STAT 201: Elementary Statistics

Spring 2016, Sections 10, 11 & 12

Pearson Course ID = **shen44662**

Class Meetings:

Lectures: Monday and Friday from 4:40 – 5:30 PM in LeConte College 210

Labs: Section 10, Wednesday from 3:30 – 5:25 PM in LeConte College 200A

Section 11, Wednesday from 3:30 – 5:25 PM in LeConte College 205

Section 12, Wednesday from 3:30 – 5:25 PM in LeConte College 124

Lecture Instructor: Shiwen Shen

Office: LeConte 209F Email: sshen@email.sc.edu Mailbox: LeConte 217

Course Webpage: http://people.stat.sc.edu/sshen/16sstat201.html

Office Hours: One hour before lectures and labs, or by appointment

Lab Instructor:

Shiwen Shen (S10) Xinchu Zhao: xinchu@email.sc.edu (S11) Zhixin Chen: zhixin@email.sc.edu (S12)

Purpose: To give students a non-calculus based introduction to the application of modern statistical methods including descriptive and inferential statistics. To show students that statistics is an important research tool.

Prerequisites: MATH 111 OR 115 or STAT 110, or consent of department

Description: Elementary Statistics (3 credit hours) is an introductory course in the fundamentals of modern statistical methods. Topics include descriptive statistics, probability, random sampling, simple linear regression, correlation, tests of hypotheses, and estimation.

Laboratory: The class will meet in conventional classroom lecture sessions and also (in most weeks) in a 2-hour laboratory session. The development of these laboratory exercises was originally sponsored by the National Science Foundation. In each lab session, students will work in teams under the guidance of a lab instructor to collect data, using appropriate measurement technology, to shed light on a posed research question. They then immediately analyze their data using a computer and modern statistical software. For all lab sessions, students will complete a series of short answer questions about the lab activity and results; for one lab session, each student will write an extended formal report of the lab session.

Learning Outcomes: Upon successful completion of this course, students should be able to:

- Recall basic statistical terms with the ability to express them in the correct context.

- Employ appropriate methods for collecting data in a laboratory experiment.
- Apply basic concepts of probability including properties of sampling distributions, the normal distribution and the binomial distribution.
- Select and apply appropriate descriptive and inferential statistical methods for univariate and bivariate data.
- Use statistical software to apply descriptive and inferential statistical analyses including numerical summaries, graphical displays, linear regression, hypothesis testing and confidence intervals.
- Effectively explain findings from graphical displays, descriptive statistics and inferential statistical analyses.
- Compose a technical report for a laboratory experiment explaining data collection methods, statistical methods, and interpretation of results.

Textbook:

Statistics: The Art and Science of Learning from Data (3rd ed.), by Agresti and Franklin, Pearson Education, Inc. The course management system that we will use in the course, My Lab and Mastering, contains this textbook as an e-book. An access code to My Lab and Mastering is **required**. (Pearson Course ID = **shen44662**)

Choose one of the two options below to obtain an access code:

1. Buy the hard copy custom edition of the textbook bundled with an access code to My Lab and Mastering (My Stat Lab) from a USC bookstore. Choose this option if you want a **hard copy** of the textbook.
2. Buy the access code only for **pearsonmylabandmastering.com**. An **e-book** is included in the online course management system.

Lab Book:

Statistics Play-By-Play: Laboratory Experiments for Elementary Statistics (1st ed.), by Petkewich and Edwards, Kendall Hunt Publishing. (Available in the bookstore.)

Calculator: Each student will need a scientific calculator. Cell phone calculators are not permitted for use on exams.

Course Management System, pearsonmylabandmastering.com (Pearson Course ID = **shen44662**) My Lab and Mastering is an online course management system which includes the e-book, homework and announcements. My Lab and Mastering also includes access to StatCrunch.com, an online data analysis package that will be used with each lab and also with homework. My Lab and Mastering will be demonstrated in class throughout the semester. Students who are not registered on

Pearsonmylabandmastering when an assignment is due will receive a zero on those assignments including homework, labs, pre-labs and the EWA. These assignments cannot be made up.

