

Assignment 6 - Due Thursday 3/1/2018

Read: Hubbard and Hubbard Sections 4.1.

Exercises:

Section 4.1 (pages 406-409): 3, 5, 6, 8*, 9*, 10*, 11, 14a*, 15*, 16.

Comments:

We may get on to Section 4.3 as well as Section 4.1 this week, but I only set homework questions on 4.1. Sections 4.1 and 4.3 are theoretical in nature, concentrating on the foundations of what can and cannot be done. There is a lot to read, and it probably looks rather complicated. However, if you could somehow instantly read everything the authors write, I think you may think that you could have guessed the highlights anyway (e.g. Theorem 4.3.8: continuous functions can be integrated).

We are skipping over several sections in the book at this point. At the end of Chapter 3, Sections 3.8 and 3.9 are very interesting. The application of the spectral theorem for symmetric matrices to Principal Component Analysis mentioned in 3.8 is very important, and the example about identifying faces is interesting. Also curvature in Section 3.9 is interesting, and a good thing to know about. These applications are the reason we develop mathematics in the first place, but there is a lot to cover in the book and we have to start with the fundamentals, without always getting to the applications. We are also missing out section 4.2. I suppose you could look at these sections if you are stuck for something to do!