<table>
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<th>Module No.</th>
<th>Title of Module</th>
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<td>10-MAT-MPDS2</td>
<td><strong>Advanced Theory of Dynamical Systems</strong></td>
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**Recommended for**

**Duration**
1 Semester

**Frequency**
Every Winter Semester biannually

**Course types**
(1) Lecture „Advanced Dynamic Systems“ (2 SWS) = 30 h in class + 120 h individual studies = 150 h
(2) Seminar „Advanced Dynamic Systems“ (2 SWS) = 30 h in class + 120 h individual studies = 150 h

**Workload**
10 LP = 300 h

**Aims**
After active participation, the students are able to understand a section of the theory of Dynamic Systems and to illustrate to current status of research orally and in written form as well as to apply the suitable methods on advanced problems.

**Contents**
Advanced topics from current research on an area of dynamic systems (e.g. Hamiltonian systems, ergodic theory, geometric dynamic systems)

Lectures and seminars will be held in English. Students’ performance has to be in English as well.

**Prerequisites**
None

**Literature**
B. Hasselblatt / A. Katok: Modern Theory of Dynamical Systems
E. Zehnder: Lectures on Dynamical Systems, EMS, 2010

**Examinations**
Oral exam of 25 min

Oral lecture (60 min.) + written report (4 weeks).

**Requirements**
attendance at lecture „Advanced Theory of Dynamical Systems“ (2 SWS)
participation in seminar „Advanced Theory of Dynamical Systems“ (2 SWS)