Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject
Mathematics as a Bachelor's with 1 major
with the degree "Bachelor of Science" (180 ECTS credits)

Responsible: Institute of Mathematics

Examination regulations version: 2015

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

Information on assessment procedures:
- 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 a 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:

**ASPO2015**

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

**5-Oct-2015 (2015-175)**

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.

Every module will be described using the following form:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Module title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECTS</td>
<td>Duration</td>
</tr>
<tr>
<td>Courses</td>
<td>To be specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y</td>
</tr>
<tr>
<td>Method of assessment</td>
<td></td>
</tr>
<tr>
<td>Only after successful completion of</td>
<td>if applicable</td>
</tr>
<tr>
<td>Other prerequisites</td>
<td>if applicable</td>
</tr>
<tr>
<td>Participants and allocation of places</td>
<td>if applicable</td>
</tr>
<tr>
<td>Additional information</td>
<td>if applicable</td>
</tr>
<tr>
<td>Referred to in LPO I</td>
<td>if applicable (examination regulations for teaching-degree programmes)</td>
</tr>
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</table>
### Compulsory Courses (40 ECTS credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
<th>Duration (semesters)</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-ANA-Ü-152-m01</td>
<td>Overview Analysis</td>
<td>14</td>
<td>1</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Method of assessment</td>
<td>oral examination of one candidate each (20 to 40 minutes) Assessment will have reference to the contents of modules 10-M-ANA1 and 10-M-ANA2.</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
<th>Duration (semesters)</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-LNA-Ü-152-m01</td>
<td>Overview Linear Algebra</td>
<td>14</td>
<td>1</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>oral examination of one candidate each (20 to 40 minutes) Assessment will have reference to the contents of modules 10-M-LNA1 and 10-M-LNA2.</td>
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
<th>Duration (semesters)</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-VAN-152-m01</td>
<td>Advanced Analysis</td>
<td>7</td>
<td>1</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
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</tr>
<tr>
<td>Method of assessment</td>
<td>a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)</td>
<td></td>
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<td></td>
<td>Language of assessment: German and/or English</td>
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<tr>
<td></td>
<td>creditable for bonus</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
<th>Duration (semesters)</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
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<tbody>
<tr>
<td>10-M-SEM-152-m01</td>
<td>Seminar Mathematics</td>
<td>5</td>
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<td>numerical grade</td>
<td>undergraduate</td>
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<tr>
<td>Courses</td>
<td>S (2)</td>
<td></td>
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</tr>
<tr>
<td>Method of assessment</td>
<td>talk (60 to 120 minutes)</td>
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<td>Referred to in LPO</td>
<td>§ 22 II Nr. 3 f)</td>
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### Advanced Analysis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
<th>Duration (semesters)</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-ANA1-152-m01</td>
<td>Analysis 1</td>
<td>8</td>
<td>1</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English</td>
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</tr>
</tbody>
</table>

### Compulsory Electives Mathematics (79 ECTS credits)

### Subfield Electives Mathematics (8 ECTS credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
<th>Duration (semesters)</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-ANA1-152-m01</td>
<td>Analysis 1</td>
<td>8</td>
<td>1</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English</td>
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</tr>
<tr>
<td>Code</td>
<td>Module Title</td>
<td>ECTS</td>
<td>Duration</td>
<td>Method of Grading</td>
<td>Modul Level</td>
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<td>-------------</td>
</tr>
<tr>
<td>10-M-ANA2-152-m01</td>
<td>Analysis 2</td>
<td>8</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

| Courses | V (4) + Ü (2) | Method of assessment | written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) | Language of assessment: German and/or English |

### Subfield Basics of Linear Algebra (8 ECTS credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Modul Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-LNA1-152-m01</td>
<td>Linear Algebra 1</td>
<td>8</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>9.5 credits</td>
</tr>
</tbody>
</table>

| Courses | V (4) + Ü (2) | Method of assessment | written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) | Language of assessment: German and/or English |

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Modul Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-LNA2-152-m01</td>
<td>Linear Algebra 2</td>
<td>8</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>9.5 credits</td>
</tr>
</tbody>
</table>

| Courses | V (4) + Ü (2) | Method of assessment | written examination (approx. 90 to 180 minutes) and written exercises (approx. 12 exercise sheets with approx. 4 exercises each) | Language of assessment: German and/or English |

### Subfield Basics of Applied Mathematics (9 ECTS credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Modul Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-NUM1-152-m01</td>
<td>Numerical Mathematics 1</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>9.5 credits</td>
</tr>
</tbody>
</table>

| Courses | V (4) + Ü (2) | Method of assessment | a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) | Language of assessment: German and/or English creditable for bonus |

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Modul Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-NUM2-152-m01</td>
<td>Numerical Mathematics 2</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>9.5 credits</td>
</tr>
</tbody>
</table>

<p>| Courses | V (4) + Ü (2) | Method of assessment | a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) | Language of assessment: German and/or English creditable for bonus |</p>
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<tr>
<th>Course Code</th>
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<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-STO1-152-m01</td>
<td>Stochastics 1</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
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<td></td>
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<tr>
<td></td>
<td>Method of assessment</td>
<td>a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-M-STO2-152-m01</td>
<td>Stochastics 2</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
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<td></td>
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<tr>
<td></td>
<td>Method of assessment</td>
<td>a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus</td>
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<tr>
<td></td>
<td>Subfield Pure Mathematics (9 ECTS credits)</td>
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<tr>
<td>10-M-ALG-152-m01</td>
<td>Introduction to Algebra</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
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<td></td>
<td>Method of assessment</td>
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<td></td>
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<tr>
<td>10-M-DGE-152-m01</td>
<td>Introduction to Differential Geometry</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method of assessment</td>
<td>a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Assessment offered: In the semester in which the course is offered and in the subsequent semester Language of assessment: German and/or English creditable for bonus</td>
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<tr>
<td>10-M-DGL-152-m01</td>
<td>Ordinary Differential Equations</td>
<td>9</td>
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<td>(not) successfully completed</td>
<td>undergraduate</td>
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<td></td>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
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<td>Method of assessment</td>
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<tr>
<td>Code</td>
<td>Course</td>
<td>ECTS</td>
<td>Duration</td>
<td>Method of grading</td>
<td>Modul level</td>
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<tr>
<td>10-M-FTH-152-m01</td>
<td>Introduction to Complex Analysis</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td>10-M-GAN-152-m01</td>
<td>Geometric Analysis</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td>10-M-PGE-152-m01</td>
<td>Introduction to Projective Geometry</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td>10-M-NUM1-152-m01</td>
<td>Numerical Mathematics 1</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td>10-M-NUM2-152-m01</td>
<td>Numerical Mathematics 2</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

**Course Information**

- **Introduction to Complex Analysis**
  - ECTS: 9
  - Duration: 1 semester
  - Method of grading: (not) successfully completed
  - Modul level: undergraduate
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen)
    - b) oral examination of one candidate each (15 to 30 minutes)
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Language of assessment: German and/or English

- **Geometric Analysis**
  - ECTS: 9
  - Duration: 1 semester
  - Method of grading: (not) successfully completed
  - Modul level: undergraduate
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen)
    - b) oral examination of one candidate each (15 to 30 minutes)
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Language of assessment: German and/or English

- **Introduction to Projective Geometry**
  - ECTS: 9
  - Duration: 1 semester
  - Method of grading: (not) successfully completed
  - Modul level: undergraduate
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen)
    - b) oral examination of one candidate each (15 to 30 minutes)
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Language of assessment: German and/or English

**Assessment**

- Assessed in the semester in which the course is offered and in the subsequent semester
- Language of assessment: German and/or English
- Creditable for bonus

**Subfield Basics Specialization of Mathematics (9 ECTS credits)**

- **Numerical Mathematics 1**
  - ECTS: 9
  - Duration: 1 semester
  - Method of grading: (not) successfully completed
  - Modul level: undergraduate
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen)
    - b) oral examination of one candidate each (15 to 30 minutes)
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Language of assessment: German and/or English

- **Numerical Mathematics 2**
  - ECTS: 9
  - Duration: 1 semester
  - Method of grading: (not) successfully completed
  - Modul level: undergraduate
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen)
    - b) oral examination of one candidate each (15 to 30 minutes)
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Language of assessment: German and/or English

