## **Examples of Additional Topics**

Complex vector spaces

Gram-Schmidt process

Orthogonal Matrices

LU factorization

QR factorization

Markov Chains

Principal Component Analysis

Least Squares Approximation

Distance between points, lines, and planes

Matrix Block Multiplication

Cramer's Rule

**Iterative Methods** 

Singular Value Decomposition

Cayley-Hamilton Theorem

Jordan Canonical Form and Rational Canonical Form

Linear Di erential Equations as the kernel of a linear transformation