ASE 211 Homework 12

Due: Friday, April 21 at 12:00 p.m.

1. Write matlab m-files which implement the composite trapezoidal, Simpson's and midpoint rules. Verify that the composite trapezoidal and midpoint rules have error which goes to zero like h^2 by approximating the integral

$$\int_0^1 [3x^4 - x^3 + 12x^2] dx$$

and comparing the errors for $N = 10$, 20 and 40 (as discussed in class).

2. Apply your composite trapezoidal and Simpson's codes to problem A11.1 in the book.