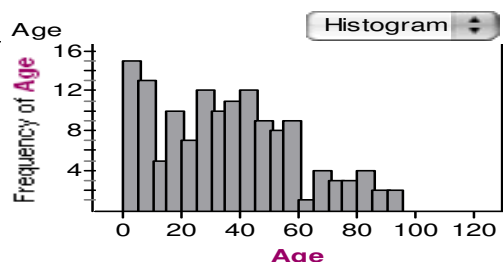


Math 115: Elementary Statistics

*Aw, people can come up with statistics to prove anything, Kent.
Forty percent of all people know that.*

– Homer Simpson



Fall, 2008
Monday, Wednesday, and Friday, 2:00-2:50 p.m.
Science Center G-9
Dr. Alan Koch
Office: Buttrick 329
(404) 471-6223
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Office Hours. Mondays, 1:00-2:00, Wednesdays, 11:00-12:00, and Thursdays, 11:00-12:00. If your schedule does not permit you to come at these times, we can set up an appointment.

Learning Resource Center. Our Learning Resource Coordinator, Liz Hartnett, together with student learning assistants will be able to provide help throughout each week. More details will be provided. You are encouraged to use this service.

Course Information

Prerequisites. A pulse. If you are unsure if you qualify you should see me ASAP.

Text. *Introduction to the Practice of Statistics*, 5th edition, by David S. Moore and George P. McCabe.

Calculator. Of course you will need one! Any scientific calculator will be just dandy. You do not need a calculator with statistical functions on it – in fact even if your calculator has such functions you will not be able to use them.

Computer. This course requires a significant amount of computer work. The statistical software that we will use is called “Fathom Dynamic Data Software” or “Fathom” for short. You do not need to buy a copy of it to be able to do the work – it is available on many computers on Campus. Some computers will also have shortcuts on their desktops.

Course Content. Chapters 1-9 and 12. Topics include Data Collection, Data Analysis, Probability, and Statistical Inference.

Course Goals. By the end of the semester, you should be able to:

- collect data in a statistically responsible manner.
- perform a complete basic analysis of collected data, and understand the value of your computations.
- use data to infer information about a population.
- understand how to critically analyze other peoples' statistics (as well as your own).

Class Description. Often, but not always, this will be conducted as a lecture-style class. That is not to say your input won't be valued or solicited: frequently questions will be posed of you, and (hopefully) questions will be posed of me. If at any time you have a question, please feel free to speak up rather than raise your hand. That's a power trip I just don't need. There will also be time in class for occasional mini-projects that we will do as a class.

"Q&A". Four days are designated "Q&A", each occurring before an exam. On these days, we will have time for you to both ask and answer questions. We will take as many questions as possible. Because of the enormity of material in this class, these will be the only days where discussion of problems will take place.

Homework. Each chapter has exercises, both in the middle of the text as well as at the end of the chapter. Unless otherwise specified, you are to do the odd numbered problems – answers to these problems appear at the end of the book. This homework will not be collected, but it is assumed that it will be completed by the start of the next chapter. **Warning.** "not collected" is not the same thing as "not important" or "optional". You will do very badly in this class unless you work on these problems.

Attendance. You are expected to attend every class. Attendance does not have a direct impact on your grade (with one exception). It will, however, have an indirect and

huge
huge

impact on your grade. Trust me. Also, you will not be penalized directly for tardiness, however you are expected to arrive to each class on time.

Blackboard. A Blackboard site has been set up for this course. I'm guessing you've already found it. Here you will find all the handouts for the course. Many will be .pdf files, so make sure the computer you're using has Adobe Acrobat installed.

Assessment

Projects. There will, however, be four projects that will be turned in, which you may work in pairs to complete. The content of these assignments will vary. Some will involve collecting your own data, and will involve the use of Fathom. They are an important component of this class, so do not take them lightly. **Warning:** To be successful in this class, completion of these projects is *not* sufficient – you really must complete the daily assignments as well. Trust me. Oh, and one more thing: *late projects will not be accepted.* All projects are due *in class* at the start of class the day they are due.

Exams. You will have three take home exams. These are (tentatively) scheduled to be handed out September 26, October 20, and November 17. They will be due *in class* at the start of the next class. If you have a conflict with any of these dates, let me know ASAP. (The day after the exam is not ASAP.) The exams will cover material from the text, along with material presented in class. They are closed-book, although the necessary tables will be provided for you at no additional cost.

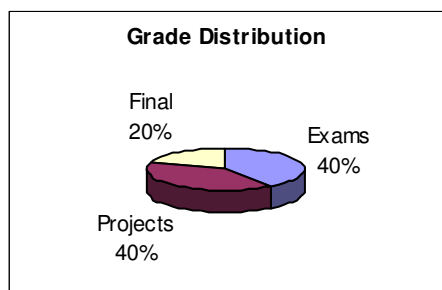
Final Exam. The final exam is cumulative, although more emphasis will be placed on chapters 9 and 12.

