

Analytical Methods in Geography II

Lectures: Mondays & Wednesdays 3:30 - 5:00 pm; Ellison 5824

Lab: Fridays 2:00 - 3:50 pm; Ellison 2610

Instructor

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Audience and Prerequisites

Graduate students in Geography, Ecology, Environmental Science & Management, Geology, and Marine Science interested in *multivariate statistical data analysis*.

Prerequisites: Geog 172 or equivalent and consent of instructor.

Text Books

Optional: *Computational Statistics Handbook with MATLAB, 2nd Edition*, Martinez, W.L. and Martinez, A.R. (2007), Taylor & Francis – Chapman & Hall/CRC.

Optional: *Intuitive Probability and Random Processes Using MATLAB*, Kay, S. (2006), Springer.

Tentative Schedule

Date	Topic
01/07 – 01/09	Sample Statistics & Random Variables (Univariate)
01/14 – 01/16	Linear Algebra Review
01/21* – 01/23	Sample Statistics & Random Variables (Multivariate)
01/28 – 01/30 ⁺	Multivariate Hypothesis Testing
02/04 ⁺ – 02/06	Multiple Linear Regression (I)
02/11 – 02/13	Multiple Linear Regression (II)
02/18* – 02/20	Principal Component, Factor & Canonical Correlation Analysis
02/25 – 02/27	Discrimination, Classification & Generalized Linear Models
03/03 – 03/05	Clustering & Ordination
03/10 – 03/12	Classification & Regression Trees

Logistics

Weekly MATLAB-based lab assignments (70%), class participation (30%); no midterm, no final.