

Fall 2009
Term 20101

STA 2023
Elementary Statistics
Reference #305112 MW 1:00 – 2:15 Room: G-315
Reference #305123 TR 5:30 – 6:45 Room: G-315

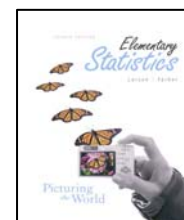
Instructor: Lyn Noble
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Office Hours:

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Monday	Tuesday	Wednesday	Thursday	Friday
9:20 – 9:50	1:20 – 1:50	9:20 – 9:50	3:30 – 5:20	9:20 – 9:50
12:30 – 12:50	3:30 – 5:20	12:30 – 12:50		
2:30 – 4:00		2:30 – 4:00		

Required Materials:

- Elementary Statistics: Picturing the World 4th ed., by Larson/Farber
- Noble Lecture Notes Packet (available in the bookstore)
- TI-83 or 84 Graphing Calculator. We will be using statistical features that are available only on the TI-83/84.



Optional: MyStatLab

Catalog Description: Prerequisite: MAC 1105 or MGF 1106 with a grade of "C" or better. This course is designed to introduce students to the fundamentals of descriptive and inferential statistics with a pronounced emphasis on inference. The major topics include methods for analyzing sets of data, probability, probability distributions, estimation, confidence intervals, hypothesis testing, simple linear regression, and correlation. The probability and statistical skills measured by CLAST are among the skills taught in this course.

Tentative Outline

Chapters 1 - 3	Exam 1	90% - 100% A
Chapters 4 - 5	Exam 2	80% - 89% B
Chapters 6 - 7.2	Exam 3	70% - 79% C
Chapters 7.3-7.4, 8.1, 9, 10.1	Exam 4	60% - 69% D
		0% - 59% F

Grading Scale

Exams: Exams are 85% of your grade. You are expected to be present for all exams; however you are allowed one make-up exam. Any subsequent missed exams will be counted as a zero. You will not be allowed to start an exam after the first student has finished. All make-up exams will be given during the week of November 30 – December 4.

Quizzes: Quizzes are 15% of your grade. There will be in-class and take-home quizzes throughout the term. Take home quizzes are due at the beginning of class. No quizzes will be accepted after the beginning of the next class meeting. The late penalty is 10% per day. All work must be shown; no credit is given for answers only. All work submitted for a grade should be done in pencil. At the end of the semester one quiz grade will be dropped.

Grades will be computed as follows: 85%(Exam Average) + 15%(Quiz Average)

Homework: Homework will be assigned from the text or handouts, but is not collected. It is strongly recommended that you work at least the problems assigned in order to assist you in understanding the content of the course. If you have difficulties with these problems, you should work additional problems involving the same content. **DO NOT WORK THE PROBLEMS WITH THE SOLE OBJECTIVE OF OBTAINING THE CORRECT NUMERICAL ANSWER.** Rather, work the problem in order to understand the conclusions in the context of the individual problem. This will help you to see the meaning and relevance of the procedures that we will discuss. You should expect to spend 2-3 hours outside of class working on statistics for every hour in the classroom.

Attendance Policy: Students are expected to attend class, to come on time, and to stay for the entire class period. Attendance will be taken each class meeting. Three tardies (coming late or leaving early) will count as 1 absence. A student absent from class is responsible for getting any missed material from a fellow classmate.

Automatic Drop: You will be dropped from the course if you have not attended at least one class meeting by September 9, 2009.

FN Grade: Good attendance is essential for success in this course. If you have missed more than 15% of the scheduled classes (4 classes) and you fail the course, you will receive an FN (Failure for non-attendance) grade. This grade may affect financial aid.

I Grade: A student may request an Incomplete grade (I) if they have completed at least 75% of the course with an overall course grade of at least a C average, and have a valid reason.

Student Academic Dishonesty Policy: Students found cheating on quizzes or exams will receive an F in the course and procedures for expulsion from the college will be followed. Cheating includes (among other things) copying another individual's work (or allowing someone to copy your work) or using cheat sheets (or programmed information) on a quiz or exam. For the full policy see the College Catalog.

Warning: Students will have a maximum of 3 attempts per course. If the first two attempts are unsuccessful (D, F, FN, W, Audit) you will be charged out-of-state tuition (four times the cost of in-state tuition) for the third attempt. Only drops during the first week of the semester do not count as attempts (*Florida House Bill 1545*).

Other Policies:

1. Cell phone etiquette must be observed: In-class usage is restricted to emergency situations. Inform the instructor before class of any extenuating circumstances. Cell phones are not allowed during tests, not even as a calculator. Electronic devices, such as iPods, Blackberries, etc. are **not** permitted to be used or worn in class.
2. It is college policy that children under 16 are not allowed in the classrooms.

