

Winter, 2012

Stat 217 – Introduction to Statistical Concepts and Methods Syllabook

Instructor: Beth Chance

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Office Hours: Mon 12:00-1pm, Tues 11-12pm outside 35-111B, Wed 2-3, Thur 12-1 in 02-206 (a lab), and by appointment, email, and anytime my office door is open.

Computer Lab Office Hours: Tues 11-12pm outside 35-111B

Section: 3

Class Locations: Mondays and Wednesdays Building 05 (Arch and Env Design), Room 104; Tuesdays and Thursday Kennedy Library Room 111B

Course Webpages: Moodle (<http://my.calpoly.edu>)
<http://statweb.calpoly.edu/bchance/stat217/>

Course Listserv: stat-217-03-2122@calpoly.edu

Prerequisite: Intermediate Algebra or equivalent and ELM satisfied. See me if you have not fulfilled this prerequisite.

Course Objective: To gain an understanding of statistical principles and their uses. You will learn how to collect data (including simple sampling and experimental designs), summarize data using graphical and numerical techniques, examine data for patterns and relationships, and analyze data so you can draw valid and appropriate conclusions. You will also learn to interpret and judge statistical information, including information embedded in computer output. There will be a focus on effectively presenting statistical information to general audiences.

Texts/Materials:

Excerpts from the following texts will be supplied:

- *Workshop Statistics, fourth edition*, A. Rossman and B. Chance (Wiley, 2012)
- *Introduction to Statistical Investigations*, N. Tintle, B. Chance, G. Cobb, A. Rossman, S. Roy, T. Swanson, J. VanderStoep (Wiley, 2013)

You should also have a USB drive, a scientific calculator (square roots), an email address, and a large three-ring binder. You will need access to Minitab and the internet outside of class. Additional lecture handouts will be supplied in class, you are responsible for receiving and keeping these materials. Handouts from previous lectures will be available on the course web page.

Statistical Package/Calculators: We will be using a combination of java applets (that run on both Mac and PC computers) and the *JMP* (version 9) software package (Mac or PC) for data analysis and exploration. You will be given instructions for how to use JMP and Microsoft Word as needed for this course. JMP is freely available in all IT run computer labs (see notes below). You can also download a free copy of JMP from my.calpoly.edu (see "Setting Up JMP" instructions in Moodle under Technology). You are also encouraged to use a scientific

calculator. Please see me or ask through the course listserv if you aren't familiar with the statistical options on your calculator.

InClass Activities: The textbook materials contain many activities that will allow you to develop and apply your knowledge in order to gain a deeper understanding of the concepts. We will work together on many of the activities in class, but some will need to be completed outside of class. Solutions to these activities will be posted in Moodle. You will maximize your learning by attempting these activities and asking questions before reviewing the solutions. I will occasionally collect your answers to some questions in order to supply feedback. I think you will enjoy doing many of these activities, though spending time on them in class means you will have to do a bit more careful review and organizing of your notes outside of class.

Lab Assignments: There will be approximately 9 labs to be completed this quarter. Most labs require you to complete a short pre-lab prior to beginning the main lab assignment and most writeups will need to be completed outside of class. Labs and explorations are due *at the beginning* of the class period stated. Make sure you follow the lab writeup instructions. You will be graded on quality of presentation (style, readability, grammar, spelling), correctness of discussion, and effective integration of output.

You should work with one other member of the course for each lab. You are encouraged to work with different people. You are responsible for making sure that both team members do the work for every lab. You should both work *together* on the analysis and the writeup at the same time. Lab writeups should be typed with appropriate output incorporated into the report. Submit one writeup for the pair, with both names, section number, etc. Assignments can be turned as hard copies or emailed with Stat 217 Lab as subject and your name in the file name. *Late labs will not be accepted.*

Investigation Assignments: There will be approximately 9 investigation assignments to be completed this quarter. These are also like labs but will be a bit shorter and will focus more on a key statistical concept. You are again encouraged to work with up to one partner on these assignments and turn in one writeup with both your names.

