

**STATISTICS 201-3  
STATISTICS FOR THE LIFE SCIENCES**

**Fall 2002  
DAY COURSE  
STATISTICS WORKSHOP**

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**Instructor: Madjid Amir  
Lab Instructor: R. Insley**

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**Prerequisite:**

The student must have 30 semester hours of credit. Students with credit for STAT 101, 102, 203 (formerly 103), 270 (formerly MATH 272) or 301 may not take STAT 201 for further credit.

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**Textbook:**

Mind on Statistics by Jessica M. Utts & Robert F. Heckard, publisher: Duxbury/Thomson Learning.

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**Course Description:**

An introductory course in research methodology and associated statistical analysis techniques for students with training in the life sciences. (3-1-0)

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**Outline:**

Aimed at a non-mathematical audience, this course discusses procedures that are most commonly used in the summary of statistical surveys and in the interpretation of experimental data. The rationale for these procedures is explained in detail, but the use of mathematical formulas is kept to a minimum. Either STAT 101 or STAT 201 is a satisfactory prerequisite for STAT 302.

**1.Data summaries and displays:** Graphical summaries, measures of central tendency, measures of dispersion, percentiles, the normal curve, computer-generated graphs and data summaries.

**2.Summarizing the relationship between variables:** Scatterplots, the regression line, correlation, and causation.

**3.The research process:** Assembling background information, formulating hypotheses, generating informative data with controlled experiments and randomized surveys, and using the data to reassess hypotheses.

**4.Case studies** involving happenstance data, randomized surveys, and controlled, randomized experiments.

**5.Basic probability calculations:** The addition and multiplication rules, and independence.

**6.Distributions for count data:**

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## Grading