

The topic for this week is **Fourier Series**.

**Readings:** Riley, Hobson and Pence - Chapter 12

Boccio - 05a\_FourierSeries1.pdf

[http://chaos.swarthmore.edu/courses/Physics50\\_2008/Lectures/index.html](http://chaos.swarthmore.edu/courses/Physics50_2008/Lectures/index.html)

**Fourier Series Problems (just integrals)**

12.05  $f(x) = x$

12.06  $f(x) = 1-x$

12.09  $f(x) = \exp(x)$

12.14  $f(x) = |x|$

12.16  $f(x) = \cosh|x-1|$

12.18  $f(x) = x^2$

12.20  $f(x) = |\sin(x)|$

12.21  $f(x) = \cosh(x)$

12.22 Chopped Sine Wave

**You can use tables, calculators or Mathematica to do integrals.**

After these problems you will certainly know how to compute a Fourier series!!!