Module title: Computeroriented Mathematics
Abbreviation: 10-M-COM-082-m01

Module coordinator: Dean of Studies Mathematik (Mathematics)
Module offered by: Institute of Mathematics

ECTS: 3
Method of grading: (not) successfully completed
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: undergraduate
Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises (attendance monitored, a maximum of one incident of unexcused absence).

Contents:
Introduction to modern mathematical software for symbolic computation (e. g. Mathematica or Maple) and numerical computation (e. g. Matlab) to supplement the basic modules in analysis and linear algebra ((10-M-ANA or 10-M-ANL) and 10-M-LNA). Computer-based solution of problems in linear algebra, geometry, analysis, in particular differential and integral calculus; visualisation of functions.

Intended learning outcomes:
The student learns the use of advanced modern mathematical software packages, and is able to assess their fields of application to solve mathematical problems.

Courses:
V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment:
project in the form of programming exercises (as specified at the beginning of the course)
Assessment offered: once a year, summer semester
Language of assessment: German, English if agreed upon with the examiner

Allocation of places:
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Additional information:
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Referred to in LPO I (examination regulations for teaching-degree programmes):
§ 73 (1) 5. Mathematik Angewandte Mathematik

Module appears in:
Bachelor' degree (1 major) Computer Science (2010)
Bachelor' degree (1 major) Mathematics (2008)
Bachelor' degree (1 major) Physics (2010)
Bachelor' degree (1 major) Physics (2009)
Bachelor' degree (1 major) Physics (2012)
Bachelor' degree (1 major) Physics (2008)
Bachelor' degree (1 major) Technology of Functional Materials (2009)
Bachelor' degree (1 major) Technology of Functional Materials (2010)
Bachelor' degree (1 major) Nanostructure Technology (2010)
Bachelor' degree (1 major) Economathematics (2009)
Bachelor' degree (1 major) Economathematics (2008)
Bachelor' degree (1 major) Mathematical Physics (2009)
Bachelor' degree (1 major) Computational Mathematics (2009)
Master's degree (1 major) Physics (2010)
Master's degree (1 major) Technology of Functional Materials (2010)
<table>
<thead>
<tr>
<th>Degree/Exam</th>
<th>Date</th>
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<tbody>
<tr>
<td>Master's degree (1 major) Technology of Functional Materials</td>
<td>2009</td>
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<tr>
<td>Master's degree (1 major) Functional Materials</td>
<td>2012</td>
</tr>
<tr>
<td>Bachelor's degree (1 major, 1 minor) Mathematics (Minor)</td>
<td>2008</td>
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<tr>
<td>First state examination for the teaching degree Gymnasium Mathematics</td>
<td>2009</td>
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