### Module description

#### Laboratory and Measurement Technology in Biophysics

**Module title**
Laboratory and Measurement Technology in Biophysics

**Abbreviation**
11-LMB-152-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
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<tbody>
<tr>
<td>Managing Director of the Institute of Applied Physics</td>
<td>Faculty of Physics and Astronomy</td>
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<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
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<tr>
<td>6</td>
<td>numerical grade</td>
<td>1 semester</td>
<td>graduate</td>
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**Contents**
The lecture covers relevant principles of molecular and cellular biology as well as the physical principles of biophysical procedures for the examination and manipulation of biological systems. The main topics are optical measuring techniques and sensors, methods of single-particle detection, special microscoping techniques and methods of structure elucidation of biomolecules.

**Intended learning outcomes**
The students know the principles of molecular and cellular biology as well as the physical principles of biophysical procedures for the examination and manipulation of biological systems. They have knowledge of optical measuring techniques and their applications and are able to apply techniques of structure elucidation to simple biomolecules.

**Courses**
(type, number of weekly contact hours, language — if other than German)
V (3) + R (1)  
Module taught in: German or English

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes).
If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.
Assessment offered: Once a year, summer semester
Language of assessment: German and/or English

**Allocation of places**
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**Additional information**
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**Referred to in LPO I**
(examination regulations for teaching-degree programmes)
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**Module appears in**
Bachelor' degree (1 major) Physics (2015)
Bachelor' degree (1 major) Nanostructure Technology (2015)
Master's degree (1 major) Functional Materials (2016)
Bachelor' degree (1 major) Physics (2020)
Bachelor' degree (1 major) Nanostructure Technology (2020)
Bachelor' degree (1 major) Quantum Technology (2021)