### Module title

**Ordinary Differential Equations for Mathematical Physics**

**Abbreviation**

10-M-DGLP-152-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>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>undergraduate</td>
<td>--</td>
</tr>
</tbody>
</table>

### Method of grading

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>numerical grade</td>
</tr>
</tbody>
</table>

### Contents

Existence and uniqueness theorem; continuous dependence of solutions on initial values, systems of linear differential equations, matrix exponential series, linear differential equations of higher order.

### Intended learning outcomes

The student is acquainted with the fundamental concepts and methods of the theory of ordinary differential equations. He/she is able to apply these methods to practical problems.

### Courses

(V (4) + Ü (2))

### Method of assessment

(a) oral examination of one candidate each (15 to 30 minutes) or
(b) oral examination in groups of 2 candidates (10 to 15 minutes each)

Assessment will have reference to a topic in pure mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-field Gesamtüberblick Mathematische Methoden (Overview Mathematical Methods) or in module group Ergänzung Mathematik (Supplementary Topics in Mathematics).

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

### Allocation of places

--

### Additional information

--

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

--

### Module appears in

Bachelor’ degree (1 major) Mathematical Physics (2015)

Bachelor’ degree (1 major) Mathematical Physics (2016)