

# Study Card

Master Geomatik  
HCU Hamburg

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

Module name	Subject areas	Duration/sem.	Frequency of offering	Type (C/CE/E)	Emphasis in overall grade / %
Software Technology	Hydrography	1 Semester	each WiSe	C	4,16 %

CP (according to ECTS)	Workload / h	Self-study / h.	Contact time / h.	Contact hours / week (SWS)	Type of examination
5CP	155	99	56	4 + 0	oral (graded)

Previous knowledge / Conditions for participation (in form and content)

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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