Module title: Lab Course A
Abbreviation: 11-P-PA-112-m01

Module coordinator: Managing Director of the Institute of Applied Physics
Module offered by: Faculty of Physics and Astronomy

ECTS: 5
Method of grading: Only after succ. compl. of module(s)
Duration: 1 semester
Module level: undergraduate

Other prerequisites: --

Contents:
Physical laws of mechanics, thermodynamics, science of electricity, types of error, error approximation and propagation, graphs, linear regression, average values and standard deviation, distribution functions, significance tests, writing of lab reports and publications.

Intended learning outcomes:
The students know and have mastered physical measuring methods and experimenting techniques. They are able to independently plan and conduct experiments, to cooperate with others, and to document the results in a measuring protocol. They are able to evaluate the measuring results on the basis of error propagation and of the principles of statistics and to draw, present and discuss the conclusions.

Courses:
Auswertung von Messungen und Fehlerrechnung (Measurements and Data Analysis): V (1 weekly contact hour) + Ü (1 weekly contact hour), once a year (winter semester)
Beispiele aus Mechanik, Wärmelehre und Elektrik (Examples from Mechanics, Thermodynamics and Electricity, BAM): P (2 weekly contact hours)

Method of assessment:
This module has the following assessment components
1. Topics covered in lectures and exercises: written examination (approx. 120 minutes)
2. Lab course: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes).

Successful completion of approx. 50% of practice work is a prerequisite for admission to assessment component 1.
To pass assessment component 2, students must pass both elements a) and b). Students will be offered one opportunity to retake element a) and/or element b).
Students must register for assessment components 1 and 2 online (details to be announced).

Allocation of places:
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Additional information:
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Referred to in LPO I (examination regulations for teaching-degree programmes)
§ 53 (1) 1. a) Physik Mechanik, Wärmelehre, Elektrizitätslehre, Optik, der speziellen Relativitätstheorie
§ 53 (1) 1. c) Physik physikalische Grundpraktika
§ 77 (1) 1. a) Physik "Grundlagen der Experimentalphysik"
§ 77 (1) 1. d) Physik "physikalische Praktika"

Module appears in
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<thead>
<tr>
<th>Degree/Major</th>
<th>Year</th>
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<tbody>
<tr>
<td>Bachelor' degree (1 major) Mathematics</td>
<td>2012</td>
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<tr>
<td>Bachelor' degree (1 major) Mathematics</td>
<td>2013</td>
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<tr>
<td>Bachelor' degree (1 major) Physics</td>
<td>2012</td>
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<tr>
<td>Bachelor' degree (1 major) Nanostructure Technology</td>
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<td>Bachelor' degree (1 major) Mathematical Physics</td>
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