Linear Algebra at Drexel University

The Mathematics Department used linear algebra books by Howard Anton, Bernie Kolman, and David Lay for many years. I took a chance two years ago and adopted Gilbert Strang's linear algebra book for a large engineering course. We used the second edition of Introduction to Linear Algebra, Wellesley-Cambridge Press. Several colleagues said it couldn't be done, but students and the instructor survived nicely to see another day. Many students said they enjoyed the book. Gil Strang's enthusiasm for the subject matter comes through in the text and students find it a refreshing change. Another strong point is an extensive set of problems. Many problems probe the subject in a way that requires students to think about linear algebra. Routine problems are not forgotten. This is good. Students can work on problems that help them put the subject in their own voice. A third strength is the layout of topics. Matrix multiplication and elementary row operations from a matrix viewpoint are developed first, and this provides an opportunity to discuss row reduction, matrix inverse, and the LU decomposition with little extra effort. Other standard subjects follow in order and orthogonality arrives early. Computation is not ignored and the text is organized so that computation is optional.

I worked to adapt my notes and style to the text. After a while, I discarded my old notes and discovered freshness in the subject that I had not known for some time. Enrollment in the course for engineers has increased dramatically in the last two years. More than 250 students studied linear algebra and matrix theory at Drexel University in the spring of 2005. All day students taking linear algebra at Drexel used Gilbert Strang's book. I plan to use it again.

Herman Gollwitzer
Mathematics Department
Drexel University
(215) 895-2658
hg@drexel.edu

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