<table>
<thead>
<tr>
<th>Module title</th>
<th>Complex Geometry</th>
<th>Abbreviation</th>
<th>10-M=VKGEin-152-m01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module coordinator</td>
<td>Dean of Studies Mathematik (Mathematics)</td>
<td>Institute of Mathematics</td>
<td></td>
</tr>
<tr>
<td>ECTS</td>
<td>10</td>
<td>Method of grading</td>
<td>Only after succ. compl. of module(s)</td>
</tr>
<tr>
<td>Duration</td>
<td>1 semester</td>
<td>Module level</td>
<td>graduate</td>
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<td></td>
<td></td>
<td>Other prerequisites</td>
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**Contents**

The module builds on the topics covered in module 10-M=ADGM and discusses these in more detail: Wirtinger calculus, complex structures and complex manifolds, metrics on complex manifolds (e. g. conformal, hermitian, Kähler), differential operators on complex manifolds, classification of complex manifolds.

**Intended learning outcomes**

The student knows and masters advanced methods and notions in complex differential geometry. He is familiar with the central concepts in this field and is able to apply the fundamental proof methods independently.

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

V (4) + Ü (2)  
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 I** (examination regulations for teaching-degree programmes)  
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**Module appears in**

Master’s degree (1 major) Mathematics International (2015)  
Master’s degree (1 major) Mathematics International (2021)