Syllabus for STAT 1220

Note: see important exam information at the end of this syllabus.

Text: Prem S. Mann. Introductory Statistics, 6th Edition, Wiley. ISBN 978-0-471-755302-2

Section	Topic
1.1—1.5	Introduction to statistics (brief overview, not more than one period) [not covered on the final exam]
2.1—2.3	Data; organizing and graphing data [not covered on the final exam]
2.4	Shapes of histograms
2.5	omitted
2.6, 2.7	Stem-and-leaf displays, dotplots
3.1	The mean and median (omit mode)
3.2	The range, variance, and standard deviation
3.3	omitted
3.4	The Empirical Rule (omit Chebyshev's Rule)
3.5	Percentile rank (omit quartiles)
3.6	omitted
4.1	Experiments and events
4.2	Probability
4.3	omitted
4.4	Conditional probability
4.5	omitted
4.6	Independent events
4.7	Complementary events
4.8, 4.9	Intersection and union of events
5.1	Random variables
5.2	Probability distribution of a discrete random variable
5.3, 5.4	Mean and standard deviation of a discrete random variable
5.5	Factorials (omit combinations and permutations)
5.6	Binomial random variables (formula as on the formula sheet)
5.7, 5.8	omitted
6.1	Continuous random variables
6.2—6.4	Normally distributed random variables
6.5	Applications of normal random variables
6.6	Finding the z- or x-value that produces a known area
6.7	omitted

7.1, 7.2	Sampling distributions, errors
7.3	The mean and standard deviation of $\bar{x}$
7.4	The Central Limit Theorem
7.5	Applications of the sampling distribution of $\bar{x}$
7.6–7.8	omitted
8.1	Introduction to estimation [not directly covered on the final exam]
8.2	Point and interval estimates
8.3	Determining sample size (omit all except subsection 8.3.1)
8.4	Estimating a population mean
8.5	Estimating a population proportion
9.1	Introduction to hypothesis testing
9.2	omitted (except for definition of p-value, covered after §9.3)
9.3	Testing hypotheses about a population mean (critical value approach only)
9.4	Testing hypotheses about a population proportion
10.1	omitted
10.2	Comparing population means: independent samples
10.3	omitted
10.4	Comparing population means: paired samples
10.5	omitted
Ch 11, 12	omitted
13.1	Simple linear regression model
13.2, 13.3	Simple linear regression analysis
13.4	The coefficient of determination
13.5	Inferences about B
13.6	The correlation coefficient (omit inferences about r)
13.7	A complete example
13.8, 13.9	Using the regression model and cautions
Ch 14, 15	omitted

Pace of the course: near the end of Chapter 4 one-quarter of the way through the term, completion of Chapter 5 at the halfway point, and close to starting Chapter 13 three-fourths of the way through the term (allowing for review for the final exam at the end of the term).

Examinations

The number and timing of in-class exams is the prerogative of the individual instructor. Three equally spaced examinations is recommended. The final exam is a common final exam given at a special examination period announced at the beginning of each semester. All students enrolled in the course must take the common final at the specially designated time, and it must constitute a significant component of the student's grade in the course. A formula sheet, scratch paper, and all necessary tables will be provided with the exam. Old final exams are posted on the web page of the Department of Mathematics and Statistics.

Calculators

Students are strongly encouraged to purchase a calculator with a built-in statistical package for use on homework, in-class exams, and the final exam.