

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	<p>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.</p> <p>There are open labs with SPSS in Pius Library and on the 2nd floor of MDH.</p>										
TEXTBOOK	Moore, <u>The Basic Practice of Statistics</u> (4ed).										
HOMEWORK	<p>There will be regular homework assignments, usually due on Fridays. Your work should be neat and legible. Staple your homework!</p> <p>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.</p> <p>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.</p>										
QUIZZES	There will be a handful of short in-class quizzes (dates to be announced).										
EXAMS	<p>I give makeup exams only for severe and documented reasons.</p> <p>Exam 1 Friday, February 18 Exam 2 Friday, March 20 Final Exam Wednesday, May 6, 2-3:50pm</p>										
GRADING	<p>Grading is on a straight scale (uncurved), with 90%,80%,70%,60% guaranteeing A,B,C,D respectively. Grading is weighted as follows:</p> <table border="0" style="margin-left: 40px;"> <tr> <td>Homework</td> <td>20%</td> </tr> <tr> <td>Quizzes</td> <td>10%</td> </tr> <tr> <td>Exam 1</td> <td>20%</td> </tr> <tr> <td>Exam 2</td> <td>20%</td> </tr> <tr> <td>Final Exam</td> <td>30%</td> </tr> </table>	Homework	20%	Quizzes	10%	Exam 1	20%	Exam 2	20%	Final Exam	30%
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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
Events. Independence. Random variables. Probability distributions.
- 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
Tests of independence. Goodness of fit.