

STAT 201: Elementary Statistics

Fall 2015, Sections 19, 20 and 21

Pearson Course ID =**liu76144**

Class Meetings

Lectures: Wednesdays & Fridays from 2:20 --3:10 PM in HUMCB(humanity classroom buliding) Room 201.

Labs: Section 19, Mondays from 1:10 -- 3:05 PM in LeConte Room 200A

Section 20, Mondays from 1:10 -- 3:05 PM in LeConte Room 205

Section 21, Mondays from 1:10 -- 3:05 PM in LeConte Room 124

Lecture Instructor Haigang Liu

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Office Hours: Wednesday & Friday: 3:10-5:10 PM, or by appointment

Lab Instructors

Section 19: Haigang Liu

Section 20: Chunling Wang

Section 21: Bridget Manning

Purpose To give students from throughout the university 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.

Description Elementary Statistics (3 credit hours) (Prereq: MATH 111 OR 115 or STAT 110, or consent of department)

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 =**liu76144**)

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 = **liu76144**) My Lab and Mastering is an online course management system which includes the e-book, homework, notes 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. Students are **required** to register in a timely manner to do assignments, including homework, labs, pre-labs and the EWA.

Attendance If you miss a class, you are responsible for all material and announcements covered in class on that day.

Computer Facilities Homework requires the use of a computer with internet access. Computers are available for student use through Science and Math (MS) at the following campus locations: LeConte 303A. Check these locations for hours. An account will be set up for you. Account information will be available at the first lab meeting.

Statistics Tutoring Center The Statistics Tutoring Center offers free tutoring to all STAT 201 students. It is located in LeConte Room 215A and is staffed by STAT 201 lecture teachers and lab assistants. 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

Exams (About 11.67% or 70 points each) There will be 3 in-class 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. **Lowest grade will be dropped.**

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 exams. Students may not exempt the final.

Class Activities (5% or 30 points) There will be several unannounced brief activities in class that count towards a class participation grade. You must be present in class to receive credit for these activities. If you miss an activity because you are late to class, then you will not receive credit for that activity. You may miss two class activities without penalty.

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. No homework grade will be dropped. 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 these 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. 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 Session 9, an extended writing assignment (EWA) will be assigned. This is a detailed technical writing report that discusses the lab experiment, statistical methods, and results. Greater detail on this paper will be provided later. It is *very important* for you to attend this lab. 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 Activities	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 Scale	
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.