

**EVSC 5030: Applied Statistics for the Environmental Sciences
Spring 2011**

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**Lecture: T 5-7:30 pm
Mechanical Engineering 216**

**Lab: W 2-4 Wilson 306
Th 5:30-7:30 Wilson 308**

DATE	TOPIC	READINGS ¹
25 January	Populations, samples, distributions, descriptive statistics	Chapters 2 & 4
1 February	Probability distributions, Central Limit Theorem, confidence	Chapters 5, 6, and 7.1-7.5
8 February	Hypothesis testing, good-ness of fit tests, 1 sample and 2 sample t-tests	Chapter 7.8, 7.9
15 February	Single Classification ANOVA, comparison among means	Chapters 8 and 9
22 February	Assumptions of ANOVA, transformations, non-parametric tests in lieu of single classification ANOVA	Chapter 13
1 March	EXAM I	
8 March	SPRING BREAK	
15 March	Power, Experimental Design, Replication, Pseudoreplication	Supplementary Reading
22 March	Nested, 2-way, and multi-way ANOVA	Chapters 10, 11, 12
29 March	Maximum likelihood approach to mixed model ANOVA	Supplementary Reading
5 April	Categorical data analysis	Chapter 17 and Supplementary Reading
12 April	EXAM II	
19 April	Regression and correlation, non-parametric correlation	Chapters 14 and 15
26 April	Multiple and curvilinear regression, logistic regression, ANCOVA	Chapter 16 and 17
3 May	Introduction to multivariate statistics (MANOVA, repeated measures PCA, and DFA)	Supplementary Reading

¹ Unless otherwise noted, readings are from: Sokal, R.R., and F.J. Rohlf. 1995. Biometry. 3rd edition. W.H. Freeman and Company, New York.

Take-home Final Exam Due: Midnight, Tuesday 10 May 2011