

**Assignment 3** - Due Thursday 2/8/2018

**Read:** Hubbard and Hubbard Section 3.2, 3.3, 3.4

**Exercises:**

Section 3.3 (pages 323-325): 1, 2, 2b\*, 3, 6, 9, 13

Section 3.4 (page 333): 1, 2\*, 3\*, 4, 5\*, 6, 7\*, 9, 11

Section 3.5 (pages 340-342): 1, 2, 3, 3b\*, 3c\*, 4, 4b\*, 5, 8, 9, 10, 10d\*, 11, 17

**Comments:**

Note that question 3.4.3 is the same as 3.3.13 and 3.4.11 is the same as 3.3.12. There are notes in the margin about this. In questions 3.4.6 and 3.4.9 I do not want you to worry about bounding the errors - I don't think that is really part of this course. Maybe just compute 3 terms of the series if you look at those questions.

The most important things in Section 3.3 are Theorem 3.3.9 about equality of the mixed derivatives when second partials are continuous (but they only prove it in an appendix), the form of the multivariable Taylor polynomial, and how to compute the coefficients in 3.3.12. They spend a very long time introducing multi-exponent notation, as though it is difficult, and I am not even sure we need to trouble ourselves with it.

I am not sure whether we will get all the way through section 3.5. It may be that there are too many homework questions. We should discuss this situation as the due date approaches.