**Notes**

- Referred to in LPO I § 22 II Nr. 3 f)
- Examenregl. 82|105|H|2015
<table>
<thead>
<tr>
<th>Course Code</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Modul Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-STO1-152-m01</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>Stochastics 1</td>
</tr>
<tr>
<td>10-M-STO2-152-m01</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>Stochastics 2</td>
</tr>
<tr>
<td>10-M-ORS-152-m01</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>Operations Research</td>
</tr>
<tr>
<td>10-M-ALG-152-m01</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>Introduction to Algebra</td>
</tr>
<tr>
<td>10-M-DGE-152-m01</td>
<td>9</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
<td>Introduction to Differential Geometry</td>
</tr>
</tbody>
</table>

**Course Details**

- **Stochastics 1**
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen) or
    - b) oral examination of one candidate each (15 to 30 minutes) or
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Language of assessment: German and/or English
  - Creditable for bonus

- **Stochastics 2**
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen) or
    - b) oral examination of one candidate each (15 to 30 minutes) or
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Language of assessment: German and/or English
  - Creditable for bonus

- **Operations Research**
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen) or
    - b) oral examination of one candidate each (15 to 30 minutes) or
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Assessment offered: In the semester in which the course is offered and in the subsequent semester
  - Language of assessment: German and/or English
  - Creditable for bonus

- **Introduction to Algebra**
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen) or
    - b) oral examination of one candidate each (15 to 30 minutes) or
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Language of assessment: German and/or English
  - Creditable for bonus

- **Introduction to Differential Geometry**
  - Courses: V (4) + Ü (2)
  - Method of assessment:
    - a) written examination (approx. 90 to 180 minutes, usually chosen) or
    - b) oral examination of one candidate each (15 to 30 minutes) or
    - c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)
  - Assessment offered: In the semester in which the course is offered and in the subsequent semester
  - Language of assessment: German and/or English
  - Creditable for bonus
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**Courses**

- **V (4) + Ü (2)**

**Method of assessment**

- a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)

**Language of assessment:** German and/or English

**Creditable for bonus:**
**Introduction to Partial Differential Equations**

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**Courses**

| V (4) | Ü (2) |

**Method of assessment**

- a) written examination (approx. 90 to 180 minutes, usually chosen) or
- b) oral examination of one candidate each (15 to 30 minutes) or
- c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German and/or English

creditable for bonus

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**Introduction to Projective Geometry**

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**Courses**

| V (4) | Ü (2) |

**Method of assessment**

- a) written examination (approx. 90 to 180 minutes, usually chosen) or
- b) oral examination of one candidate each (15 to 30 minutes) or
- c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German and/or English

creditable for bonus

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**Introduction to Number Theory**

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**Courses**

| V (4) | Ü (2) |

**Method of assessment**

- a) written examination (approx. 90 to 180 minutes, usually chosen) or
- b) oral examination of one candidate each (15 to 30 minutes) or
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Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German and/or English

creditable for bonus

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**Subfield Overview Applied Mathematics (12 ECTS credits)**

**Overview Stochastics 1 and Stochastics 2**

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**Courses**

| V (4) | Ü (2) |

**Method of assessment**

- oral examination of one candidate each (20 to 40 minutes)

Assessment will have reference to two topics in applied mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).

Language of assessment: German and/or English

**Overview Numerical Mathematics 1 and Numerical Mathematics 2**

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**Courses**

| V (4) | Ü (2) |

**Method of assessment**

- oral examination of one candidate each (20 to 40 minutes)

Assessment will have reference to two topics in applied mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).

Language of assessment: German and/or English
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**Subfield Overview Pure Mathematics (12 ECTS credits)**

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| Overview Differential Geometry and Ordinary Differential Equations |
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| Courses | V (4) + Ü (2) |
| Method of assessment | oral examination of one candidate each (20 to 40 minutes) |
| Assessment will have reference to two topics in pure mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview). |
| Language of assessment: German and/or English |

| Overview Algebra and Complex Analysis |
| ECTS | 12 | Duration | 1 semester | Method of grading | numerical grade | Modul level | undergraduate |
| Courses | V (4) + Ü (2) |
| Method of assessment | oral examination of one candidate each (20 to 40 minutes) |
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| Language of assessment: German and/or English |

| Overview Complex Analysis and Differential Geometry |
| ECTS | 12 | Duration | 1 semester | Method of grading | numerical grade | Modul level | undergraduate |
| Courses | V (4) + Ü (2) |
| Method of assessment | oral examination of one candidate each (20 to 40 minutes) |
| Assessment will have reference to two topics in pure mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview). |
| Language of assessment: German and/or English |

<p>| Overview Complex Analysis and Ordinary Differential Equations |
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| Courses | V (4) + Ü (2) |
| Method of assessment | oral examination of one candidate each (20 to 40 minutes) |
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| 10-M-GAPA-Ü-152-m01 | Geometric Analysis and Partial Differential Equations | 12 | 1 semester | numerical grade | undergraduate | V (4) + Ü (2) | oral examination of one candidate each (20 to 40 minutes) 
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Language of assessment: German and/or English |
| 10-M-FAPA-Ü-152-m01 | Functional Analysis and Partial Differential Equations | 12 | 1 semester | numerical grade | undergraduate | V (4) + Ü (2) | oral examination of one candidate each (20 to 40 minutes) 
Assessment will have reference to two topics in pure mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview). 
Language of assessment: German and/or English |
| 10-M-PAZT-Ü-152-m01 | Partial Differential Equations and Number Theory | 12 | 1 semester | numerical grade | undergraduate | V (4) + Ü (2) | oral examination of one candidate each (20 to 40 minutes) 
Assessment will have reference to two topics in pure mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview). 
Language of assessment: German and/or English |
| 10-M-STO-Ü-152-m01 | Stochastics 1 and Stochastics 2 | 12 | 1 semester | numerical grade | undergraduate | V (4) + Ü (2) | oral examination of one candidate each (20 to 40 minutes) 
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</tr>
<tr>
<td>Module Code</td>
<td>Course Title</td>
<td>ECTS</td>
<td>Duration</td>
<td>Method of Grading</td>
<td>Modul Level</td>
<td>Sub-Fields</td>
</tr>
<tr>
<td>-------------</td>
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</tr>
<tr>
<td>10-M-ORNU1-Ü-152-m01</td>
<td>Overview Operations Research and Numerical Mathematics 1</td>
<td>12</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td>Overview</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>oral examination of one candidate each (20 to 40 minutes)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Assessment will have reference to two topics in applied mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).</td>
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<td></td>
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</tr>
<tr>
<td>Language of assessment: German and/or English</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-M-ORNU2-Ü-152-m01</td>
<td>Overview Operations Research and Numerical Mathematics 2</td>
<td>12</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td>Overview</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>oral examination of one candidate each (20 to 40 minutes)</td>
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<tr>
<td>Language of assessment: German and/or English</td>
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<tr>
<td>10-M-PAINU1-Ü-152-m01</td>
<td>Overview Partial Differential Equations and Numerical Mathematics 1</td>
<td>12</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td>Overview</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>oral examination of one candidate each (20 to 40 minutes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Assessment will have reference to two topics in pure and applied mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Language of assessment: German and/or English</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10-M-PAINU2-Ü-152-m01</td>
<td>Overview Partial Differential Equations and Numerical Mathematics 2</td>
<td>12</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td>Overview</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>oral examination of one candidate each (20 to 40 minutes)</td>
<td></td>
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</tr>
<tr>
<td>Assessment will have reference to two topics in pure and applied mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).</td>
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</tr>
<tr>
<td>Language of assessment: German and/or English</td>
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<td></td>
</tr>
<tr>
<td>10-M-ORFA-Ü-152-m01</td>
<td>Overview Operations Research and Functional Analysis</td>
<td>12</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td>Overview</td>
</tr>
<tr>
<td>Courses</td>
<td>V (4) + Ü (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>oral examination of one candidate each (20 to 40 minutes)</td>
<td></td>
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</tr>
<tr>
<td>Assessment will have reference to two topics in pure and applied mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).</td>
<td></td>
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</tr>
<tr>
<td>Language of assessment: German and/or English</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
**Overview Operations Research and Partial Differential Equations**

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Course Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-ORPA-Ü-152-m01</td>
<td>ECTS 12</td>
</tr>
<tr>
<td>Duration</td>
<td>Method of grading</td>
</tr>
<tr>
<td>1 semester</td>
<td>numerical grade</td>
</tr>
<tr>
<td>Courses</td>
<td>Modul level</td>
</tr>
<tr>
<td>V (4) + Ü (2)</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

Method of assessment: oral examination of one candidate each (20 to 40 minutes)
Assessment will have reference to two topics in pure and applied mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).