Attendance: You are expected to attend all classes and to arrive on time. Attendance will be recorded for each class meeting (lectures and labs). If you miss a class, you are responsible for all material and announcements covered in class on that day and penalty may be applied.

Statistics Tutoring Center: The Statistics Tutoring Center offers free tutoring to all STAT 201 students. It is located in LeConte Room 215A. The open hours for the Statistics Tutoring Center will be announced early in the semester.

Honor Code and Student Conduct: See the *Carolinian Creed* in the *Carolina Community: Student Handbook & Policy Guide*.

Student Disability Services: If you qualify for accommodations because of a disability, please submit a letter from the Office of Student Disability Services prior to the first exam so that your needs may be addressed. The Office of Student Disability Services determines accommodations based on documented disabilities. You may contact them at 803-777-6142, LeConte 112A, or http://www.sa.sc.edu/sds.

Grading:

Regular Exams: (Approximate 12% or 70 points each) There will be three in-class regular exams. Make-up exams will be considered only in extreme circumstances and **documentation will be required**. Also, you must notify me **prior** to the exam or **the day of the exam** if you think your situation merits a make-up. Exam dates are on the schedule at the end of the syllabus. If you miss an exam for a valid reason but do not notify me of your situation in a timely manner (**prior to** or the **day of the exam**), then you will receive a zero on the exam. Individual work is required on exams.

Final Exam: (20% or 120 points) A comprehensive final exam will be given according to the University' s exam schedule. Individual work is required on the final exam. Make-up final exams will be considered only in extreme circumstances and **documentation will be required**. Also, you must notify me **prior** to the final exam or **the day of the final exam** if you think your situation merits a make-up. If you miss the final exam for a valid reason but do not notify me of your situation in a timely manner (**prior to** or the **day of the exam**), then you will receive a zero on the final exam. Individual work is required on the final exam. If the performance of the final exam is better than the performance of the worst regular exam, the final performance will be used to replace the worst regular one. Final Exam is mandatory. Students may not exempt the final exam.

Class Participation: (5% or 30 points) You are expected to attend all classes and to arrive on time. Students are required to assign the attendance sheet before every lecture starting from the second week of the

semester. In the end of the semester, I will randomly select eight attendance sheets and count your points for class participation. You may miss two classes without penalty. Any extra absence will lead to 5 points deduction.

Homework: (15% or 90 points) Homework testing the concepts taught in lecture will be posted in My Lab and Mastering throughout the semester. Students will submit their answers online and receive feedback on responses. A date and time for closing each assignment will be announced in class and appear on each assignment. Expect 10 assignments worth 9 points each. Students may discuss the homework problems with each other but each student should submit their answers individually. A 30% penalty will be imposed on all late assignments and late submission will only be accepted up to 7 days after the due date. If you have technical difficulties with My Lab and Mastering, you must notify me 24 hours before the assignment is due to receive consideration for an extension. Students who are not registered on Pearson MyLabandMastering will receive a zero on homework assignments.

Pre-labs: (5% or 30 points) You will be given a pre-lab assignment on My Lab and Mastering due before each lab (except for Lab 5). The pre-lab will post 24 hours before your lab time. Each pre-lab is worth 3 points. Students who are not registered on Pearson MyLabandMastering will receive a zero on pre-labs.

Short Answer Writing Assignments – SAWA: (15% or 90 points) For all lab sessions, you will be required to complete a series of short answer questions to be collected. Each SAWA will be completed and turned in at the lab meeting. In the event that the lab runs long, the lab instructor may extend the assignment. You can expect 11 SAWAs, in which the lowest SAWA grade will be dropped. If you miss a lab, then that is the lab that will be dropped. Students may work together in answering SAWA questions, but each student must turn in an assignment to receive credit. Lab groups will randomized each week. Students who are not registered on Pearson MyLabandMastering will receive a zero on SAWA assignments.

