/sem.</th>
<th>Frequency of offering</th>
<th>Type (C/CE/E)</th>
<th>Emphasis in overall grade / %</th>
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</thead>
<tbody>
<tr>
<td>Software Technology</td>
<td>Hydrography</td>
<td>1 Semester</td>
<td>each WiSe</td>
<td>C</td>
<td>4,16 %</td>
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<tr>
<th>CP (according to ECTS)</th>
<th>Workload / h</th>
<th>Self-study / h.</th>
<th>Contact time / h.</th>
<th>Contact hours / week (SWS)</th>
<th>Type of examination</th>
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<tbody>
<tr>
<td>5CP</td>
<td>155</td>
<td>99</td>
<td>56</td>
<td>4 + 0</td>
<td>oral (graded)</td>
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Previous knowledge / Conditions for participation (in form and content)

-  

Educational aims of the module (Learning objectives/results, skills)

The students are enabled to solve complex problems with modern software technology. The use primarily UML and Java. Application examples deal with geodata that is available on the internet for free. These data are used for various visualizations.

Course contents

Object-Oriented Programming:
- Proj.: Digital Cartography
- Object oriented programming:
- Object oriented analysis, design, and programming.
- Concepts: complexity, object model, classes and objects, class definition.
- Method: notation, symbols, diagrams; development processes, aspects of pragmatic operation.
- Design patterns.
- Program development:
- Application of the “Unified Modeling Language” (UML) with an interactive software tool, e.g. Rational Rose.
- Java implementations:
- Java programming language and application programming interfaces (API), UML-Java transfer.
- Network Common Data Format (netCDF) and Generic Mapping Tools (GMT):
- Understanding the most important parts of the GMT and Java interfaces for netCDF.
- Project work:
- Software development in Java for a project in digital cartography

Teaching and learning methods

Taught seminars

Condition for awarding the ECTS-credits

Oral examination

Additional Information

Latest update: 06/2011