18.103 FOURIER ANALYSIS — THEORY AND APPLICATIONS
Fall 2013

WEB SITE: http://math.mit.edu/~jerison/103

LECTURES: MWF 10-11, Room E17-129.

LECTURER: David Jerison, Room E17-308, 253-4394, jerison (at math.mit.edu)

OFFICE HOURS: Tuesday and Thursday 2-3pm or by appointment.

TEXTBOOKS: *Measure and Probability* by M. Adams and V. W. Guillemin, Birkhäuser (1996).

Starting in late October, we will also refer to *Fourier Analysis, an introduction* by E. M. Stein and R. Shakarchi, Princeton University Press (2003).

GRADING: Problem sets, Hour test, Final exam: 30, 30, and 40 percent, respectively.

HOMEWORK: PS1, due 10am, Wed, Sept 11, is the following problems from the Adams-Guillemin text: pp 11–14: 1, 4, 7, 10, 12, 20; pp 39–42: 4, 5, 7. There will be eleven problem sets posted at our web site, due in class at 10am on the dates listed on the homework page of the web site.

HOMEWORK COLLABORATION: You are encouraged to discuss homework with fellow students. You should, however, first read each problem carefully and make an attempt to solve it by yourself. Finally, **you must write up all homework problems by yourself**.

LATE HOMEWORK: Late homework will be accepted only if it is turned in within one week of the due date. There is no penalty for the first late homework assignment, but scores of all subsequent late papers will be multiplied by 1/2.

EXAM DATES: The mid-term exam (50-minute test) is in class on **Friday, October 25**. The final exam date will be announced as soon it is scheduled.

EXTRA REFERENCE: *Fourier Analysis* by T. W. Körner, Cambridge U. Press, 1988. This book is a series of vignettes that make entertaining reading in small doses. We will not be using it, but it gives an idea of the range of applications of Fourier analysis.