

Suggestions for Instructors

Everyone has their own teaching style, so I would ordinarily not make suggestions about this. However, I believe that the unusual structure of this text (exercises instead of worked examples, as described in the preface) requires an unusual approach to teaching from it. Here is what has worked for me in similar situations. Take it for what is worth.

Most students are overwhelmed on a first encounter with linear algebra: so different, so many definitions and theorems, real proofs, etc. I do not even give them the comfort of worked examples. It is difficult for an instructor to know what students understand and do not understand. But they are afraid to ask questions. So I made them ask questions.

At the end of class time I assigned reading and exercises from the text. Students were required to submit two questions to me about the assignment, with their names, before the next class period. The deadline had to give me sufficient time to look over the questions before class. They were graded on how thoughtful the questions were, not on whether the questioner understood a concept or solved an exercise.

In class I would choose a student's question and ask him/her about it. What approaches had they taken to answer the question? Had they noticed this aspect of the question? Did they remember such and such a theorem? Might X help? And so on. If another student had the same question, I might draw her/him into the conversation. I might give a "mini-lecture" if there seemed to be a lot of confusion about a point. When I'm through with that question, I turn to another. Class time was mostly devoted to this, with little lecturing.

Of course this is terrifying to many (most?) students. But once I had asked lots of students lots of questions and they saw that most of them are in the same boat, and that I am not out to humiliate them, most relaxed.