### Module title

**Advanced Analysis**

### Abbreviation

10-M-VAN-072-m01

### Module coordinator

Dean of Studies Mathematik (Mathematics)

### Module offered by

Institute of Mathematics

### ECTS

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
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</thead>
<tbody>
<tr>
<td>7 semester</td>
<td>undergraduate</td>
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</table>

### Method of grading

Numerical grade

### Only after succ. compl. of module(s)

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### Contents

Lebesgue integral in several variables, including theorems on convergence and Fubini’s theorem, $L^p$-spaces and elementary Fourier theory in $L^2$, Gauss’s theorem.

### Intended learning outcomes

The student is acquainted with advanced topics in analysis. Taking the example of the Lebesgue integral, he or she is able to understand the construction of a complex mathematical concept.

### Courses

V + Ü (no information on SWS (weekly contact hours) and course language available)

### Method of assessment

a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)

### Allocation of places

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### Additional information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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### Module appears in

Bachelor’ degree (1 major) Mathematics (2007)