

Module No.	Title of Module
10-MAT-MPFOP2	Advanced Operator Theory

Recommended for	3rd semester of Int. Master Program Math. Phys.
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 the basic methods and concepts of advanced operator theory (e.g. ergodicity, generators, spectral measure of bounded and unbounded operators), present and apply them. They can solve minor problems on their own or in groups and check proofs for completeness.
Contents	One or more of the following topics: <ul style="list-style-type: none"> -Semigroup theory -Ergodic theory -C* algebra -Spectral analysis <p>Lectures and seminars will be held in English. Students' performance has to be in English as well.</p>
Prerequisites	None
Literature	Engel, Nagel: A Short Course on Operator Semigroups Dixmier: C*-Algebras
Examinations	Oral exam of 25 min Oral lecture (60 min.) + written report (4 weeks).
Requirements	attendance at lecture „Advanced Operator Theory" (2 SWS) participation in seminar „Advanced Operator Theory" (2 SWS)