

Functional Analysis 2

Course Syllabus

Fall Term 2011 — SNU

Course Title	Functional Analysis 2 (in English)
Course number	3341.604
Instructor	Gerald Trutnau
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Course homepage	http://www.math.snu.ac.kr/~trutnau/teachingFA2-2011.html
Course Objective	We will study: finite dimensional approximations (Ritz-Galerkin approximation), compact operators (compact embeddings and integral operators), spectrum of compact operators, self-adjoint operators, and also additional properties of Sobolev functions. We may also study some other topics that will be precised later in some update.
References	Recommended references: <ul style="list-style-type: none">- Alt, Hans Wilhelm: Lineare Funktionalanalysis, Springer; 5th edition (2006), available as ebook at the central library- Brézis, Haïm: Functional analysis, Sobolev spaces and partial differential equations, Springer Universitext (2010)- Lax, Peter D.: Functional Analysis, Wiley-Interscience (2002)- Rudin, Walter: Functional Analysis, McGraw-Hill, 2 edition (1991)- Yoshida, Kôsaku: Functional Analysis (Springer Classics in Mathematics) (6th edition, 1980)- Zeidler, Eberhard: Applied Functional Analysis: Applications to Mathematical Physics (Applied Mathematical Sciences) (v. 108) , Springer (1995)- Zeidler, Eberhard: Applied Functional Analysis: Main Principles and Their Applications (Applied Mathematical Sciences) (v. 109) , Springer (1999)

Evaluation - Attendance: (will not be checked). However, students are supposed to know the material taught in class.

Students must accomplish two take home exams.

- Take Home Exam I (7-8th week, 40 % of final score);

- Take Home Exam II (14-15th week, 40 % of final score);

Other: (20 % of final score)