**Language of assessment:** German and/or English

<table>
<thead>
<tr>
<th>Compulsory Electives Application-oriented Subject (30 ECTS credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students must successfully complete modules worth 30 ECTS credits in a single one of the focuses listed below. In addition, students must successfully complete, in the area of mandatory electives application-oriented subject, modules with numerical grading worth no less than 15 ECTS credits, cf. Section 3 Subsection 2 Sentences 2 through 4 FSB (subject-specific provisions).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Focus Biology (0 or 30 ECTS credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modules General Biology I</td>
</tr>
<tr>
<td>The Plant Kingdom</td>
</tr>
<tr>
<td>ECTS 5</td>
</tr>
<tr>
<td>Duration</td>
</tr>
<tr>
<td>1 semester</td>
</tr>
<tr>
<td>Courses</td>
</tr>
<tr>
<td>V (1.5) + Ü (2.5)</td>
</tr>
</tbody>
</table>

Method of assessment: written examination (approx. 60 minutes)

other prerequisites:
Admission prerequisite to assessment: exercises. Regular attendance of exercises (minimum 80%) and successful completion of the respective exercises (approx. 25 to 30 hours) are prerequisites for admission to assessment.

§ 61 I Nr. 1 (4 ECTS credits) and § 61 I Nr. 4 (1 ECTS credits)
§ 41 I Nr. 1 (4 ECTS credits) and § 41 I Nr. 4 (1 ECTS credits)

Evolution and the Animal Kingdom |
| ECTS 5  |
| Duration | Method of grading |
| 1 semester | numerical grade |
| Courses | Modul level |
| V (2) + Ü (3) | undergraduate |

Method of assessment: written examination (approx. 60 minutes)

other prerequisites:
Admission prerequisite to assessment: exercises. Regular attendance (minimum 80%) and successful completion of exercises (approx. 25 to 30 hours) are prerequisites for admission to assessment.

§ 61 I Nr. 1 (4 ECTS credits) and § 61 I Nr. 4 (1 ECTS credits)
§ 41 I Nr. 1 (4 ECTS credits) and § 41 I Nr. 4 (1 ECTS credits)

Modules General Biology II |
| Plant Physiology |
| ECTS 4  |
| Duration | Method of grading |
| 1 semester | numerical grade |
| Courses | Modul level |
| V (1) + Ü (2) | undergraduate |

Method of assessment: written examination (approx. 60 minutes)

other prerequisites:
Admission prerequisite to assessment: exercises. Regular attendance (minimum 80%) and successful completion of exercises (approx. 25 to 30 hours) are prerequisites for admission to assessment.

§ 61 I Nr. 2
### Animal Physiology

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

- **Courses**: V (1) + Ü (2)
- **Method of assessment**: written examination (approx. 60 minutes) creditable for bonus
- **Other prerequisites**: Admission prerequisite to assessment: exercises. Regular attendance (minimum 80%) and successful completion of exercises (approx. 25 to 30 hours) are prerequisites for admission to assessment.
- **Referred to in LPO I**: § 61 I Nr. 2

### Genetics, Neurobiology, Behaviour

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

- **Courses**: V (3)
- **Method of assessment**: written examination (approx. 60 to 90 minutes) creditable for bonus
- **Other prerequisites**: Admission prerequisite to assessment: exercises. Regular attendance (minimum 80%) and successful completion of exercises (approx. 25 to 30 hours) are prerequisites for admission to assessment.
- **Referred to in LPO I**: § 61 I Nr. 2 (2 ECTS credits), § 61 I Nr. 3 (1 ECTS credits), § 61 I Nr. 4 (1 ECTS credits)

### Modules General Biology III

#### Developmental Biology of Animals

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

- **Courses**: V (1) + Ü (3)
- **Method of assessment**: written examination (approx. 60 minutes) creditable for bonus
- **Other prerequisites**: Admission prerequisite to assessment: exercises. Regular attendance (minimum 80%) and successful completion of exercises (approx. 25 to 30 hours) are prerequisites for admission to assessment.
- **Referred to in LPO I**: § 61 I Nr. 5

#### Developmental Biology of Plants

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

- **Courses**: V (1) + Ü (3)
- **Method of assessment**: written examination (approx. 60 minutes) creditable for bonus
- **Other prerequisites**: Admission prerequisite to assessment: exercises. Regular attendance (minimum 80%) and successful completion of exercises (approx. 25 to 30 hours) are prerequisites for admission to assessment.
- **Referred to in LPO I**: § 61 I Nr. 5
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-3A3OE-KO-152-m01</td>
<td>Plant and Animal Ecology</td>
<td>6</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td></td>
</tr>
<tr>
<td>07-3A3GEM-T-152-m01</td>
<td>Genes, Molecules, Technologies</td>
<td>6</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td></td>
</tr>
<tr>
<td>07-3A3BC-152-m01</td>
<td>Basic Biochemistry</td>
<td>4</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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</tr>
<tr>
<td>07-M-BST-152-m01</td>
<td>Mathematical Biology and Biostatistics</td>
<td>4</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td></td>
</tr>
</tbody>
</table>

Method of Grading: numerical grade
Method of assessment: written examination (approx. 90 minutes) creditable for bonus
Referred to in LPO I § 61 I Nr. 4

Other Prerequisites:
Admission prerequisite to assessment: exercises. Regular attendance of exercises (minimum 80%) and successful completion of the respective exercises (approx. 25 to 30 hours) are prerequisites for admission to assessment.
<table>
<thead>
<tr>
<th>Modules General Biology IV</th>
<th>The Flora of Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECTS</td>
<td>7</td>
</tr>
<tr>
<td>Duration</td>
<td>1 semester</td>
</tr>
<tr>
<td>Method of grading</td>
<td>numerical grade</td>
</tr>
<tr>
<td>Modul level</td>
<td>undergraduate</td>
</tr>
<tr>
<td>Courses</td>
<td>V (1) + Ü (2) + E (2.5)</td>
</tr>
<tr>
<td>Method of assessment</td>
<td>written examination (approx. 45 minutes) and practical identification assignment (approx. 45 minutes), weighted 1:1</td>
</tr>
<tr>
<td>Assessment offered</td>
<td>Once a year, summer semester</td>
</tr>
<tr>
<td>Assessment offered</td>
<td>credited for bonus</td>
</tr>
<tr>
<td>other prerequisites</td>
<td>Modules 12-NW-EBWL and 12-NW-EVWL are not open for students of the following subjects: Wirtschaftswissenschaft (Business Management and Economics) Bachelor’s (BSc with 180 ECTS credits), Wirtschaftsinformatik (Business Information Systems) Bachelor’s (BSc with 180 ECTS credits) and Wirtschaftsmathematik (Mathematics for Economics) Bachelor’s (BSc with 180 ECTS credits).</td>
</tr>
<tr>
<td>Participants and allocation of places</td>
<td>180 places. Students applying after not having successfully completed assessment in the past two semesters will be given preferential consideration. The remaining places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available. Places on all courses of the module with a restricted number of places will be allocated in the same procedure.</td>
</tr>
<tr>
<td>The Fauna of Germany</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td><strong>ECTS</strong></td>
<td><strong>7</strong></td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td><strong>1 semester</strong></td>
</tr>
<tr>
<td><strong>Method of grading</strong></td>
<td><strong>numerical grade</strong></td>
</tr>
<tr>
<td><strong>Modul level</strong></td>
<td><strong>undergraduate</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>V (1) + Ü (2) + E (2.5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of assessment</strong></td>
<td>written examination (approx. 45 minutes) and practical identification assignment (approx. 45 minutes), weighted 1:1</td>
</tr>
<tr>
<td><strong>Assessment offered</strong>: Once a year, summer semester</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>other prerequisites</th>
<th>Admission prerequisite to assessment: regular attendance of field trips (minimum 80%) and completion of exercises. Regular attendance of exercises (minimum 80%) and successful completion of the respective exercises (approx. 25 to 30 hours) is a prerequisite for admission to assessment.</th>
</tr>
</thead>
</table>

<p>| Participants and allocation of places | 180 places. Should the number of applications exceed the number of available places, places will be allocated as follows: Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in the same procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50 % of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25 % of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25 % of places): lottery. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1. |</p>
<table>
<thead>
<tr>
<th>Modules Special Biosciences I</th>
<th>Neurobiology 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECTS</strong></td>
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</tr>
<tr>
<td><strong>Duration</strong></td>
<td>1 semester</td>
</tr>
<tr>
<td><strong>Method of grading</strong></td>
<td>numerical grade</td>
</tr>
<tr>
<td><strong>Modul level</strong></td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

**Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Ü (4) + S (1)</th>
</tr>
</thead>
</table>

**Method of assessment**

- a) written examination (approx. 45 to 60 minutes) or
- b) log (approx. 10 to 20 pages) or
- c) oral examination of one candidate each (approx. 30 minutes) or
- d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or
- e) presentation (approx. 20 to 30 minutes) or
- f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

**Participants and allocation of places**

20 places. Should the number of applications exceed the number of available places, places will be allocated as follows:
- Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration.
- Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Computational Mathematics and Mathematik (Mathematics), each with 60 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota.

