Study programme(s): Mathematics (MA)	
Level: Master	
Course title: Operator Theory (MA-15)	
Lecturer: Stevan Pilipović	
Status: obligatory	
ECTS: 5	
Requirements: Functional Analysis (MA-05)	

Learning objectives
Connecting the algebraic and topological structures of Functional analysis with the operator theory and spectral analysis of operators and Banach algebras.

Learning outcomes
Understanding the basic assertions of operator theory and the spectral analysis of various classes of operators.

Syllabus
Theoretical instruction
Banach and Hilbert spaces, Bounded linear operators, Fredcholm theory, Self-adjoint operators, Spectral decomposition, Banach algebras, Unbounded operators and spectral decomposition, Concrete operators-spectral analysis.
Practical instruction
Exercises, students' seminar work.

Literature
1. Y. Eidelman, V. Milman, A. Tsolomitis, *Functional analysis, an Introduction*, Graduate texts in Mathematics, American Math Soc., 2004.
2. Lj. Gajić. M. Kurilić, S. Pilipović, *Zbirka zadataka iz funkcionalne analize,* Novi Sad, 2000.
3. I. Gohlberg, S. Golhberg, M. A. Kaashoek, *Basic classes of linear operators*, Birkhauser Verlag, Basel, 2003.
4. A. D. Andrew, W. L. Green, Spectral Theory of Hilbert Spaces, 2002, School of Mathematics Georgia Institute of Technology Atlanta, GA 30332-0160

Weekly teaching load				Other: 0
Lectures: 2	Exercises: 2	Other forms of teaching: 0	Student research: 0	

Teaching methodology
Classical lectures, exercises, students' seminar works.

Grading (maximum number of points 100)			
Pre-exam obligations	points	**Final exam**	points
		Oral exam	100