Syllabus

CLASS MEETS MWF 2:10-3:00 in MDH 1066.

INSTRUCTOR Dr. Bryan Clair

EMAIL bryan@slu.edu

OFFICE Ritter Hall 110. 977-3043.

OFFICE HOURS M10-11, Th10-11, F1-2 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/stat

TECHNOLOGY We will be using the professional statistical software SPSS in this course. This software is available on most Windows machines on campus, and you will most likely need Billiken Bucks to print your results. A graphing calculator (such as the TI-83) can be useful but is not required. A USB storage key will be very helpful. Generally, you will be allowed to use technology during exams.

There are open labs with SPSS in Pius Library and on the 2nd floor of MDH.

TEXTBOOK Moore, The Basic Practice of Statistics (4ed).

HOMEWORK There will be regular homework assignments, usually due on Fridays. Your work should be neat and legible. Staple your homework!

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.

I grade homework on a 10 point scale. On time homework will receive at least a 6/10. Late homework is always accepted, but I will not write comments and will automatically give a score of 5 (out of 10) if the work is of reasonable quality.

QUIZZES There will be a handful of short in-class quizzes (dates to be announced).

EXAMS I give makeup exams only for severe and documented reasons.

Exam 1 Friday, February 18
Exam 2 Friday, March 20
Final Exam Wednesday, May 6, 2-3:50pm

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

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<tr>
<th>Component</th>
<th>Weight</th>
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<tr>
<td>Homework</td>
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<td>Quizzes</td>
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<td>Exam 1</td>
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<td>Final Exam</td>
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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.

Topics

Ch 1. Descriptive Statistics
  Displaying data. Frequency distributions and histograms.

Ch 2. Averages and Variation
  Mode, median, mean. Variation, standard deviation. Percentiles and quartiles.

Ch 3. The Normal Distributions
  Normal probability distributions. Standard units. Areas under normal curves.

Ch 4, 5. Regression and Correlation
  Scatterplots. Linear regression. Correlation coefficient.

Ch 8, 9. Experimental Design.

Ch 10, 12. Elementary Probability Theory

Ch 11, 13. Sampling Distributions
  Binomial distribution. Sampling distributions. Central limit theorem.
  Sampling distributions for proportions.

Ch 14, 15, 16. Inference
  P values. Confidence intervals. Hypothesis testing.

Ch 17, 18. Inference about means
  Tests involving the mean. Student’s t-distribution. Two sample problems.

Ch 20, 21. Inference about proportions
  Tests involving proportions. Choosing sample size.

Ch 23. Chi-Square