**Selection process group 1 (95%)**

Places will primarily be allocated according to the applicants’ previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants’ position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to the third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

Selection process group 2 (5%):

Places will be allocated according to the following quotas:
- Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot.
- Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot.
- Quota 3 (25% of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
<table>
<thead>
<tr>
<th>Courses</th>
<th>V (2) + S (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of assessment</td>
<td>a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).</td>
</tr>
</tbody>
</table>

Students will be informed about the method and length of the assessment prior to the course.

Participants and allocation of places

20 places. Should the number of applications exceed the number of available places, places will be allocated as follows:

Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biologie (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in the same procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration.

A waiting list will be maintained and places re-allocated as they become available.

Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
Participants and allocation of places

20 places. Should the number of applications exceed the number of available places, places will be allocated as follows: Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in the same procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration.

A waiting list will be maintained and places re-assigned as they become available.

Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50 % of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25 % of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25 % of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
## Biology and Ecology of Arthropods

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

**Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Ü (4) + S (1)</th>
</tr>
</thead>
</table>

**Method of assessment**

- a) written examination (approx. 45 to 60 minutes)
- b) log (approx. 10 to 20 pages)
- c) oral examination of one candidate (approx. 30 minutes)
- d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate)
- e) presentation (approx. 20 to 30 minutes)
- f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

**Participants and allocation of places**

15 places. Should the number of applications exceed the number of available places, places will be allocated as follows:

- Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration.
- Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biologie (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in the same procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration.

A waiting list will be maintained and places re-allocated as they become available.

**Selection process group 1 (95%):**

Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

**Selection process group 2 (5%):**

Places will be allocated according to the following quotas:

- Quota 1 (50 % of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot.
- Quota 2 (25 % of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot.
- Quota 3 (25 % of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
Basics in Light- and Electron-Microscopy

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

Courses

V (1) + Ü (5)

Method of assessment

written examination (approx. 30 to 60 minutes)
creditable for bonus

Participants and allocation of places

18 places. Should the number of applications exceed the number of available places, places will be allocated as follows:

Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in the same procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration.

A waiting list will be maintained and places re-allocated as they become available.

Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
<table>
<thead>
<tr>
<th>Courses</th>
<th>V (1) + Ü (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of assessment</td>
<td>written examination (approx. 30 to 60 minutes) creditable for bonus</td>
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</tbody>
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18 places. Should the number of applications exceed the number of available places, places will be allocated as follows: Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in the same procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration.

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Selection process group 1 (95%): Places will primarily be allocated according to the applicants’ previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants’ position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

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Should the module be used only in the Bachelor’s degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
<table>
<thead>
<tr>
<th>Courses</th>
<th>V (2) + S (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of assessment</td>
<td>written examination (approx. 30 to 60 minutes) creditable for bonus</td>
</tr>
</tbody>
</table>

Participants and allocation of places

25 places. Should the number of applications exceed the number of available places, places will be allocated as follows:

- Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration.
- Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor’s degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor’s degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor’s degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other ‘importing’ subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota.

Selection process group 1 (95%):

Places will primarily be allocated according to the applicants’ previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants’ position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

Selection process group 2 (5%):

Places will be allocated according to the following quotas:
- Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot.
- Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot.
- Quota 3 (25% of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

A waiting list will be maintained and places re-allocated as they become available.
<table>
<thead>
<tr>
<th>Aspects of molecular Biotechnology</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECTS</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

**Courses**

V (2) + S (2)

**Method of assessment**

written examination (approx. 30 to 60 minutes)

creditable for bonus

**Participants and allocation of places**

25 places. Should the number of applications exceed the number of available places, places will be allocated as follows:

- Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration.
- Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota.
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- A waiting list will be maintained and places re-allocated as they become available.

**Selection process group 1 (95%)**

Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

**Selection process group 2 (5%)**

Places will be allocated according to the following quotas:
- Quota 1 (50 % of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot.
- Quota 2 (25 % of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot.
- Quota 3 (25 % of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
<table>
<thead>
<tr>
<th>Special Bioinformatics 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECTS</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>V (1) + Ü (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of assessment</td>
<td>Log (approx. 10 to 20 pages)</td>
</tr>
<tr>
<td>Language of assessment:</td>
<td>German or English</td>
</tr>
<tr>
<td>creditable for bonus:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants and allocation of places</th>
</tr>
</thead>
</table>
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### Specific Methods in Proteinbiochemistry and Cell Biology

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
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</tr>
</tbody>
</table>

**Courses**  
V (1) + Ü (5)

**Method of assessment**

- a) written examination (approx. 45 to 60 minutes)
- b) log (approx. 10 to 20 pages)
- c) oral examination of one candidate each (approx. 30 minutes)
- d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate)
- e) presentation (approx. 20 to 30 minutes)
- f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

**Participants and allocation of places**

20 places. Should the number of applications exceed the number of available places, places will be allocated as follows:

- Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration.
- Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor’s degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor’s degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biologie (as well as potentially to students of other ‘importing’ subjects).
- Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota.
- Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in the same procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration.
- A waiting list will be maintained and places re-allocated as they become available.

**Selection process group 1 (95%):** Places will primarily be allocated according to the applicants’ previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants’ position in a third ranking will be calculated as the sum of the two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

**Selection process group 2 (5%):** Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
<table>
<thead>
<tr>
<th>Methods in Plant Ecophysiology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECTS</strong></td>
</tr>
<tr>
<td><strong>Duration</strong></td>
</tr>
<tr>
<td><strong>Method of grading</strong></td>
</tr>
<tr>
<td><strong>Modul level</strong></td>
</tr>
<tr>
<td><strong>Courses</strong></td>
</tr>
<tr>
<td><strong>Method of assessment</strong></td>
</tr>
</tbody>
</table>

**Participants and allocation of places**

15 places. Should the number of applications exceed the number of available places, places will be allocated as follows:

- Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration.
- Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota.
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A waiting list will be maintained and places re-allocated as they become available.

**Selection process group 1 (95%)**:

- Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.
- Selection process group 2 (5%):
  - Quota 1 (50 % of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology, among applicants with the same number of ECTS credits achieved, places will be allocated by lot.
  - Quota 2 (25 % of places): number of subject semesters of the respective applicant, among applicants with the same number of subject semesters, places will be allocated by lot.
  - Quota 3 (25 % of places): lottery.

Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
### Pharmaceutical Drugs in Plants

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
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</table>

**Courses**
- Ü (4) + S (1)

**Method of assessment**
- a) written examination (approx. 45 to 60 minutes) or
- b) log (approx. 10 to 20 pages) or
- c) oral examination of one candidate each (approx. 30 minutes) or
- d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or
- e) presentation (approx. 20 to 30 minutes) or
- f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

**Participants and allocation of places**

15 places. Should the number of applications exceed the number of available places, places will be allocated as follows:
- Students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits will be given preferential consideration.
- Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor’s degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one place in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other ‘importing’ subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in the same procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration.
- A waiting list will be maintained and places re-allocated as they become available.

**Selection process group 1 (95%)**
- Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants’ position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot.

**Selection process group 2 (5%)**
- Places will be allocated according to the following quotas:
  - Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): lottery.

Should the module be used only in the Bachelor’s degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
### Laboratory Practical Course I

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
<th>Modul taught in: German and/or English</th>
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<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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**Courses**
P (5)

**Method of assessment**
- a) written examination (approx. 45 to 60 minutes)
- b) log (approx. 10 to 20 pages)
- c) oral examination of one candidate each (approx. 30 minutes)
- d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate)
- e) presentation (approx. 20 to 30 minutes)
- f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

### Excursion I

<table>
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<tr>
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<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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</table>

**Courses**
E (2)

**Method of assessment**
- a) written examination (approx. 45 to 60 minutes)
- b) log (approx. 10 to 20 pages)
- c) oral examination of one candidate each (approx. 30 minutes)
- d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate)
- e) presentation (approx. 20 to 30 minutes)
- f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

### Interdisciplinary Project I

<table>
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<tr>
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<th>Duration</th>
<th>Method of grading</th>
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<th>Modul taught in: German and/or English</th>
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<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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</table>

**Courses**
R (5)

**Method of assessment**
- a) written examination (approx. 45 to 60 minutes)
- b) log (approx. 10 to 20 pages)
- c) oral examination of one candidate each (approx. 30 minutes)
- d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate)
- e) presentation (approx. 20 to 30 minutes)
- f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

**other prerequisites**
- Please consult with course advisory service in advance.
### Modules Special Biosciences II

**External Practical Course**

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<td>1 semester</td>
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**Courses**

P (1) Module taught in: German and/or English

**Method of assessment**

- a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

Language of assessment: German and/or English

creditable for bonus

**other prerequisites**

Please consult with course advisory service in advance.

