Computational Physics / PHYS-UA 210 / Problem Set #4
Due October 6, 2017

Submit this homework to the TA as a link to the Jupyter Notebook and/or a PDF file, checked into your GitHub account, in the place specified in the class notes for Lecture #1.

You *must* label all axes of all plots, including giving the *units*!!

1. Exercise 1 in S5.5 of Landau.

2. Exercise 5.12.3 in Landau. Note in Equation (70) this N is not the same N as in the rest of the problem, which is the number of integration points. For the table of errors as a function of N, just use odd numbers, I don't know why they list even numbers when they are asking you to use Simpson's Rule. You may use the SciPy routines for Gaussian quadrature weights to calculate them.

3. Derive the weighting in Equation 5.61 in Landau, submitting the derivation as a PDF made using Latex.