RESPONSES TO STUDENT COMMENTS ON MATH36041, AUTUMN 2014 SEMESTER.

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One student has made a good point about improving the “clarity of what the module subject matter is prior to taking it as an option.” There are a few statements on the course description page which are inaccurate, and I will endeavor to fix those before students sign up for the class next year.

Another student suggests either more functional analysis at the start, or a wider variety of applications of finite element method (i.e. to other types of PDE, and in more than one dimension). I am very happy that the student is interested in the material from the class beyond what we have covered, but I am afraid there is only so much that can be put into one semester. The course is meant as a mathematically rigorous introduction to finite element method using primarily familiar examples, and I think it is wise to keep it this way. Additional material on functional analysis also might distract from the primary thrust of the class towards numerical analysis of PDEs. For further study on the topic of finite element method there is a class at the four hundred level “Approximation Theory and Finite Element Analysis”. The applied group has also discussed the possibility of adding a follow up “Essential Differential Equations 2” in the third year which could also build on the material, although this is not currently in place.

It is also suggested that more explanation be provided giving context to examples. Certainly I try to do this already, but I will attempt to make the connection between each of the examples considered in the tutorials and the rest of the material as clear as possible in the future.

Another comment is, “maybe a coursework/examples for other methods with require[d] computation”. I believe the suggestion is to include other numerical methods for comparison with the finite element method. This is a good idea, and I will consider incorporating a comparison between the finite difference method and finite element method in the computational coursework assignment.

Finally, a student asked for more guidance on the computer coursework assignment and also complained about the midterm test being too long. Since this was the first time I had taught the class, it was difficult to gauge the correct length for the midterm, and based on the class’s performance I agree it may have been too long. I will use my experience from this year to help ensure the midterm test (and final exam) are the correct length in the future. Also, I will plan in the future to dedicate a tutorial session to the computer code used in the assignment prior to the due date of the computer coursework assignment.