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**Excursion II**

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<tr>
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<td>1 semester</td>
<td>numerical grade</td>
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</table>

**Courses**

E (8) Module taught in: German and/or English

**Method of assessment**

- a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

Language of assessment: German and/or English

creditable for bonus

**other prerequisites**

Please consult with course advisory service in advance.

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**Interdisciplinary Project II**

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<td>numerical grade</td>
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</table>

**Courses**

R (8) Module taught in: German and/or English

**Method of assessment**

- a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

Language of assessment: German and/or English

creditable for bonus

**other prerequisites**

Please consult with course advisory service in advance.
### Laboratory Practical Course II

<table>
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<tbody>
<tr>
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<td>1 semester</td>
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<td>undergraduate</td>
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</table>

**Courses:** P (8)
Module taught in: German and/or English

**Method of assessment:**
- a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours).

Students will be informed about the method and length of the assessment prior to the course.

Language of assessment: German and/or English
creditable for bonus

**Focus Chemistry (0 or 30 ECTS credits)**

**Compulsory (21 ECTS credits)**

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<tbody>
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<td>undergraduate</td>
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**Courses:** V (4)

**Method of assessment:**
- written examination (approx. 90 minutes)

Language of assessment: German and/or English

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<table>
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<th>Modul level</th>
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<tr>
<td>5</td>
<td>1 semester</td>
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</table>

**Courses:** V (3) + Ü (1)

**Method of assessment:**
- a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)

Language of assessment: German and/or English

Referred to in LPO I § 62 I Nr. 2

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</table>

**Courses:** V (4) + Ü (2)

**Method of assessment:**
- a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)

Language of assessment: German and/or English
creditable for bonus
<table>
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<tr>
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<th>Modul level</th>
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<tbody>
<tr>
<td>08-OC2-152-m01</td>
<td>Organic Chemistry 2 and analytical methods in organic chemistry</td>
<td>9</td>
<td>1 semester</td>
<td>numerical grade</td>
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<tr>
<td>08-PC-TKE-152-m01</td>
<td>Thermodynamics, Kinetics, Electrochemistry</td>
<td>9</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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<tr>
<td>08-PC-SBL-152-m01</td>
<td>Symmetry, chemical bonding and light</td>
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<td>2 semester</td>
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**Compulsory Electives (9 ECTS credits)**

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<th>Course</th>
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<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
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<tbody>
<tr>
<td>08-TC-152-m01</td>
<td>Quantum Chemistry</td>
<td>3</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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</table>

**Method of assessment**

- a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)

Language of assessment: German and/or English

**Referred to in LPO I**

- § 22 II Nr. 1 h)
- § 22 II Nr. 2 f)
- § 22 II Nr. 3 f)
### Inorganic Chemistry of the Elements

<table>
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<tr>
<th>ECTS</th>
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</table>

**Courses**

V (2) + V (2)

**Method of assessment**

a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)

**Language of assessment**: German and/or English

**Referred to in LPO I**

§ 62 I Nr. 1

### Focus Geography (0 or 30 ECTS credits)

#### General Physical Geography: Exogenic Dynamics - Geomorphology

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
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<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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</tbody>
</table>

**Courses**

V (3) + T (1)

**Module taught in**: German and/or English

**Method of assessment**

written examination (approx. 45 minutes)

Language of assessment: German and/or English

credible for bonus

**Referred to in LPO I**

§ 47 I Nr. 1

§ 66 I Nr. 1

#### General Physical Geography: Endogenic Dynamics - Introduction to Geology

<table>
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<th>ECTS</th>
<th>Duration</th>
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<th>Modul level</th>
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<td>numerical grade</td>
<td>undergraduate</td>
</tr>
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</table>

**Courses**

V (3) + T (1)

**Module taught in**: German and/or English

**Method of assessment**

written examination (approx. 45 minutes)

Language of assessment: German and/or English

credible for bonus

**Referred to in LPO I**

§ 47 I Nr. 1

§ 66 I Nr. 1

#### General Physical Geography: Climate System

<table>
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<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
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<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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**Courses**

V (3)

**Module taught in**: German and/or English

**Method of assessment**

written examination (approx. 45 minutes)

Language of assessment: German and/or English

**Referred to in LPO I**

§ 47 I Nr. 1

§ 66 I Nr. 1
<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
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<th>Duration</th>
<th>Method of grading</th>
<th>Language of assessment</th>
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<tr>
<td>04-Geo-HG1S-152-m01</td>
<td><strong>General Human Geography Introduction to the Geography of Cities, Towns and Villages</strong></td>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>German and/or English</td>
<td>§ 47 I Nr. 1, § 66 I Nr. 1</td>
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<td>Courses</td>
<td>V (3)</td>
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<tr>
<td>Method of assessment</td>
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<tr>
<td>04-Geo-HG1W-152-m01</td>
<td><strong>General Human Geography: Introduction to Economic Geography</strong></td>
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<td>German and/or English</td>
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<td>04-Geo-HG1B-152-m01</td>
<td><strong>General Human Geography: Introduction to Social and Population Geography</strong></td>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>German and/or English</td>
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<tr>
<td>Courses</td>
<td>V (3)</td>
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<tr>
<td>Method of assessment</td>
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<td>04-Geo-KART-152-m01</td>
<td><strong>Cartography and Geoinformation</strong></td>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>German and/or English</td>
<td>§ 66 I Nr. 2</td>
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<td>04-Geo-FER-NE-152-m01</td>
<td>Introduction to Geographical Remote Sensing</td>
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<td></td>
<td>Courses</td>
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<td>V (2) + T (2)</td>
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<td>Referred to in LPO I</td>
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<td>§ 66 I Nr. 2</td>
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<tr>
<td>04-Geo-FER-NA-152-m01</td>
<td>Applications of Remote Sensing in Geography</td>
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<td></td>
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<td></td>
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<td>written examination (approx. 45 minutes)</td>
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<td>a) written examination (approx. 45 minutes) or b) oral examination of one candidate each (approx. 15 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate)</td>
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**Focus Computer Science (0 or 30 ECTS credits)**

**10-I-EinP-152-m01**  
**Introduction to Programming**

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**Courses**

"V (2) + Ü (2)"

**Method of assessment**

Written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Creditable for bonus

Referred to in LPO I

§ 49 I Nr. 1b  
§ 69 I Nr. 1b

**10-I-ADS-152-m01**  
**Algorithms and data structures**

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**Courses**

"V (4) + Ü (2)"

**Method of assessment**

Written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Creditable for bonus

Referred to in LPO I

§ 49 I Nr. 1a  
§ 69 I Nr. 1a

**10-I-ST-152-m01**  
**Software Technology**

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**Courses**

"V (4) + Ü (2)"

**Method of assessment**

Written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Creditable for bonus

Referred to in LPO I

§ 49 I Nr. 1b  
§ 69 I Nr. 1b

**10-I-PP-152-m01**  
**Practical Course in Programming**

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**Courses**

"P (6)"

**Method of assessment**

Written examination (approx. 60 to 120 minutes). If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate). Creditable for bonus

Referred to in LPO I

§ 49 I Nr. 1c  
§ 69 I Nr. 1d
### Practical course in software

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**Method of assessment:**
- practical project (Completion of a larger software project in groups (approx. 300 hours per person) and final presentation (approx. 10 minutes per group)

**Modules successfully completed:** 10-I-PP, 10-I-ST

**other prerequisites:**
- In addition, the knowledge and skills acquired in module 10-I-ADS are required. Prior attendance of this module is therefore highly recommended.

**Referred to in LPO I:** § 69 I Nr. 1d

### Digital computer systems

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**Courses:** 10-I-RAL-152-m01

**Method of assessment:**
- written examination (approx. 60 to 120 minutes).
- If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).