Extended Writing Assignment – EWA: (5% or 30 points) For Lab 5, an extended writing assignment (EWA) will be assigned. This is a detailed technical writing report that discusses the lab experiment, statistical methods, and results. It is *very important* for you to attend this lab which is scheduled on February 10th. The due day for EWA is on February 19th in class. If you miss this lab for a valid reason but do not notify me of your situation in a timely manner (**prior to** or the **day of the lab**), then you will receive a zero on the EWA. A 25% penalty will be imposed on all late papers and these will only be accepted up to a week after the due date. Individual work is required on the EWA. Students may proof-read each other's papers, but **original writing is required from each student**. Students who are not registered on Pearson MyLabandMastering will receive a zero on the EWA.

Assignment Summary and Grading Scale

Assignment Summary	Points	Percent
Homework	90	15%
Class Participantion	30	5%
SAWAs (Labs)	90	15%
PreLabs	30	5%
EWA	30	5%
Exam1	70	11.67%
Exam2	70	11.67%
Exam3	70	11.67%
Final Exam	120	20%
Total	**600**	**100%**

Grading	
A	540-600 points (90-100%)
B+	522-539 points (87%-89.9%)
B	480-521 points (80%-86.9%)
C+	462-479 points (77%-79.9%)
C	420-461 points (70%-76.9%)
D+	402-419 points (67%-69.9%)
D	360-401 points (60%-66.9%)
F	<360 points (<60%)

*Extra credit assignments will not be offered.

Daily Schedule for Spring 2016

Monday		Wednesday		Friday	
Date	Material	Date	Material	Date	Material
1/11	1.1-1.2	1/13	2.1-2.3	1/15	2.4-2.5
1/18	Break	1/20	LAB2	1/22	3.1-3.2
1/25	3.3-3.4	1/27	LAB3	1/29	5.1-5.2
2/1	Exam I	2/3	LAB4	2/5	5.3
2/8	5.4	2/10	LAB5	2/12	6.1
2/15	6.2	2/17	6.2	2/19	6.3
2/22	Review	2/24	LAB6	2/26	Exam II
2/29	7.1	3/2	LAB1	3/4	7.2
3/7	Break	3/9	Break	3/11	Break
3/14	7.3	3/16	LAB7	3/18	8.1-8.2
3/21	9.1	3/23	9.2	3/25	8.3
3/28	Review	3/30	LAB8	4/1	Exam III
4/4	9.3	4/6	LAB9	4/8	9.4-9.5
4/11	10.4	4/13	LAB10	4/15	10.2
4/18	10.3	4/20	LAB11	4/22	10.1
4/25	Review				
Final Exam: Friday, April 29, 4:00 PM					

To register at pearsonmylabandmastering.com

1. On the MyLab and Mastering website (**pearsonmylabandmastering.com)**, click **Student** under **Register**.
2. Enter the (**Course ID** = **shen44662**), and click **Continue**.
3. Sign in or create an account:
   - If you already have a Pearson account, enter your username and password. Click **Sign In**.
   - If you don't have an account, click **Create an account**. Add your account information (USC ZIP Code = 29208), and read and accept the license agreement. Click **Create Account**.
   - To retrieve your account information, click **Forgot your username and password**

   Note: On the Sign In page, check that the course details are correct, If not, click **Enter a different course ID**.

4. To select an option to register for access to your course, do one of the following:
   - If you already bought your access code, either bundled with your textbook or as an access code kit sold individually, click **Access Code.** Next, enter your access code and click **Finish**.
   - To buy your course online, click **Use a Credit Card or PayPal**, and then **the** item you want. You can choose different items that correspond to the same textbook. For example, for some

textbooks, you can choose to buy its eText. Next, enter your credit card or PayPal information, and review and submit your order.

- Or you can click **Get temporary access without payment for 17 days**. Click Yes when a message appears asking if you are sure you want temporary access.

A Confirmation page appears where you can go to your course.

Sign in

Once you have entered your course ID and registered, you can sign in anytime:

1. On the MyLab and Mastering website, click **Sign in**.
2. Enter your username and password, and click **Sign in**.
3. Under **MyLab / Mastering New Design**, click your course title.

When your course appears, use the course menu to navigate.

For Customer Technical Support, call Toll Free **1-800-677-6337**, Monday through Friday 9 AM – 6 PM EST.