

Notes on Mathematics for Social Statistics

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Abstract

These notes are adapted from John Fox's *Mathematical Primer for Social Statistics*

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1.1 Matrices

1.2 Basic Vector Geometry

1.3 Vector Spaces and Subspaces

1.4 Matrix Rank and the Solution of Linear Simultaneous Equations

1.5 Eigenvalues and Eigenvectors

1.6 Quadratic Forms and Positive-Definite Matrices

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2.7 Essential Ideas of Integral Calculus

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3.5 Properties of Estimators

3.6 Maximum-Likelihood Estimation

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4.5 Maximum-Likelihood Estimation of the Regression Model

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