Introduction to Statistical Methods — Stat 2000, Section 001, Fall 2010

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                 `http://www.math.usu.edu/~symanzik/teaching/2010_stat2000_fall/stat2000.html`
                 Office hours: MWF 11:00am–12:00noon and by appointment.

Classes — Lectures & Rooms: MWF 8:30am – 9:20am, Mo 8/30 – Fr 12/10, 2010: TSC AUD.

Recitations — Lectures & Rooms: Each Tuesday and Thursday, except Tu 8/31 (Week 1), Th 9/2 (Week 1), Th 10/14 (Fr Lecture instead) & Th 11/25 (Thanksgiving Break).

- Section 901, TR 7:30am – 8:20am, BUS 218.

- Section 902, TR 9:00am – 9:50am, FL 307.

- Section 903, TR 10:30am – 11:20am, LIB 164.

Recitations will be held by Austin Bowles (`aubowles@gmail.com`). Austin will hold his office hours in Lund 102 on Monday 1:30pm – 2:20pm, Tuesday 12:00pm – 1:00pm, and Wednesday 3:30pm – 4:30pm.

Text: *Introduction to the Practice of Statistics, Sixth Edition*
by Moore/McCabe/Craig (2009), W. H. Freeman and Company, New York.

Course Reader: A required course reader with the Powerpoint slides used in class is available for about $10 at the campus bookstore.

Course Objectives:

1) Develop statistical thinking.

2) Develop problem–solving skills.

3) Understand basic statistical concepts and inference.

Topics:

1. Introduction to statistical concepts.

2. Graphical techniques.

3. Probability.

4. Distributions.

5. Estimation.

6. One and two sample testing.

7. Chi–square tests.

8. Simple linear regression.

9. Analysis of variance (ANOVA).

<u>Course Requirements:</u>

0) Prerequirement: C- or better in MATH 1050 or Math ACT score of at least 25 (Math SAT score of at least 580) within the Math prerequisite acceptability time limit; or satisfactory score on Math Placement Test. Basic computer skills, in particular the ability to access and use the World Wide Web, are highly desireable.

1) Class Attendance: You are responsible for all material assigned as required reading and/or presented in lecture.

2) Homework: Assignments will be posted on the Web almost every week at:
    `http://www.math.usu.edu/~symanzik/teaching/2010_stat2000_fall/stat2000.html`
Homework will be collected in class in the following week. Homework can also be turned in during the recitation lectures prior to the due date. In general, late homework submissions will not be accepted. If you cannot turn in a homework assignment by yourself, ask a friend to turn in your homework assignment by the due date. Your homework assignment must be turned in on paper. Electronic submissions via e–mail will not be accepted.

There are 11 assignments (30 points each). However, only your best 10 homework assignments will contribute to your course grade. Therefore, you can miss to turn in one entire homework assignment without hurting your overall course grade. Homework assignments are worth a total of 30% (300 points) of your course grade.

Be **guaranteed** that each midterm contains **at least one** of the previous homework exercises. If you like, you may work in groups on the homework assignments. In fact, you are encouraged to do so. However, each person must turn in an individual homework solution sheet. Photocopies are not permitted and will result in 0 points. Identical computer printouts will result in 0 points for everyone with the same printout — so do not share your printouts and make sure to not leave them at a public printer where they can be collected by someone else.

3) Recitation Lectures and Recitation Points: In addition to class, you have to register for one of the three recitation sessions. Recitation lectures will be held on 26 days throughout the semester as outlined above. For each recitation lecture you attend, 1.5 points will be awarded, up to a maximum of 30 points. When regularly attending these recitation lectures, you will be more likely to pass this course and obtain a better grade.

Alternatively, if you have to miss both recitation lectures in a week (where 2 such lectures are held), you can work at home on the recitation problems that are posted on the homework assignment sheet and you can turn in your answers by the specified due date. Up to 3 points can be earned this way per week.

The weekly maximum of recitation points and points earned by submitting answers to the recitation problems is 3 points. You cannot earn more than 3 recitation points in any given week, even if you attend both recitation lectures and also turn in your answers to the recitation problems. Also, in any given week, you cannot earn mixed points, e.g., by attending one recitation lecture and by turning in answers to some of the recitation

problems.

The semester maximum of recitation points that can be earned is 30. Therefore, you can miss a few recitation lectures / recitation problems without hurting your overall course grade. Recitation lectures / recitation problems are worth a total of 3% (30 points) of your course grade.

4) Software: This course will not focus on any particular statistical software package. Instead, we will make use of software and teachware available on the Web and on the accompanying CD at many occasions. You can use any statistical package you want for the homework assignments. However, you have to understand concepts and ideas for the midterms and the final to be able to do some of the calculations and plots manually.

5) Midterms: There will be two 185 point 50min midterms on Fr 10/1 and Fr 11/5. In case you miss a midterm (or the final) and want to take a make–up midterm/final, you have to provide a verified document that shows the reason for your absence on the exam day, e.g., if you are sick, see a doctor and let him/her verify your visit. If you can't make the midterm/final due to job–related circumstances (e.g., travel), talk to me in person **before** the exam (I may ask you to provide me with airline tickets and hotel bills in your name). If you have no verified document, there is no way to make up for a missed midterm/final.

In any case, please contact me as soon as possible if you cannot participate in an exam (best if in advance) and make sure to obtain the required verification document that will allow you to take a make–up exam.

6) Final: There will be a 2–hour, 300 point comprehensive final exam, on Wed 12/15 from 7:30am through 9:20am. Everyone has to take the final exam.

7) Americans with Disabilities Act: If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Disability Resource Center, during the first week of the course. Any requests for special considerations relating to attendance, pedagogy, taking of examination, etc. must be discussed with and approved by the instructor. In cooperation with the Disability Resource Center, course materials can be provided in alternative formats — large print, audio, diskette or Braille.

Important Dates:

Classes: There are no classes on Monday 9/6 (Labor Day) and from Wednesday 11/24 to Friday 11/26 (Thanksgiving Break). The class from Friday 10/15 (Fall Break) will be held on Thursday 10/14.

Homework posted on Web: Typically every Friday between 9/3 and 12/3. Exceptions will be announced in class (11 assignments overall).

Homework due: Typically each following Friday. Exceptions will be announced in class and due dates will be listed on each assignment sheet.

Graded homework returned and solutions passed out: Typically in the recitation lectures in the following week. Graded homeworks and solutions will not be distributed in class. If you cannot pick your graded homework and the solutions during the recitation lectures, you have to collect these from Austin during his office hours.

Midterms: Friday 10/1 and Friday 11/5 (50min in class).

Final: Wednesday 12/15 from 7:30am through 9:20am (2 hours).

Grading System:

Final	30%	300 pts
Midterms	2 x 18.5% = 37%	2 x 185 pts = 370 pts
Homework	30%	best 10 x 30 pts = 300 pts
Recitations	3%	maximum of 30 pts
Total	100%	1000 pts

Stat 2000 grades on average are lower than for many other classes. In the recent past, there were about 40% of Ds and Fs awarded. To obtain a better outcome this time, the department is offering extensive recitation lectures. It is strongly suggested to attend those lectures whenever possible to obtain a better grade (or at least a passing grade)! And, don't forget, there will be points awarded just for attending the recitation lectures!

The above schedule and procedures in this course are subject to change in the event of extenuating circumstances.