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Fundamentals of Statistical Inference

STAT-363*

Textbook: *Mathematical Statistics and Data Analysis*, 2nd Edition
by J. A. Rice (Duxbury Press)

Instructor: B. Levit

Prerequisite: STAT-251* *and* either STAT-261* *or* 264*/265* (*or* 162);
STAT-353* is recommended.

Exclusion: STAT-360*.

Evaluation:	Homework	20%
	Midterm Test	20%
	Final Examination	60%

Outline:

Method of Maximum Likelihood, estimating variability of estimates by the bootstrap. Decision theory, Bayesian and minimax inference. Testing hypotheses, Neyman-Pearson lemma, one- and two-sided most powerful tests. Linear least squares, applications to functional estimation. Empirical cumulative distribution function. Non-parametric density estimation. Hands-on experience with statistical software.