Advice to next year's students

The students who want to take this course should have a background on functional analysis. Since this is an intensive course with 5 credits. If they don't have background they should be ready before each lecture very well.

Be self-disciplined and read the materials on your own, this will increase your efficiency very much.

It's very important to read the chapters in advance and do the relative homeworks. Otherwise it would be difficult to follow the lectures.

Come well prepared to the lectures.

The threshold to get into this subject is really high so one needs to spend a lot of time with the material.

Make sure to read the chapters and try to solve exercises before the lecture.

By default, I consider a student without any "direct experience" with functional analysis in the past. I guess the most important thing is to follow the course instructions. I mean, for example, if a certain chapter is considered to be read before next meeting, it is vital for the student to do that. Otherwise, the course is not efficient at all and since there are a few meetings and homework and other assignments are arranged, the problem goes like a "domino".

Start reading each chapter of the book/solving the problems as soon as possible. Don't wait until the last couple of days!

Plan carefully your time for the assignments

This course is suitable to any PhD student in numerical analysis who wants an introductory course of functional analysis. I recommend it especially if he/she does not have any background in functional analysis.

Be selective when reading the course material (Kreyzig). Focus on the most important, especially if it is connected to your research.

The textbook is really helpful.

Difficulty
The book is good. Reading the book and solving the problems is an efficient way the course content.

The lectures were really stimulating.

* Innovative style of teaching and organizing the meetings.
* Smart selection of homework problems and fast/slow quizzes
* Efficient review of the most important foundations in functional analysis
* Giving clues to the students such that they can follow further material on their own
* In one sentence, pave the way for beginners to go through different aspects
of functional analysis.

1. The course style is good. 2. Quizzes are useful and interesting.

I liked the layout of the course, lectures, exercises, mini-essays, reviewing process was very useful.

It covers the basic concepts in Functional analysis. The list of exercises are quite helpful.

The literature was very helpful. The applications to numerical analysis.

The interactions among students. The mini-essay and its reviewing.

I really like the course book.

**Points for improvement**

1. We should also discuss the 'slow quiz' in the lectures. If time does not permit, then solutions should be published. 2. We should have a last meeting where every student present the essay in 5-7 mins. Many of the topics are interesting. It is a pity that I did not hear about them.

Better balance between workload and points. Longer teaching sessions (at least 4 hours). The lectures felt stressed and for those of us who travelled from other cities it was not too rewarding. Supplementary literature and/or references to applications within numerical analysis.

* Adding at least two more sessions to go through some extra material like "spectral theory", "connection between different spaces in practical uses in differential equations", ...
* If so, the credits of the course may increase accordingly.

More specific reading instructions. What is important? What is less important? As it was now, it was hard finding the time to read all the material in detail.

The schedule for Chap 2 is too dense.

The mini-quizzes was a bit fast in my opinion, it's not that easy to come up with an answer in 30 sec. I see the point of it being fast but 30 sec is a bit too quick. The presentations was a good practice, however, it was a bit difficult to grasp the content of the other students presentations.

A lighter schedule during the class would be more efficient and easier to digest.

**Teacher: Stefan Engblom (teaching was clear and well structured)**
Teacher: Stefan Engblom (teaching was engaging)

1. Stefan has a special teaching style. This fits very well to this course.
2. The course website is updated on time.
3. Well-chosen content included in the course. A bit non-traditional teaching style (that is the students prepares before the lecture) but in general a positive result. It takes some teaching skills to make it work but he's a talented teacher so it worked well.
4. *Good 'infrastructure' - clear information/schedules on the web page.*
5. *Nice lectures which were engaging and helped developed a more intuitive understanding of some concepts.*
The quiz part and the examples in the lecture.
I'm impressed that Stefan manages to find a numerical analysis viewpoint even thought the material is very theoretical. Really structured when teaching. Really like that there is coffee in the break.
He was particularly good in making the class interactive
The teacher did a great job making the lectures stimulating and involving the students in the process.

He was an "organizer" who could manage the course in a constructive way. In the beginning, it was a little hard for me to predict to what direction the course would go; but in the middle I was happy; since the teacher knew what he was doing. I guess a course like "functional analysis" may potentially be boring since it is kind of "theorem, lemma, proof, and a few applications". The teacher was able to arrange all elements like reading, problem solving, homework, quizzes, presentation, mini essay and other things to make this "potentially rigid" course to a "nice pleasant" one.

He was enthusiastic and invented multiple elements to facilitate learning.

Teacher: Stefan Engblom (points for improvement)
I feel the session might need to be longer. Maybe 4h-sessions instead of 2h.
It might be good if he talks a little bit more on Chap4-5, except the presentation by the students.
More focusing on the numerical part of the course
Maybe a bit too quick sometimes (especially the mini-quizzes), if he's given a small chill pill it will be fine I think.

Better focus on the lectures. They were fast and not always easy to follow.

The book

The written assignments
The student presentations

The mini-essay and the referee procedure

Opinions: assignments, presentations, or mini-essays

Assignments: A good way to exercise the content of the course. Solving problems is in my opinion the best way of learning a subject. Mini-essay: A good way to deepen the knowledge of a topic of your own choice and to practice report writing. Presentations: Maybe a bit difficult to understand the other students presentations at times, however a good practice in presentation technique.

I really liked the mini essay format. It was fun to write about something you were really interested in. I think the referee procedure was good as "real life" practice and it was fun.
to read the other students essay. I think it was good that there were 2 referees per paper. One of the reviews I got were really good and the other review was really lame. If there are 2 reviews hopefully one of them is good. I don't think that the presentations was a very good course format. It took a lot of time and it didn't give so much. Some of the major theorems are also very difficult to put in a numerical analysis context.

The amount of work that goes into these assignments are not in proportion to the 5 hp rewarded.

Among these, the most interesting part for me was the mini-essay. It was very efficient to write a short note while using the acquired knowledge in the course as well as reviewing two other works. It would be seen as a challenge which in the end brings confidence. I was very happy with the homework, too. They were not unreasonable and I guess most of them were selected in order to convey some important messages that would not be covered - at least directly- in the reading material.

**Final words**

This course is really useful and has great potential

I would like to sincerely thank Stefan, for providing such a good course. Being frankly, I cannot think how I could deal with my current daily problems without taking this course. I am not saying, I am "super perfect" now or "I would die without this", but certainly the course "paved the way" for me! So, Thank you Stefan!

I was a bit sceptical in the beginning about the layout of the course, however, I'm actually impressed that the teacher managed to make it work in a good way.

This course is more than I expected. It is better to have the functional analysis like this than just a reading course.

**Finally: Overall rating of the course**
Number of daily responses