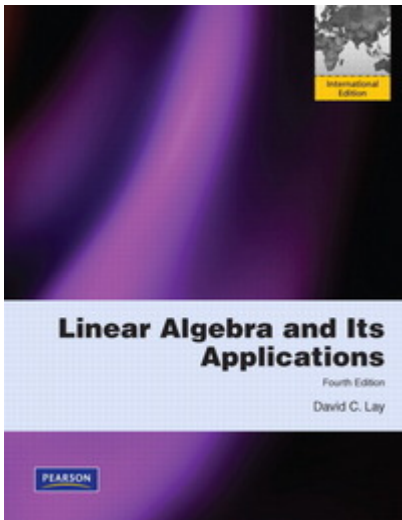


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Linear algebra and its applications

Lay, David C

Line algebra is relatively easy for students during the early stages of the course, when the material is presented in a familiar, concrete setting. But when abstract concepts are introduced, students often hit a brick wall. Instructors seem to agree that certain concepts are not easily understood, and require time to assimilate

Paperback, Book. English.

4th ed., International ed.

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Published Boston, Mass.; London: Addison-Wesley, c2012

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Details

Statement of responsibility: David C. Lay

Copyright: 2012

ISBN: 0321623355, 9780321623355

Intended audience: Specialized.

Note: Previous ed.: 2006.

Note: Includes index.

Physical Description: 1 v. (various pagings) : ill. (chiefly col.) ; 26 cm.

Subject: Algebras, Linear Problems, exercises, etc.; Mathematics.; Algebras, Linear.

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Author note

David C. Lay holds a B.A. from Aurora University (Illinois), and an M.A. and Ph.D. from the University of California at Los Angeles. Lay has been an educator and research mathematician since 1966, mostly at the University of Maryland, College Park. He has also served as a visiting professor at the University of Amsterdam, the Free University in Amsterdam, and the University of Kaiserslautern, Germany. He has over 30 research articles published in functional analysis and linear algebra.

As a founding member of the NSF-sponsored Linear Algebra Curriculum Study Group, Lay has been a leader in the current movement to modernize the linear algebra curriculum. Lay is also co-author of several mathematics texts, including *Introduction to Functional Analysis*, with Angus E. Taylor, *Calculus and Its Applications*, with L.J. Goldstein and D.I. Schneider, and *Linear Algebra Gems-Assets for Undergraduate Mathematics*, with D. Carlson, C.R. Johnson, and A.D. Porter.

Professor Lay has received four university awards for teaching excellence, including, in 1996, the title of Distinguished Scholar-Teacher of the University of Maryland. In 1994, he was given one of the Mathematical Association of America's Awards for Distinguished College or University Teaching of Mathematics. He has been elected by the university students to membership in Alpha Lambda Delta National Scholastic Honor Society and Golden Key National Honor Society. In 1989, Aurora University conferred on him the Outstanding Alumnus award. Lay is a member of the American Mathematical Society, the Canadian Mathematical Society, the International Linear Algebra Society, the Mathematical Association of America, Sigma Xi, and the Society for Industrial

and Applied Mathematics. Since 1992, he has served several terms on the national board of the Association of Christians in the Mathematical Sciences.

Description

Linear algebra is relatively easy for students during the early stages of the course, when the material is presented in a familiar, concrete setting. But when abstract concepts are introduced, students often hit a brick wall. Instructors seem to agree that certain concepts (such as linear independence, spanning, subspace, vector space, and linear transformations), are not easily understood, and require time to assimilate. Since they are fundamental to the study of linear algebra, students' understanding of these concepts is vital to their mastery of the subject. David Lay introduces these concepts early in a familiar, concrete R^n setting, develops them gradually, and returns to them again and again throughout the text so that when discussed in the abstract, these concepts are more accessible.

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