Learning Assistance Center (G-200) Free tutoring and computer tutorials are available.

Monday - Thursday: 7:30am - 8:00pm

Friday: 7:30am - 3:00pm

Saturday: 9:00am - 3:00pm

Tentative Outline

Monday	Tuesday	Wednesday	Thursday	Friday
31-Aug	1-Sep	2-Sep	3-Sep	4-Sep
Introduction		2.1 & 2.2 Read and Interpret Graphs		
Ch. 1 Introduction to Statistics		Blackboard		
7-Sep	8-Sep	9-Sep	10-Sep	11-Sep
Labor Day Holiday		2.3 Measures of Central Tendency		
	Drop Deadline			
14-Sep	15-Sep	16-Sep	17-Sep	18-Sep
2.4 Measures of Variation		2.4 Measures of Variation		
		2.5 Measures of Position		
21-Sep	22-Sep	23-Sep	24-Sep	25-Sep
3.1 & 3.4 Counting Techniques		3.1 Introduction to Probability		
28-Sep	29-Sep	30-Sep	1-Oct	2-Oct
3.2 Multiplication Rule		3.3 Addition Rule		
		Review		
5-Oct	6-Oct	7-Oct	8-Oct	9-Oct
4.1 Random Variables & Probability Distributions		Exam #1 Ch. 1 - 3		
12-Oct	13-Oct	14-Oct	15-Oct	16-Oct
4.2 Binomial Distribution		4.2 Binomial Distribution		
		5.1 Standard Normal		
		5.2 Finding Probabilities		
19-Oct	20-Oct	21-Oct	22-Oct	23-Oct
5.3 Finding Values		5.4 Central Limit Theorem		
5.4 Central Limit Theorem				

Tentative Outline

Monday	Tuesday	Wednesday	Thursday	Friday
26-Oct	27-Oct	28-Oct	29-Oct	30-Oct
6.1 Estimating the Mean (Large Samples)		Exam #2 Ch . 4 - 5		
2-Nov	3-Nov	4-Nov	5-Nov	6-Nov
6.1 Estimating the Mean (Large Samples) 6.2 Estimating the Mean (Small Samples)		6.2 Estimating the Mean (Small Samples) 6.3 Estimating proportions		
9-Nov	10-Nov	11-Nov	12-Nov	13-Nov
7.1 Introduction to Hypothesis Testing Withdrawal deadline		7.2 Hypothesis Test for the Mean (Large Sample)		
16-Nov	17-Nov	18-Nov	19-Nov	20-Nov
7.1 & 7.2 Review		Veteran's Day Holiday		
23-Nov	24-Nov	25-Nov	26-Nov	27-Nov
Exam #3 Ch. 6 - 7.2		7.3 Hypothesis Test for the Mean (Small Sample) 7.4 Hypothesis Test for Proportion	Thanksgiving Holiday	Thanksgiving Holiday
30-Nov	1-Dec	2-Dec	3-Dec	4-Dec
8.4 Hypothesis Test for Difference Between Two Proportions		9.2 Linear Regression		
7-Dec	8-Dec	9-Dec	10-Dec	11-Dec
10.1 Goodness of Fit Test		Review		
14-Dec	15-Dec	16-Dec	17-Dec	18-Dec
Exam #4 Ch. 7.3 - 10.1				

STA 2023 Homework Assignments

Section	Page	Problems
1.1	8	11 – 17 all, 19, 21, 23, 25, 28, 29, 31, 33, 34, 35
1.2	15	7 – 12 all, Handout
1.3	25	8, 17 – 26 all, 29, 30
2.1	49	19, 21
2.2	62	33, 34
2.3	74	1 – 3 all, 6, 9 – 20 all, 26, 27, 30, 35, 36, 39, 40
2.4	92	1, 3, 6, 11, 14, 17 – 21 odd, 29, 30, 35, 36
2.5	109	3, 5, 6, 29, 31, 32, 34, 35a, 37, 38
3.1	142	13 – 16 all
3.4	178	3, 15 – 19 all, 21, 22, 24, 26, 28, 44a-b
3.1	142	1, 5 – 8 all, 18, 31, 32, 35, 37 – 40 all, 43 – 57 odd
3.2	154	5 – 8 all, 15, 16, 21 – 25 all, 27, 28
3.3	165	1, 3, 4, 7, 8, 9 – 19 odd, 23, 25
4.1	201	5, 9 – 25 odd, 26, 27, 29 – 31 all, 35, 41 – 43 all
4.2	215	1, 7, 9, 15 – 19 odd, 23 – 27 odd
5.1	248	9 – 21 odd, 25, 33, 35, 37, 43, 53 – 59 odd
5.2	256	1, 3, 5, 9, 13, 15, 17, 21, 23, 27, 29
5.3	266	25, 27, 29, 30, 31, 33, 35, 43, 45, 47
5.4	278	1, 5 – 8 all, 11, 15 – 33 odd (omit 21), 37
6.1	317	1 – 4 all, 35 – 49 odd, 53 – 57 odd, 61
6.2	330	11 – 27 odd (omit 15)
6.3	339	1 – 13 odd, 14, 15 – 25 odd, 27, 28
7.1	375	3, 6, 9, 13, 19 – 29 odd, 33, 35, 37, 40, 41, 45
7.2	389	1, 3, 5, 13 – 19 odd, 33 – 36 all, 39 – 42 all
7.3	403	3, 5, 7, 17, 23 – 27 odd, 31, 32, 37, 38
7.4	411	9 – 15 odd
8.1	444	5, 7, 20, 21, 25
9.1	507	1, 2, 5 – 13 all, 15, 18, 19
9.2	517	13 – 16 all, 20
9.3	531	11a, 13a
10.1	560	8, 9, 11, 15