**creditable for bonus**

### Information Transmission

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**Courses:** 10-I-IÜ-152-m01

**Method of assessment:**
- written examination (approx. 60 to 120 minutes).
- If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).

**creditable for bonus**

### Practical course in hardware

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**Courses:** 10-I-HWP-152-m01

**Method of assessment:**
- portfolio: completion of approx. 3 to 10 project assignments (approx. 250 hours total) and presentation of results (approx. 10 minutes per project)

**Referred to in LPO I:** § 22 II Nr. 3b
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<td>10-I-TIT-152-m01</td>
<td>Tutorial Theoretical Informatics</td>
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Courses: V (2) + Ü (2)

Method of Assessment:
- Written examination (approx. 60 to 120 minutes).
- If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
- Language of assessment: German and/or English
- Creditable for bonus

Referred to in LPO I:
- § 49 I Nr. 1b
- § 69 I Nr. 1b
- § 22 II Nr. 3b

Bachelor's with 1 major Mathematics (2015)
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Referring to LPO I § 22 II Nr. 3b

Bachelor's with 1 major Mathematics (2015)
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</tr>
<tr>
<td>06-Ph-B-P1/1-152-m01</td>
<td>Introduction to Philosophy</td>
<td>5</td>
<td>1 semester</td>
<td>Method of grading (not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td>06-Ph-B-P1/2-152-m01</td>
<td>Historical epochs, main works, authors</td>
<td>5</td>
<td>1 semester</td>
<td>Method of grading numerical grade</td>
<td>undergraduate</td>
</tr>
<tr>
<td>06-Ph-B-P2/1-152-m01</td>
<td>Philosophical principles of sciences I</td>
<td>5</td>
<td>1 semester</td>
<td>Method of grading (not) successfully completed</td>
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</tr>
<tr>
<td>06-Ph-B-P2/2-152-m01</td>
<td>Philosophical principles of sciences II</td>
<td>5</td>
<td>1 semester</td>
<td>Method of grading numerical grade</td>
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</tr>
<tr>
<td>06-Ph-B-P3/1-152-m01</td>
<td>Theoretical Philosophy I</td>
<td>5</td>
<td>1 semester</td>
<td>Method of grading (not) successfully completed</td>
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</tr>
<tr>
<td>06-Ph-B-P4/1-152-m01</td>
<td>Practical Philosophy I</td>
<td>5</td>
<td>1 semester</td>
<td>Method of grading (not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td>Code: 06-Ph-B-P5/1-152-m01</td>
<td><strong>History of Philosophy I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<tr>
<td>ECTS</td>
<td>5</td>
<td>Duration</td>
<td>1 semester</td>
<td>Method of grading</td>
<td>(not) successfully completed</td>
</tr>
<tr>
<td>Courses</td>
<td>V (2)</td>
<td>Method of assessment</td>
<td>written examination (45 minutes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participants and allocation of places</td>
<td>Only as part of pool of general transferable skills (ASQ): max. 20 places. Should the number of applications exceed the number of available places, places will be allocated according to the number of subject semesters. Among applicants with the same number of subject semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated by lot as they become available.</td>
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<table>
<thead>
<tr>
<th>Code: 06-Ph-B-P6/1-152-m01</th>
<th><strong>Issues of research in philosophy I</strong></th>
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<tbody>
<tr>
<td>ECTS</td>
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<tr>
<td>Courses</td>
<td>S (2)</td>
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</table>

<table>
<thead>
<tr>
<th>Code: 06-Ph-B-W1-152-m01</th>
<th><strong>Text Analysis: Ancient Philosophy</strong></th>
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<tbody>
<tr>
<td>ECTS</td>
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<tr>
<td>Courses</td>
<td>S (2)</td>
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<tr>
<td>Referred to in LPO I</td>
<td>§ 68 I Nr. 2 a</td>
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<th>Code: 06-Ph-B-W2-152-m01</th>
<th><strong>PhilosophieText Analysis: Medieval Philosophy</strong></th>
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<td>ECTS</td>
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<tr>
<th>Code: 06-Ph-B-W3-152-m01</th>
<th><strong>PhilosophieText Analysis: Modern Philosophy</strong></th>
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<td>Courses</td>
<td>S (2)</td>
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<table>
<thead>
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<th><strong>Text Analysis: ContemporaryPhilosophy</strong></th>
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<td>ECTS</td>
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<tr>
<td>Courses</td>
<td>S (2)</td>
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<table>
<thead>
<tr>
<th>Code: 06-Ph-B-W5-152-m01</th>
<th><strong>Basic disciplines of theoretical philosophy: Metaphysics and Epistemology</strong></th>
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</thead>
<tbody>
<tr>
<td>ECTS</td>
<td>5</td>
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<tr>
<td>Courses</td>
<td>S (2)</td>
</tr>
<tr>
<td>Referred to in LPO I</td>
<td>§ 32 I Nr. 1 c</td>
</tr>
<tr>
<td>Code</td>
<td>Course Title</td>
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<tr>
<td>--------------</td>
<td>--------------------------------------------------</td>
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<tr>
<td>06-Ph-B-W6-152-m01</td>
<td>Specific disciplines of theoretical philosophy</td>
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<tr>
<td>Courses</td>
<td>S (2)</td>
</tr>
<tr>
<td>Method of assessment</td>
<td>term paper (10 to 12 pages)</td>
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<td>Referred to in LPO I</td>
<td>§ 32 I Nr. 1 c)</td>
</tr>
<tr>
<td>06-Ph-B-W8-152-m01</td>
<td>Specific disciplines of practical philosophy</td>
</tr>
<tr>
<td>Courses</td>
<td>S (2)</td>
</tr>
<tr>
<td>Method of assessment</td>
<td>term paper (10 to 12 pages)</td>
</tr>
<tr>
<td>Referred to in LPO I</td>
<td>§ 32 I Nr. 1 c)</td>
</tr>
<tr>
<td>06-Ph-B-W10-152-m01</td>
<td>Problems of Modern Philosophy</td>
</tr>
<tr>
<td>Courses</td>
<td>S (2)</td>
</tr>
<tr>
<td>Method of assessment</td>
<td>oral examination (approx. 25 minutes)</td>
</tr>
<tr>
<td>Referred to in LPO I</td>
<td>§ 32 I Nr. 1 c)</td>
</tr>
<tr>
<td>06-Ph-B-W11-152-m01</td>
<td>Problems of Theoretical Philosophy</td>
</tr>
<tr>
<td>Courses</td>
<td>S (2)</td>
</tr>
<tr>
<td>Method of assessment</td>
<td>portfolio: 2 to 3 essays (approx. 10 pages total)</td>
</tr>
<tr>
<td>06-Ph-B-W12-152-m01</td>
<td>Problems of Practical Philosophy</td>
</tr>
<tr>
<td>Courses</td>
<td>S (2)</td>
</tr>
<tr>
<td>Method of assessment</td>
<td>portfolio: 2 to 3 essays (approx. 10 pages total)</td>
</tr>
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</table>
### Classical Physics 1 for Students of Physics related Disciplines

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

#### Courses
- V (4) + Ü (2)
- Module taught in: Ü: German or English

#### Method of assessment
- written examination (approx. 120 minutes)
- Language of assessment: German and/or English

#### Other prerequisites
- Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.

#### Additional Information
- Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.

### Classical Physics 2 for Students of Physics related Disciplines

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
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<th>Modul level</th>
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</thead>
<tbody>
<tr>
<td>7</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

#### Courses
- V (4) + Ü (2)
- Module taught in: Ü: German or English

#### Method of assessment
- written examination (approx. 120 minutes)
- Language of assessment: German and/or English

#### Other prerequisites
- Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.

#### Additional Information
- Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.
### Compulsory Electives (3-9 ECTS credits)

Students must take either module 11-PNNF or the two modules 11-P-PA and 11-P-FR1. Other combinations are not permitted.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-PNNF-152-m01</td>
<td><strong>Laboratory Course Physics for Students of Physics Related Disciplines</strong></td>
<td>3</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>P (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method of assessment</td>
<td>a) practical assignment with oral test (approx. 15 minutes, during experiments) and b) written examination (90 minutes). Each experiment comprises preparation, performance and evaluation. Test as well as performance of experiments can each be repeated once.</td>
<td></td>
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<tr>
<td>11-P-PA-152-m01</td>
<td><strong>Laboratory Course Physics A(Mechanics, Heat, Electromagnetism)</strong></td>
<td>3</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>P (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method of assessment</td>
<td>practical assignment with talk (approx. 30 minutes) Preparing, performing and evaluating (record of readings or lab report) the experiments will be considered successfully completed if a Testat (exam) is passed. Exactly one experiment that was not successfully completed can be repeated once. After completion of all experiments, talk (with discussion; approx. 30 minutes) to test the candidate's understanding of the physics-related contents of the module. Talks that were not successfully completed can be repeated once. Both components of the assessment have to be successfully completed.</td>
<td></td>
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</tr>
<tr>
<td>11-P-FR1-152-m01</td>
<td><strong>Data and Error Analysis</strong></td>
<td>2</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>V (1) + Ü (1) Module taught in: Ü: German or English</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method of assessment</td>
<td>written examination (approx. 120 minutes) Language of assessment: German and/or English</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>other prerequisites</td>
<td>Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional Information</td>
<td>Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.</td>
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Referred to in LPO I