Course Evaluations. The completion of course evaluations is an expectation of students in this class. Near the end of the semester you will be notified by e- mail and provided with a link to follow to complete the evaluations on line outside of class. Your feedback on the course is extremely valuable. You are responsible for completing an evaluation of the course at the end of the semester.

Honor Code. All students are expected to follow the honor code throughout the semester. Any graded work, be it an assignment or an exam, must be pledged (and signed) in order for it to be graded. Please consult the student handbook for more details.

Grade Breakdown

You should not expect a curve to be applied to the point scale. I know I sure don't.



Point Scale		
A: 92 - ∞		A-: 90 - 91
B+: 88 - 89	B: 82 - 87	B-: 80 - 81
C+: 78 - 79	C: 72 - 77	C-: 70 - 71
D+: 68 - 69	D: 62 - 67	D-: 60 - 61
F: ($-\infty$)- 59		

Oh, you can use statistics to prove anything that is even remotely true.

– Homer Simpson

Tentative Calendar

Note: Intervals represent odd problems unless otherwise specified.

Date	Section(s)	Exercises	Comments
Wed Aug 27			You are here.
Fri Aug 29	1.1, 1.2	p. 25: 1-7, 11-19, 35.	
Mon Sep 1	Labor Day		Be Laborious
Wed Sep 3	1.2 Redux	p. 56: 45-49, 59, 63, 73.	
Fri Sep 5	1.3	p. 84: 79-83, 87-103, 109, 111, 115.	
Mon Sep 8			
Wed Sep 10	2.1	p. 112: 1, 3, 7, 9, 13	Get Project #1
Fri Sep 12	2.2	p. 127: 21-25, 29, 35	
Mon Sep 15	2.3	p. 145: 41-45, 55	Project #1 Due (Wed.)
Wed Sep 17			
Fri Sep 19	2.4, 2.5	p. 163: 63, 65, 71. p. 179: 85-89, 93, 95.	
Mon Sep 22	3.1-3.3		
Wed Sep 24	3.4	p. 240: 63-69, 79, 85, 91.	
Fri Sep 26	Q&A		Receive Test 1: Due Monday, September 29
Mon Sep 29	4.1, 4.2	p. 271: 11-17, 21, 23, 27-33.	
Wed Oct 1	4.3	p. 286: 41, 47, 51-57.	Get Project #2 (Wed.)
Fri Oct 3			
Mon Oct 6	4.4	p. 305: 59, 65, 69-75, 81.	Project #2 Due (Wed.)
Wed Oct 8			
Fri Oct 10	5.1	p. 351: 1-5, 9, 13, 15, 23, 25.	
Mon Oct 13			
Wed Oct 15	5.2	p. 369: 29-35, 41-45, 51.	
Fri Oct 17	Fall Break		Break stuff
Mon Oct 20	Q&A		Receive Test 2: Due Wednesday, October 22
Wed Oct 22	6.1	p. 396: 1, 5-9, 13, 25, 31.	Get Project #3
Fri Oct 24	6.2	p. 416: 35-49, 61-67.	
Mon Oct 27			
Wed Oct 29	6.3, 6.4	p. 428: 75, 77. p. 439: 93, 97, 99.	Project #3 Due
Fri Oct 31	7.1	p. 471: 9-13, 21, 31-35.	
Mon Nov 3			
Wed Nov 5	7.2	p. 504: 53-57, 63, 73, 81, 83.	Get Project #4, Part I (Wed.)
Fri Nov 7			Get Project #4, Part II (Fri.)
Mon Nov 10	8.1	p. 549: 1, 7, 11-15, 21, 23.	
Wed Nov 12			Project #4 Due (Fri.)
Fri Nov 14	8.2	p. 566: 31, 39, 43-47, 51.	
Mon Nov 17	Q&A		Receive Test 3: Due Friday, November 19
Wed Nov 19	9.1	p. 612: 1-7 all, 15	
Fri Nov 21	9.2, 9.3	p. 612: 19, 27, 31, 33, 37.	You can't compute exact P-values, so don't try.
Mon Nov 24			
Wed Nov 26	Thanksgiving		Eat. (Optional, but recommended.)
Fri Nov 28			
Mon Dec 1	12.1	p. 751: 3-13, 19, 21.	
Wed Dec 3			
Fri Dec 5			
Mon Dec 8	Q&A		
Dec 11-12	Reading Day	Read	
Dec 13-18	Final Exams		Pass. Preferably with flying colors.