

PMATH 833: Harmonic Analysis

Winter 2018

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Content. I will cover all of the basic topics:

- locally compact groups, Haar measure
- abelian harmonic analysis, Pontryagin duality
- compact harmonic analysis, Peter-Weyl Theorem, aspects of duality
- amenable groups, Reiter and Følner conditions, Hulanicki's theorem.

Prerequisites. Every student must have a course in functional analysis (PM 753, or equivalent), and exposure to abstract measure theory (PM 651, or equivalent).

Texts. The course will be self-contained and no text is required. I will be using material from the following books, which I will put on reserve in the library.

- [1] G. B. Folland, *A Course in Abstract Harmonic Analysis*, CRC Press, 1995.
- [2] E. Hewitt and K. A. Ross, *Abstract Harmonic Analysis I*, Springer, 1963.
- [3] E. Hewitt and K. A. Ross, *Abstract Harmonic Analysis II*, Springer, 1970.
- [4] W. Rudin, *Fourier Analysis on Groups*, Wiley, 1962.