§ 53 I Nr. 1 c)  
§ 77 I Nr. 1 d)
### Laboratory Course Physics B for Students of other Disciplines

<table>
<thead>
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<th>Duration</th>
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<th>Modul level</th>
<th>undergraduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td></td>
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</table>

**Courses**

<table>
<thead>
<tr>
<th>Method of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>practical assignment with talk (approx. 30 minutes)</td>
</tr>
</tbody>
</table>

Prepared, performing and evaluating (record of readings or lab report) the experiments will be considered successfully completed if a Testat (exam) is passed. Exactly one experiment that was not successfully completed can be repeated once. After completion of all experiments, talk (with discussion; approx. 30 minutes) to test the candidate's understanding of the physics-related contents of the module. Talks that were not successfully completed can be repeated once. Both components of the assessment have to be successfully completed.

**other prerequisites**

Students are highly recommended to complete modules 11-P-PA and 11-P-FR1 prior to completing module 11-P-NFB.

### Compulsory Electives 2 (7-13 ECTS credits)

#### Optics and Waves

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
<th>undergraduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Courses**

| V (4) + Ü (2) |
| Module taught in: Ü: German or English |

**Method of assessment**

written examination (approx. 120 minutes)

Language of assessment: German and/or English

#### Atoms and Quanta

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
<th>undergraduate</th>
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</thead>
<tbody>
<tr>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td></td>
<td></td>
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</tbody>
</table>

**Courses**

| V (4) + Ü (2) |
| Module taught in: Ü: German or English |

**Method of assessment**

written examination (approx. 120 minutes)

Language of assessment: German and/or English

#### Introduction to Solid State Physics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
<th>undergraduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Courses**

| V (4) + Ü (2) |
| Module taught in: Ü: German or English |

**Method of assessment**

written examination (approx. 120 minutes)

Language of assessment: German and/or English

#### Nuclear and Elementary Particle Physics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
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</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1 semester</td>
<td>numerical grade</td>
<td></td>
<td></td>
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</table>

**Courses**

| V (3) + Ü (1) |
| Module taught in: Ü: German or English |

**Method of assessment**

written examination (approx. 120 minutes)

Language of assessment: German and/or English
<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
<th>other prerequisites</th>
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</thead>
<tbody>
<tr>
<td>Theoretical Mechanics</td>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td>Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.</td>
</tr>
<tr>
<td>Quantum Mechanics</td>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td>Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.</td>
</tr>
<tr>
<td>Statistical Physics</td>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
<td>Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Name</td>
<td>ECTS</td>
<td>Duration</td>
<td>Method of grading</td>
<td>Modul level</td>
</tr>
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<tr>
<td>11-T-E-152-m01</td>
<td>Electrodynamics</td>
<td>8</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>V (4) + Ü (2) Module taught in: Ü: German or English</td>
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</tr>
<tr>
<td></td>
<td>Method of assessment</td>
<td>written examination (approx. 120 minutes) Language of assessment: German and/or English</td>
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**Focus Economics (0 or 30 ECTS credits)**

<table>
<thead>
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<th>Course Name</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
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</thead>
<tbody>
<tr>
<td>12-EBWL-G-152-m01</td>
<td>Introduction to Business Adminstration</td>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>V (2) + T (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method of assessment</td>
<td>written examination (approx. 60 minutes)</td>
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</tbody>
</table>

**Participants and allocation of places**
- 840 places. (1) No restrictions with regard to available places for Bachelor’s students of Wirtschaftswissenschaft (Business Management and Economics) (BSc with 180 ECTS credits), Wirtschaftsmathematik (Mathematics for Economics) (BSc with 180 ECTS credits), Wirtschaftsinformatik (Business Information Systems) (BSc with 180 ECTS credits) as well as Bachelor’s students with the minor Wirtschaftswissenschaft (Business Management and Economics) (60 ECTS credits). (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (2) and the number of applications exceeds the number of available places, places will be allocated according to the following quotas: a) Quota 1 (50 % of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. b) Quota 2 (25 % of places): subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. c) Quota 3 (25 % of places): lottery.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-EVWL-G-152-m01</td>
<td>Introduction to Economics</td>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
<tr>
<td></td>
<td>Courses</td>
<td>V (2) + T (2)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method of assessment</td>
<td>written examination (approx. 60 minutes)</td>
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<td></td>
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</tr>
</tbody>
</table>

**Participants and allocation of places**
- 840 places. (1) No restrictions with regard to available places for Bachelor’s students of Wirtschaftswissenschaft (Business Management and Economics) (BSc with 180 ECTS credits), Wirtschaftsmathematik (Mathematics for Economics) (BSc with 180 ECTS credits), Wirtschaftsinformatik (Business Information Systems) (BSc with 180 ECTS credits) as well as Bachelor’s students with the minor Wirtschaftswissenschaft (Business Management and Economics) (60 ECTS credits). (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (2) and the number of applications exceeds the number of available places, places will be allocated according to the following quotas: a) Quota 1 (50 % of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. b) Quota 2 (25 % of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. c) Quota 3 (25 % of places): lottery.
<table>
<thead>
<tr>
<th>Courses</th>
<th>V (2) + T (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of assessment</td>
<td>written examination (approx. 60 minutes)</td>
</tr>
</tbody>
</table>

### Participants and allocation of places

- **840 places.**
- **(1) No restrictions with regard to available places for Bachelor’s students of Wirtschaftswissenschaft (Business Management and Economics) (BSc with 180 ECTS credits), Wirtschaftsmathematik (Mathematics for Economics) (BSc with 180 ECTS credits), Wirtschaftsinformatik (Business Information Systems) (BSc with 180 ECTS credits) as well as Bachelor’s students with the minor Wirtschaftswissenschaft (Business Management and Economics) (60 ECTS credits).**
- **(2) The remaining places will be allocated to students of other subjects.**
- **(3) When places are allocated in accordance with (2) and the number of applications exceeds the number of available places, places will be allocated according to the following quotas:**
  - a) **Quota 1 (50 % of places):** total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot.
  - b) **Quota 2 (25 % of places):** number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot.
  - c) **Quota 3 (25 % of places):** lottery.
- **(4) A waiting list will be maintained and places re-allocated by lot as they become available.**
<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
</tr>
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<tbody>
<tr>
<td>Microeconomics 1</td>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
<tr>
<td>Courses</td>
<td>V (2) + T (2)</td>
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<td></td>
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</tr>
<tr>
<td>Microeconomics 2</td>
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<td>Courses</td>
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<td>written examination (approx. 60 minutes)</td>
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<td>12-BPL-G-152-m01</td>
<td><strong>Supply, Production and Operations Management. An Introduction</strong></td>
<td></td>
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<td>-------------------------------------------------------------------</td>
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<td><strong>ECTS</strong></td>
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<td></td>
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<tr>
<td><strong>Duration</strong></td>
<td>1 semester</td>
<td></td>
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<tr>
<td><strong>Method of grading</strong></td>
<td>numerical grade</td>
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<table>
<thead>
<tr>
<th>12-I&amp;F-G-152-m01</th>
<th><strong>Investment and Finance. An Introduction</strong></th>
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<td><strong>Duration</strong></td>
<td>1 semester</td>
</tr>
<tr>
<td><strong>Method of grading</strong></td>
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<tr>
<td><strong>Modul level</strong></td>
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<tr>
<td><strong>Courses</strong></td>
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### Introduction to Market-Oriented Management

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<tr>
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</tr>
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<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
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</table>

**Courses**

C (2) + T (2)

**Method of assessment**

written examination (approx. 60 minutes)

| Participants and allocation of places | 620 places. (1) No restrictions with regard to available places for Bachelor’s students of Wirtschaftswissenschaft (Business Management and Economics) (BSc with 180 ECTS credits), Wirtschaftsmathematik (Mathematics for Economics) (BSc with 180 ECTS credits), Wirtschaftsinformatik (Business Information Systems) (BSc with 180 ECTS credits) as well as Bachelor’s students with the minor Wirtschaftswissenschaft (Business Management and Economics) (60 ECTS credits). (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (2) and the number of applications exceeds the number of available places, places will be allocated according to the following quotas: a) Quota 1 (50 % of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. b) Quota 2 (25 % of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. c) Quota 3 (25 % of places): lottery.

