

NOTES ON THE SECOND HOUR EXAM--SPRING 2012

The second hour exam will be given on Friday, 20 April 2012. The test will cover all the material done in class and also assigned for readings concerning Fourier series (trig and complex series; series for functions that are 2π or $2L$ periodic; extending functions to allow the calculation of Fourier series; Dirichlet's theorem and its applications to series summation), series solutions of differential equations, Legendre's differential equation and all the topics attendant to it (generating functions, recurrence relations, multipole expansions and Legendre series).

You will be asked to write a short *Mathematica* program that will numerically solve a differential equation (or series of differential equations) using one or more of the methods we have studied.

I will post the list of equations for the exam no later than Monday afternoon.