

STAT 200 -	
Course Name:	Elementary Statistics
Sections:	5 through 8
Start Date:	Monday August 24
Class Days:	MTWR (Lecture 4:40, Labs, 12:20, 2:30, 3:35, 4:40)
Course Description:	<p>Statistics is the art and science of using sample data to make generalizations about populations. The topics covered in this course include:</p> <ul style="list-style-type: none"> <li>- methods for collecting and summarizing data</li> <li>- methods for evaluating the accuracy of sample estimates</li> <li>- techniques for making statistical inferences</li> </ul> <p>Users of statistics -- researchers, government agencies like the Census Bureau and the Bureau of Labor Statistics, companies like the automakers and drug industry, etc. -- make extensive use of the computer in applying statistical methods to their problems. So will you! This course will offer you plenty of practice in analyzing data from a variety of areas. As a result you should be well prepared for problem-solving involving statistics in the rest of your college courses, as well as gaining an understanding of the role of statistics in your daily life.</p>
Prerequisites:	2 units in algebra
Instructor:	<p>Dr. Linda Strauss  Department of Statistics  323B Thomas Building  865- 3134  email using Communicate tab in ANGEL  Office Hours: Mon 10:00 – 11:00, Fri 10:00 – 11:00</p>
TAs and their office hours will be announced through ANGEL	

Date	Objectives, Topic, and Notes	Reading and Homework Assignments
Unit 1: Weeks of August 24 and August 31	What is Statistics? Data vs. Information	Chapter 1: Statistics Success Stories and Cautionary Tales Chapter 2: Turning Data into Information
Unit 2: Weeks of August 24 <sup>th</sup> and Sept.	Regression and Correlation	Chapter 5: Relationships Between Quantitative Variables

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Unit 3: Week of Sept 14	Categorical Variables	Chapter 6: Relationships Between Categorical Variables
<b>Unit 4: Week of Sept 21</b>	Probability	Chapter 7: Probability Sections 7.1 through 7.5 HW: Homework 05 <b>EXAM I: Tuesday 22nd. Covers material Units 1 through 3</b>
Unit 5: Week of Sept 28	Random Variables	Chapter 8: Random Variables Sections 8.1 through 8.4
Unit 6: Week of Oct 5	Random Variables	Chapter 8: Random Variables Sections 8.5 through 8.7
Unit 7: Week of Oct 12	Sampling Distribution	Chapter 9: Understanding Sampling Distributions: Statistics as Random Variables Sections 9.1 through 9.4, 9.6, 9.9
<b>Unit 8: Week of Oct 19</b>	Sampling & Confidence Intervals	Chapter 3: Sampling: Surveys and How to Ask Questions Chapter 10: Estimating Proportions with Confidence HW: Homework 09 <b>EXAM II: Tuesday Oct 20th. Covers material Weeks 1 through 7</b>
Unit 9: Week of Oct 26	Means	Chapter 11: Estimating Means with Confidence Sections 11.1 - 11.3

Unit 10: Week of Nov 2	Hypothesis Testing	Chapter 12: Testing Hypotheses About Proportions
Unit 11: Week of Nov 9	Testing Means	Chapter 13: Testing Hypotheses about Means Sections 13.1 through 13.3
Unit 12: Week of Nov 16	Testing Population Means	Chapter 13: Testing Hypotheses about Means Sections 13.4 through 13.6
<b>Thanksgiving Break</b>		
Unit 13: Week of Nov 30	Using Statistics	Chapter 16: Analysis of Variance Sections 16.1 through 16.2 Chapter 17: Turning Information into Wisdom Sections 17.1 through 17.4 HW: Homework 13 <b>EXAM III: Thursday Dec 3rd. Covers material Units 1 through 12</b>
Unit 14: Week of Dec 7	Overall Course Review	<b>** Unit 13 Unit Quiz on Tuesday 12/8 in lab**</b> Complete final lab activity Review for Final
Week of May 4	Finals Week	<b>EXAM IV: Scheduled during finals week. Dates to come later. Covers material Units 1 through 14</b>
Course Materials		
<b>Textbook: <i>Mind on Statistics</i>, (3rd Ed), by Utts and Heckard</b>		
Grading		
- <b><u>Weekly Homework</u></b> (optional) Homework from the text along with solutions will be		

posted for each unit.

- **Weekly Unit Quizzes** (10%) - (Keep best 11) **YOU MUST COMPLETE UNIT QUIZ 13 OR YOU WILL RECEIVE A ZERO THAT CANNOT BE DROPPED!**

- **Weekly Mastery Quizzes** (10%) - (Keep best 11) **YOU MUST COMPLETE MASTERY QUIZ 13 OR YOU WILL RECEIVE A ZERO THAT CANNOT BE DROPPED!**

- **Weekly Lab Activities** (5%) - (Keep best 11) **YOU MUST COMPLETE LAB ACTIVITY 13 OR YOU WILL RECEIVE A ZERO THAT CANNOT BE DROPPED!**

- **Exams** (75%) - Four exams, Keep best 3 **No make up exams!**

- All grades will be kept in the ANGEL gradebook. To see your grades, click the Report tab and select Grades

F	D	C	C+	B-	B	B+	A-	A
0	60	70	77	80	83	87	90	93

#### Extra Credit

TA's will monitor the ANGEL discussion forums for questions of the week from each section. Outstanding questions submitted to the discussion forum by Thursday at 8:00 p.m. will be selected to be asked in the Monday's lecture. Students **MUST BE** present in Monday's lecture to ask the question to receive extra credit. Questions **MUST** pertain to the readings assigned for that lecture (no review questions).

