### Module Description

**Module title**  
Functional Analysis

**Abbreviation**  
10-M=AFANin-152-m01

**Module coordinator**  
Dean of Studies Mathematik (Mathematics)

**Module offered by**  
Institute of Mathematics

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
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<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
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**Duration**  
1 semester

**Module level**  
graduate

**Other prerequisites**  
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### Contents

Banach and Hilbert spaces, bounded operators, principles of functional analysis, further contemporary topics in functional analysis and applications to other fields of mathematics.

### Intended learning outcomes

The student is acquainted with fundamental concepts and methods in a contemporary field of functional analysis, and is able to apply these skills to complex questions.

### Courses

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Number of Weekly Contact Hours</th>
<th>Language</th>
</tr>
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<tbody>
<tr>
<td>V (4) + Ü (2)</td>
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<td>English</td>
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Module taught in: English

**Method of assessment**  
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate)

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

Language of assessment: English  
creditable for bonus

**Allocation of places**  
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**Additional information**  
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**Referred to in LPO 1** (examination regulations for teaching-degree programmes)

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**Module appears in**

Master's degree (1 major) Mathematics International (2015)