Even Answers

Sec 1.1 12) Sample 14) Population
16) Population 28) Pop: Amount spent by each vacationer from the U.S.
Sample: Amount spent by each of the 791 U.S. vacationers surveyed. 34) Parameter

Sec 1.2 8) Quantitative 10) Qualitative
12) Quantitative

Sec 1.3 8) False 18) Stratified Sample
20) Cluster Sample 22) Systematic Sample
24) Convenience Sample 26) Random Sample

Sec 2.2 34) The quarters are mislabeled.
The 2nd quarter should be 15% and the 3rd quarter should be 45%

Sec 2.3 2) False 6) False 10) Symmetric
12) Skewed Left 14) graph #9
16) graph #10 18) $\bar{x} = 25.2$,
median = 22.5 mode = 22, 35
20) $\bar{x} = 200.4$, median = 186
mode = none 26) $\bar{x} = \text{none}$, median = none
mode = domestic 30) $\bar{x} = 314.1$
median = 374, mode = none 36) Skewed
Left: A = mean, B = median, C = mode
40) median (skewed data set)

Sec 2.4 6) 10 14) (a) has a st. dev. of 2.4
and (b) has a st. dev. of 5. 30) \$1,500 to
\$3,300 36) At least 75% of the times are
between 54.97 sec. and 59.17 sec.

Sec 2.5 6) The child has a higher IQ than
93% of children in the same age group.
32) Statistics 34) performed equally on both
tests 38) 99th percentile

Sec 3.1 14) 72 16) 64

Sec 3.4 16) combination 18) permutation
22) 3,628,800 24) 24 26) 4,845
28) 5,586,853,480 44) 56, 56

Sec 3.1 6) see class notes
8) see class notes 18) False 32) 0.125
38) {rrr} 40) {ssr, srs, srr, rss, rsr, rrs, rrr}

Sec 3.2 6) Dependent 8) Independent

16a) 0.225 b) 0.314 c) dependent
22a) 0.045 b) 0.545
c) 0.455 24a) 0.556 b) 0.525 c) 0.167
d) dependent 28a) 0.985 b) 0.015
c) 0.000000125

Sec 3.3 4) False 8) Mutually exclusive

Sec 4.1 26) Not a probability Distribution
(Sum of probabilities does not equal 1)
30b) 0.5 c) 1.1 d) 1.1
42a) 0.432 b) 0.569 c) 0.971

Sec 5.3 30) ± 1.96

Sec 5.4 6) False 8) True

Sec 6.1 2) b 4) b

Sec 6.3 14) $0.458 < p < 0.562$
28a) No b) Yes c) No

Sec 7.1 6) True 40) right tailed

Sec 7.2 34) $z = -3.43$, p-value = 0.0003
Reject Ho 36) $z = -1.65$, p-value = 0.0495,
Fail to reject Ho
40) $z = 1.77$, Fail to reject Ho
42) $z = 1.44$, Fail to reject Ho

Sec 7.3 32) $t = -1.08$ p-value = 0.3155 Fail
to reject Ho 38) $z = -2.56$, Reject Ho

Sec 8.1 20) $z = 3.92$, Reject Ho

Sec 9.1 2) c 6) no linear correlation
8) Positive linear correlation
10) d 12) a 18) $r = -0.831$ strong negative
linear correlation

Sec 9.2 14) $y = 510.789x - 504.474$ a) 517
b) 1028 c) 2560 d) can't do
16) $y = -4.067x + 93.97$ a) 77.7 b) 61.4
c) 57.4 d) can't do 20) $y = -1.137x +$
14.642 a) 14.3 b) can't do c) 13.96
d) 13.73

Sec 10.1 8) $X^2 = 3.754$, Fail to Reject Ho