#### Correspondence

All Section 05 and 06 correspondence **MUST** be submitted to Yihan Li using the ANGEL email (under Communicate tab in ANGEL). All section 07 and 08 correspondence must be submitted to Krista Foster using the ANGEL email (under Communicate tab in ANGEL). All other email risks going unanswered. **NOTE:** If you have your ANGEL email forwarded to another internet account then hitting reply to that email will **NOT** resend through ANGEL but instead in webmail. These, too, will not be answered. You will need to return to ANGEL and reply using the ANGEL email tools.

**BEFORE** you email about a lab submission, please check the dropbox you submitted the lab to (**NOT THE** gradebook), sometimes there is a delay in posting grades.

#### Policies

You are encouraged to work together on the homework, quizzes and activities. **Working together is defined as working only with students in Sections 5 through 8 of STAT200. This means, for example, if you have a tutor they are not permitted to assist you on taking and completing these assignments.** For the homework, quizzes and activities, your best **11** scores in **Homework and Quiz** categories and best **11** scores in **Activities** category will count toward your final grade. **GRADES FROM UNIT 13 CANNOT BE DROPPED! YOU MUST COMPLETE THE ACTIVITIES ASSOCIATED WITH LESSON 13.**

Because of this policy please read the following carefully!!!

#### Homework

- Completion of the homework is optional. Homework problems and solutions will be posted on ANGEL.

#### Unit Quizzes

- Unit Quizzes **cannot** be made up.
- Will be assigned weekly starting Monday August 24th
- Must be completed from the lab on the days they are assigned (usually Thursday).
- All unit quizzes will be delivered using the ANGEL quiz tool.
- Must be submitted during your regularly scheduled lab time.
- Unit quizzes will pertain to content covered during that week.

#### Mastery Quizzes

- Mastery Quizzes **cannot** be made up.
- Will be assigned weekly starting the week of August 24th..
- Must be completed online during the scheduled time. This scheduled time will typically be from **Tuesday after lab until 9:00 p.m. on Thursday**.
- All mastery quizzes will be delivered using the ANGEL quiz tool.
- The quizzes will be timed (typically 35 to 50 minutes).
- Once you begin the quiz you the timer begins and will not stop. Your quiz will automatically be submitted after the time expires.
- Mastery quizzes will consist of questions from that week PLUS previous weeks up until a midterm is given. That is, the master quizzes will be cumulative only for the content that will be covered on the subsequent midterm.
- **Minitab will not be required for Mastery Quizzes**; you may take these quizzes from any computer with access to the internet and ANGEL
- CAUTION: Since these quizzes will be delivered online the issue of technical problems may arise, for example ANGEL may not be unavailable or your internet connection might be interrupted. In the case where the problem is ANGEL availability, the deadline will be extended. However, if your internet connection is the problem then on time completion is the student's responsibility. This problem is most common for those students who do not plan accordingly; that is, they wait until the last few hours or minutes prior to the deadline until they take the quiz.

#### Lab Activities

Must be submitted from the lab computers during your regularly lab time (usually Tuesday). If the activity is not submitted, submitted from a computer other than the scheduled lab location, or submitted outside your scheduled lab time, then the activity will be graded as a zero.

#### Exams

- ALL EXAMS WILL BE DELIVERED ONLINE.
- Each exam will consist of 30 questions and you will have 50 minutes to complete the exam.
- Note that all exams are cumulative!
- The exams will be delivered during scheduled lab sessions (usually Tuesday).
- Exams are **open book and one (1) page of notes (front and back)**. These notes can be

typed and/or handwritten. If found using materials other than your text and one page of notes you will receive a **zero** for that exam and it will count as one of your 3 best scores.

- No exam make-ups are available. If you miss an exam your score will be recorded as a zero.
- Keep in mind that of the four exams only your best 3 scores will be used. So if you do well on the first 3 you do not have to take the fourth exam.

### Some Suggestions

In the past, students have found their understanding of the material and performance on assessments improved tremendously if they completed the reading assignments (book and lecture notes) prior to the initial weekly lab meeting.

As explained in the first paragraph above under **Policies**, since your "best 11" scores will be recorded you have "extra" assignments in the quizzes, activities, and homework portions. Often during a semester personal issues arise (sickness, family emergencies, etc.) which may require you to miss an assignment resulting in a "0" for that particular task. So please do not "waste" these extra chances.

Each semester a small number of students wait until the end of the semester until they realize that they are on the verge of failing. At such times they have a tendency to ask "What can I do to improve my grades?" My answer will be "Nothing." As you can tell from the work outlined in this syllabus we will be very busy. Because of that, to allow someone the opportunity to improve their standing because they failed to act properly during the semester would usurp the efforts of students who put forth a semesters worth of work.

### Academic Integrity

Please visit: [◆ http://www.science.psu.edu/academic/Integrity/index.html](http://www.science.psu.edu/academic/Integrity/index.html) for details concerning academic integrity guidelines that are adhered to by this course.