

**MATH 504, ANALYSIS IN EUCLIDEAN
SPACES, SPRING 2009, SYLLABUS**

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Office Hours: MWR 2:30–3:20 and otherwise by arrangement.
Class: MWF 1:25–2:15 309 Boucke.
Schedule #: 280969 .
Text: Fourier Series and Integrals,
by H. Dym and H. P. McKean,
Academic Press, 1972, 0-12-226451-7.

The following texts are useful for further reading.

T. W. Körner, Fourier Analysis,
Cambridge University Press, 1988, 0-521-38991-7.
H. Helson, Harmonic Analysis,
Addison Wesley, 1983, 0-201-12752-0.
J. Duoandikoetxea, Fourier Analysis,
A. M. S., Graduate Studies in Mathematics, Vol. 29, 200, 0-8218-2172-5.

Prerequisites: Math 501.
Homework: Due every Monday.
Complete solutions of all problems are required on time.
Harder problems can be discussed with others.
Grading: Based on Homework and Attendance.

Topics

The Fourier transform in L^1 and L^2 and applications, interpolation of operators, Riesz and Marcinkiewics theorems, singular integral operators

All Penn State Policies (see <http://www.psu.edu/ufs/policies/47-00.html#49-20> and <http://www.science.psu.edu/academic/Integrity/index.html>) regarding ethics and honorable behavior apply to this course.