Syllabus

Class Meets   MWF 12:00-12:50 in Ritter 200.

Instructor   Dr. Bryan Clair

Email   bryan@slu.edu

Office   Ritter Hall 110. 977-3043.

Office Hours   M 1-2, Th 10-12, or by appointment. If you're not coming to office hours, you're missing out on a valuable resource.

Web Page   http://math.slu.edu/~clair/math403

Textbook   Walpole, Myers, Myers, Ye, <u>Probability and Statistics for Engineers and Scientists</u> (8ed).

Technology   You will need a scientific calculator with probability functions built in. I will demonstrate with the TI-83 model in class. You should have some way to perform statistical computations on your computer. I will demonstrate the MYSTAT software package, which is available for free (but Windows only).

Homework   There will be regular homework assignments, usually due on Wednesdays. Your work should be neat and legible. Use plenty of paper, and staple your work!

     I encourage you to work together on homework, but everyone should write up results separately. You should also feel free to check your solutions in the back of the book and then correct them.

     Your homework assignment must have a self-assessment on the front page. The self evaluation should tell me which problems you found easy, which were difficult, and how well you feel you have mastered the material on the assignment. This is also the place to request feedback on problems that caused you trouble.

     Homework is graded as follows:
+   On time, complete (or mostly complete).
√   On time, missing self-evaluation or otherwise incomplete.
Late   50% credit, you will receive no comments
0   Not turned in.

Quizzes   There will a ten minute quiz each Friday (unless there is an exam). These quizzes will reinforce the homework assignments. I will drop your two lowest scores, so there will be no makeup quizzes under any circumstances.

Exams   I give makeup exams only for severe and documented reasons.
Exam 1   Wednesday, Sep. 30
Exam 2   Wednesday, Nov. 4
Final Exam   Wednesday, Dec. 9, 12-1:50pm

Grading   Grading is on a straight scale (uncurved), with 90%,80%,70%,60% guaranteeing A,B,C,D respectively. Grading is weighted as follows:

Homework	15%
Quizzes	10%
Exam 1	20%
Exam 2	20%
Final Exam	35%

Honesty   Students are expected to be honest in their academic work, as per the Honesty Policy of the College of Arts & Sciences. Plagiarism, cheating and dishonesty will be reported to the dean and may result in probation, expulsion, or worse.

Schedule

Week 1 (8/24)   Ch 1 (mainly sections 1.4, 1.5, 1.6) Probability and Statistics. Descriptive statistics. Graphical display of data.

Week 2 (8/31)   Ch 2.1-2.5. Elementary probability. Sample spaces, events, and counting. Probability rules.

Week 3 (9/7)   LABOR DAY NO CLASS 9/7. Ch 2.6,2.7. Conditional probability and independence. Ch 3.1, 3.2.   Random variables, discrete and continuous. Begin probability distributions.

Week 4 (9/14)   Ch 3.2-3.4. Probability distributions and joint probability distributions.

Week 5 (9/21)   Ch 4.1, 4.2. Expected value/mean, standard deviation/variance. Covariance, correlation.

Week 6 (9/28)   EXAM 1 9/30. Ch 4.3 Computing mean and variance.

Week 7 (10/5)   Ch 5.1-5.3, 6.1-6.5. Normal and binomial distributions.

Week 8 (10/12)   Ch 5.6, 6.6, 6.7, 6.10. Common distributions.

Week 9 (10/19)   FALL BREAK NO CLASS 10/19. Ch 8.1, 8.2, 8.4, 8.5. Sampling distributions.

Week 10 (10/26)   Ch 8.7, Ch 9.1-9.5. Estimatino. Standard error. Confidence intervals. *t*-distribution.

Week 11 (11/2)   EXAM 2 11/4. Ch 9.10. Estimating a proportion.

Week 12 (11/9)   Ch 10.1-10.6, 10.11: Hypothesis testing on means and proportions.

Week 13 (11/16)   Ch 9.8, 9.8, 10.7, 10.8. Two sample tests. Ch 16.1. Non-parametric tests.

Week 14 (11/23)   Ch 11.1-11.3. Linear regression. THANKSGIVING NO CLASS 11/25, 11/27.

Week 15 (11/30)   Ch 11.4, 11.5, 11.11, 11.12. Linear regression. Residuals, fit, correlation.

FINAL EXAM Wednesday, Dec. 9, 12-1:50.