Subdivided Module Catalogue
for the Module studies (Bachelor)

Quantum Technology

Examination regulations version: 2021
Responsible: Faculty of Physics and Astronomy
Abbreviations used

Course types: 
- **E** = field trip,
- **K** = colloquium,
- **O** = conversatorium,
- **P** = placement/lab course,
- **R** = project,
- **S** = seminar,
- **T** = tutorial,
- **Ü** = exercise,
- **V** = lecture

Term: 
- **SS** = summer semester,
- **WS** = winter semester

Methods of grading: 
- **NUM** = numerical grade,
- **B/NB** = (not) successfully completed

Regulations: 
- **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes),
- **FSB** = subject-specific provisions,
- **SFB** = list of modules

Other: 
- **A** = thesis,
- **LV** = course(s),
- **PL** = assessment(s),
- **TN** = participants,
- **VL** = prerequisite(s)

Conventions

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Notes

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should the module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with

the general regulations governing the degree subject described in this module catalogue:

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

- 14-Nov-2019 (2019-52)
- 22-Jan-2020 (2020-13)
- 06-May-2019 (2020-39)
- 22-Jul-2020 (2020-57)
- 17-Dec-2020 (2020-110)
- 10-Mar-2021 (2021-17)
09-Jun-2021 (2021-58)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.
The subject is divided into

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<thead>
<tr>
<th>Abbreviation</th>
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<th>Method of grading</th>
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<tr>
<td>11-BXP8-152-m01</td>
<td>Current Topics in Physics</td>
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<td>5</td>
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<tr>
<td>11-BXP6-152-m01</td>
<td>Current Topics in Physics</td>
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<tr>
<td>11-BXP5-152-m01</td>
<td>Current Topics Physics</td>
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<td>7</td>
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<tr>
<td>11-BXN5-212-m01</td>
<td>Current Topics in Quantum Technology</td>
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<td>Current Topics in Quantum Technology</td>
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<td>11-BXN8-212-m01</td>
<td>Current Topics in Quantum Technology</td>
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<tr>
<td>11-CSEM6-152-m01</td>
<td>Selected Topics in Energy and Material Science</td>
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<td>11-CSF6-152-m01</td>
<td>Selected Topics in Solid State Physics</td>
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<td>11-CSN6-212-m01</td>
<td>Selected Topics in Quantum Technology</td>
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#### Module coordinator
Chairperson of examination committee

#### Module offered by
Faculty of Physics and Astronomy

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<th>ECTS</th>
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<tr>
<td>8</td>
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</table>

#### Duration
1 semester

#### Module level
Undergraduate

#### Other prerequisites
Approval from examination committee required.

### Contents

Current topics of Experimental and Theoretical Physics. Accredited academic achievements, e.g. in case of change of university or study abroad.

### Intended learning outcomes

The students have advanced competencies corresponding to the requirements of a module of Experimental or Theoretical Physics of the Bachelor’s programme of Nanostructure Technology. They have knowledge of a current subdiscipline of Physics and understand the measuring and/or calculation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.

### Courses

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
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<tbody>
<tr>
<td>V (4) + R (2)</td>
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### Method of assessment

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.

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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Current topics of Experimental and Theoretical Physics. Accredited academic achievements, e.g. in case of change of university or study abroad.

**Intended learning outcomes**

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**Courses** (type, number of weekly contact hours, language — if other than German)

V (3) + R (1)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

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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)

--
Current title Physics

Module coordinator
Chairperson of examination committee

Module offered by
Faculty of Physics and Astronomy

ECTS
5

Method of grading
Numerical grade

Only after success completion of module(s)

Duration
1 semester

Module level
Undergraduate

Other prerequisites
Approval from examination committee required.

Contents
Current topics of Experimental and Theoretical Physics. Accredited academic achievements, e.g. in case of change of university or study abroad.

Intended learning outcomes
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Courses
Type, number of weekly contact hours, language — if other than German
V (2) + R (2)

Method of assessment
Type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus

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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 title | Abbreviation
---|---
Current Topics in Quantum Technology | 11-BXN5-212-m01

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

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Contents
Current topics in experimental physics. Credited academic achievements, e.g. in case of change of university or study abroad.

Intended learning outcomes
The student possesses advanced knowledge meeting the requirements of a module in Nanosciences or Quantum Technology on Bachelor’s level. He/She commands knowledge in a current field in Quantum Technology or Nanosciences and insight into the measuring and evaluation methods which are necessary to acquire this knowledge. He/She is able to classify and to link the learnt. He/She knows about fields of application.

Courses (type, number of weekly contact hours, language — if other than German)
V (2) + R (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
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Language of assessment: German and/or English

Allocation of places
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Additional information
Approval from examination committee required.

Referred to in LPO I (examination regulations for teaching-degree programmes)
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## Current Topics in Quantum Technology

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### Intended learning outcomes

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### Courses (type, number of weekly contact hours, language — if other than German)

- V (3) + R (1)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

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Language of assessment: German and/or English

### Allocation of places

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### Additional information

Approval from examination committee required.

### Referred to in LPO I (examination regulations for teaching-degree programmes)

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**Intended learning outcomes**

The student possesses advanced knowledge meeting the requirements of a module in Nanosciences or Quantum Technology on Bachelor's level. He/She commands knowledge in a current field in Quantum Technology or Nanosciences and insight into the measuring and evaluation methods which are necessary to acquire this knowledge. He/She is able to classify and to link the learnt. He/She knows about fields of application.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (4) + R (2)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

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Language of assessment: German and/or English

**Allocation of places**

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**Additional information**

Approval from examination committee required.

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

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### Module Catalogue for the Module studies (Bachelor)

**Quantum Technology**

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<tr>
<th>Module title</th>
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<td>1 semester</td>
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**Contents**

Selected topics of energy and materials research.

**Intended learning outcomes**

The students have basic knowledge of energy and material research and understand the measuring and evaluation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.

**Courses**

(type, number of weekly contact hours, language — if other than German)

| V (3) + R (1) |

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes)
- 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).

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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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<table>
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<th>Module title</th>
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<tr>
<td>Selected Topics in Solid State Physics</td>
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**Module coordinator**

Chairperson of examination committee

**Module offered by**

Faculty of Physics and Astronomy

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**Duration**

1 semester

**Module level**

Undergraduate

**Other prerequisites**

Approval from examination committee required.

**Contents**

Selected topics of Solid-State Physics.

**Intended learning outcomes**

The students have basic knowledge of a specialist field of Solid-State Physics and understand the measuring and evaluation methods necessary to acquire this knowledge. They are able to classify the subject-specific contexts and know the application areas.

**Courses** (type, number of weekly contact hours, language — if other than German)

V (3) + R (1)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

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- 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 coordinator**
Managing Director of the Institute of Applied Physics

**Module offered by**
Faculty of Physics and Astronomy

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**Intended learning outcomes**
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**Courses** (type, number of weekly contact hours, language — if other than German)
V (3) + R (1)

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Language of assessment: German and/or English

**Allocation of places**
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Approval from examination committee required.

**Referred to in LPO I** (examination regulations for teaching-degree programmes)
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