Exams: There will be two in class midterm exams and one comprehensive final. Graded exams will be returned in class or can be picked up from me.

Quizzes: Generally we will have a short quiz on Mondays covering the most recent lab material. These will sometimes be individual, sometimes paired quizzes.

Make-up Policy: Make-up oral exams will only be given to student with written medical excuses at least 24 hours prior to the exam.

Grading:	Inclass Activities: 5%	Labs: 20%	Explorations: 10%
	Quizzes: 10%	Midterms: 35% (15% and 20%)	Final: 25%

What I Expect from Students

- *Be courteous of the instructor and fellow students*
This includes: arriving to class on time, turning off any cell phones or other electronic devices, not talking to your neighbor while the instructor is talking to the entire class, not working on assignments for other classes during class time, not packing up materials until class is over. This is especially true when we meet in the library together.
- *Come to class and office hours prepared and ready to participate*
Coming to class only contributes to your learning if you are willing to participate actively. Completing the assigned readings and reviewing your notes periodically to see where you have questions will enhance the utility of your attendance. And coming to office hours with specific questions if possible will also greatly increase my effectiveness.
- *Ask questions early and often if there is something you do not understand about the material or about the course structure.*
Even if your question is “huh?,” it needs to be asked as soon as possible.
- *Be responsible for your own learning.*
I’m here to help, but ultimately you will get out of this course what you put in. Being responsible also includes spending quality time on the material outside of class, knowing and meeting course due dates, starting assignments early, asking questions, accessing solutions and example papers on line, and retrieving (and reviewing for understanding) your graded assignments.

What Students Should Expect from Me

- I will be courteous and respectful of students, including learning your names, treating you professionally, and beginning and ending class on time.
- I will prepare carefully for every class, including responding to your feedback and questions.
- I will provide prompt and informative individual feedback on your work and will keep you informed of how I am evaluating your performance.

One thing to keep in mind, I do not have control over which topics are to be covered this quarter, but am responsible for providing opportunities to facilitate the learning process.



My Advice

- **Do your “homework” between classes**

Once you are finished answered the questions on an exploration or lab, you are not done. You should review the material to make sure you are clear on the main lessons of the assignment and to note any questions you still have on the material. You should also continually review your material to see where you have questions and how the topics fit together (there will be a lot of “cycling” in this course, but only if you get the connections!) You should also get in the habit of reviewing your notes prior to the next class meeting so we can begin class by answering your questions. There are also a collection of Self-Test and Self-Check Examples (including videos) for you to review in Moodle. These are not graded but give you a quick assessment of your understanding.

- **Attend and participate in every class session**

- It is helpful and you will get participation points
- Bring your text and calculator, plan to use them

- **Ask questions**

Please give me the opportunity to help you, whether it is in class, in my office, or over email. Spending 1 hour a day on this course will definitely be much less painful than trying on your own to put everything together the night before the homework is due. I will also set up a discussion board in Moodle for you to ask your questions and have them answered by myself and other students.

- **Try to get friendly with technology early, it really can be your friend in this course.**

Not having access to technology (e.g., applets), will never be a suitable justification for not completing an assignment.

Statistics Club Free Tutoring Hours: <http://www.calpoly.edu/~stat/tutoring.html>

Tentative Schedule

- We will begin Labs in lab on Tuesdays, to be submitted on Thursdays. (This gives you Wednesday to ask questions on the assignment.)
- We will begin Explorations on Thursdays, to be submitted on Tuesdays. (This gives you Mondays to ask questions in class on the assignment.) You will also often be able to access and begin the lab prior to Tuesday’s class.
- Pre-labs will be due before Tuesday’s class.
- Tentative Exam dates: Jan 26, Feb. 23
- Final exam: Wednesday March 14, 10:10-1pm (location TBA)