

MBD0014

POSITIVE OPERATORS AND BANACH LATTICES
SPRING 2012/13

INSTRUCTOR: Mert Çağlar, İstanbul Kültür University

TIMETABLE: Monday 14:00–17:00 (İKÜ, 3C-17)

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ASSESSMENT: One mid-term and one final examination, and several homework assignments will be given during the semester. The letter grade of the student will be determined upon considering the exams and the homeworks along with student's participation to the course.

PRE-REQUISITES: Acquaintance with the basics of Functional Analysis and Real Analysis.

PRINCIPAL TEXTBOOK: C.D. Aliprantis & O. Burkinshaw, *Positive Operators*, Springer, The Netherlands, 2006.

PROGRAMME

WEEKS	SUBJECTS TO BE COVERED
1 & 2	Basic properties of positive operators
3 & 4	Extensions of positive operators & Order projections
5 & 6	Order-continuous operators
7 & 8	Positive linear functionals
Will be announced	Mid-term Exam
9 & 10	Components of a positive operator
11 & 12	Order homomorphisms
13 & 14	Orthomorphisms
Will be announced	Final Examination

SUGGESTED READING:

- Y.A. Abramovich & C.D. Aliprantis, *An Invitation to Operator Theory*, American Mathematical Society, Graduate Studies in Mathematics, Vol. 50, Providence, RI, 2002.
- C.D. Aliprantis & O. Burkinshaw, *Locally Solid Riesz Spaces with Applications to Economics*, 2nd ed., American Mathematical Society, Mathematical Surveys and Monographs, Vol. 105, Providence, RI, 2003.
- W.A.J. Luxemburg & A.C. Zaanen, *Riesz Spaces I*, North-Holland Publishing Co., Amsterdam, 1971.
- P. Meyer-Nieberg, *Banach Lattices*, Springer-Verlag, Berlin, 1991.
- H.H. Schaefer, *Banach Lattices and Positive Operators*, Springer-Verlag, New York, 1974.
- H.-U. Schwarz, *Banach Lattices*, Teubner Verlag, Leipzig, 1984.
- B.Z. Vulikh, *Introduction to the Theory of Partially Ordered Spaces*, Trans. by Leo F. Boron with the editorial collaboration of Adriaan C. Zaanen and Kiyoshi Iséki, Wolters-Noordhoff, Ltd., Groningen, The Netherlands, 1967.
- A.C. Zaanen, *Riesz Spaces II*, North-Holland Publishing Co., Amsterdam, 1983.
- A.C. Zaanen, *Introduction to Operator Theory in Riesz Spaces*, Springer-Verlag, Berlin, Heidelberg, 1997.