### Introduction to Economic Policy

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<th>Duration</th>
<th>Method of grading</th>
<th>Modul level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1 semester</td>
<td>numerical grade</td>
<td>undergraduate</td>
</tr>
</tbody>
</table>

**Courses**

C (2) + Ü (2)

**Method of assessment**

written examination (approx. 60 minutes)

| Participants and allocation of places | 620 places. (1) No restrictions with regard to available places for Bachelor’s students of Wirtschaftswissenschaft (Business Management and Economics) (BSc with 180 ECTS credits), Wirtschaftsmathematik (Mathematics for Economics) (BSc with 180 ECTS credits), Wirtschaftsinformatik (Business Information Systems) (BSc with 180 ECTS credits) as well as Bachelor’s students with the minor Wirtschaftswissenschaft (Business Management and Economics) (60 ECTS credits). (2) The remaining places will be allocated to students of other subjects. (3) When places are allocated in accordance with (2) and the number of applications exceeds the number of available places, places will be allocated according to the following quotas: a) Quota 1 (50 % of places): total number of ECTS credits already achieved in the respective degree subject; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. b) Quota 2 (25 % of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. c) Quota 3 (25 % of places): lottery.

### Key Skills Area (20 ECTS credits)

#### General Key Skills (5 ECTS credits)

In addition to the modules listed below, students may also take modules offered by JMU as part of the pool of general transferable skills (ASQ).

#### General Key Skills (subject-specific)

<table>
<thead>
<tr>
<th>Exercise tutor or proof-reading in Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECTS</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

**Courses**

T (0)

**Method of assessment**

Assessment of tutoring activities or correcting work by supervising lecturers or exercise supervisors (1 to 2 teaching units or approx. 5 pieces of correcting work)

**other prerequisites**

Please direct application to teaching coordinator Mathematics, he/she will select participants.

**Referred to in LPO I**

§ 22 II Nr. 3 f)
<table>
<thead>
<tr>
<th>Module Code</th>
<th>Module Name</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Subject-Specific Key Skills (15 ECTS credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-M-VHB1-152-m01</td>
<td>E-Learning and Blended Learning Mathematics 1</td>
<td>2</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
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</tr>
<tr>
<td>Courses</td>
<td>Ü (2) Course type: eLearning, mostly Virtuelle Hochschule Bayern (vhb)</td>
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<tr>
<td>Method of assessment</td>
<td>project (web-based, 15 to 20 hours) Assessment offered: Once a year, winter semester</td>
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<tr>
<td>10-M-VHB2-152-m01</td>
<td>E-Learning und Blended Learning Mathematik 2</td>
<td>2</td>
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<tr>
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<td>Ü (2) Course type: eLearning, mostly Virtuelle Hochschule Bayern (vhb)</td>
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<tr>
<td>Method of assessment</td>
<td>project (web-based, 15 to 20 hours) Assessment offered: Once a year, summer semester</td>
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**Subject-specific Key Skills, Compulsory Courses (11 ECTS credits)**

<table>
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<tr>
<th>Module Code</th>
<th>Module Name</th>
<th>ECTS</th>
<th>Duration</th>
<th>Method of Grading</th>
<th>Modul Level</th>
<th>Subject-Specific Key Skills (15 ECTS credits)</th>
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<tbody>
<tr>
<td>10-M-COM-152-m01</td>
<td>Computational Mathematics</td>
<td>4</td>
<td>1 semester</td>
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<td>undergraduate</td>
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<tr>
<td>Courses</td>
<td>V (1) + Ü (2) project in the form of programming exercises (approx. 20 to 25 hours) Assessment offered: Once a year, winter semester Language of assessment: German and/or English</td>
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<td></td>
</tr>
<tr>
<td>Method of assessment</td>
<td>project in the form of programming exercises (approx. 20 to 25 hours) Assessment offered: Once a year, winter semester Language of assessment: German and/or English</td>
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<tr>
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<td>§ 22 II Nr. 3 f &amp; § 22 II Nr. 2 f</td>
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<tr>
<td>10-M-PRG-152-m01</td>
<td>Programming course for students of Mathematics and other subjects</td>
<td>3</td>
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<tr>
<td>Courses</td>
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<tr>
<td>Method of assessment</td>
<td>project in the form of programming exercises (approx. 20 to 25 hours) Assessment offered: Once a year, summer semester Language of assessment: German and/or English</td>
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<tr>
<td>10-M-GBM-152-m01</td>
<td>Basic Notions and Methods of Mathematical Reasoning</td>
<td>2</td>
<td>1 semester</td>
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<tr>
<td>Courses</td>
<td>V (1) + Ü (1) project (10 to 15 pages) Language of assessment: German and/or English</td>
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<tr>
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<td>project (10 to 15 pages) Language of assessment: German and/or English</td>
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**Bachelor's with 1 major Mathematics (2015)**

IMU Würzburg • generated 03-Apr-2021 • exam. reg. data record 82|105|1-|H|2015 page 63 / 65
### Reasoning and Writing in Mathematics

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</table>

**Courses**
- V (1) + Ü (1)

**Method of assessment**
- project (10 to 20 pages)

Language of assessment: German and/or English

### Subject-specific Key Skills, Compulsory Electives (4 ECTS credits)

#### Supplementary Seminar Mathematics

<table>
<thead>
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<tbody>
<tr>
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**Courses**
- S (2)

**Method of assessment**
- talk (60 to 120 minutes)

Language of assessment: German and/or English

#### Introduction to Stochastic Financial Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Duration</th>
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<th>Modul level</th>
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</thead>
<tbody>
<tr>
<td>9</td>
<td>1 semester</td>
<td>numerical grade</td>
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</tbody>
</table>

**Courses**
- V (4) + Ü (2)

**Method of assessment**
- a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)

Language of assessment: German and/or English

creditable for bonus

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German and/or English

creditable for bonus

#### Introduction to Topology

<table>
<thead>
<tr>
<th>ECTS</th>
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<tbody>
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**Courses**
- V (2) + Ü (2)

**Method of assessment**
- a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German and/or English

creditable for bonus

#### Selected Topics in History of Mathematics

<table>
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</table>

**Courses**
- V (2) + Ü (2)

**Method of assessment**
- a) talk (45 to 90 minutes) or b) term paper (10 to 15 pages) or c) project (15 to 25 hours)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German and/or English

**Referred to in LPO I**

§ 22 II Nr. 3 f)
<table>
<thead>
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<th>Method of Grading</th>
<th>Modul Level</th>
<th>Prerequisites</th>
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<td>Mathematical Writing</td>
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<td>10-M-SCH-152-m01</td>
<td>School Mathematics from a Higher Perspective</td>
<td>5</td>
<td>1 semester</td>
<td>(not) successfully completed</td>
<td>undergraduate</td>
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<td>Courses</td>
<td>V (2) + Ü (2)</td>
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<td></td>
<td>Method of assessment</td>
<td>a) talk (approx. 45 minutes) or b) term paper (10 to 15 pages) or c) project (15 to 25 hours)</td>
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<td>Assessment offered:</td>
<td>In the semester in which the course is offered and in the subsequent semester</td>
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<td></td>
<td>Language of assessment</td>
<td>German and/or English</td>
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<td></td>
<td>Referred to in LPO I</td>
<td>§ 22 II Nr. 1 h)</td>
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<td>§ 22 II Nr. 3 f)</td>
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<td>10-M-PRO-152-m01</td>
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<td>4</td>
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<td>undergraduate</td>
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<td>S (2)</td>
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<td></td>
<td>Method of assessment</td>
<td>talk (60 to 120 minutes)</td>
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<td>Language of assessment</td>
<td>German and/or English</td>
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<td>Thesis (11 ECTS credits)</td>
<td>Bachelor Thesis Mathematics</td>
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<td>Courses</td>
<td>No courses assigned to module</td>
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<td>Method of assessment</td>
<td>Bachelor's thesis (approx. 275 to 330 hours)</td>
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<td></td>
<td>other prerequisites</td>
<td>The supervisor may make the successful completion of certain modules that are relevant for the respective topic a prerequisite for the assignment of the topic.</td>
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