

Introduction to Statistical Methods — Stat 2000, Section 002, Fall 2015

Instructor: Dr. Jürgen Symanzik
Office: AnSc 313
Phone: 797-0696
FAX: 797-1822
e-mail: symanzik@math.usu.edu
Web: <http://www.math.usu.edu/~symanzik/>
http://www.math.usu.edu/~symanzik/teaching/2015_stat2000_fall/stat2000.html
Office hours: MWF 12:00noon – 1:00pm and by appointment.

Classes — Lectures & Rooms: Mo 8/31 – Fr 12/11, 2015:
MWF 10:30am – 11:20am: AnSci 118 & Tue 10:30am – 11:20am: Geol 105

Text: *Introduction to the Practice of Statistics, Seventh Edition*
by Moore/McCabe/Craig (2012), W. H. Freeman and Company, New York.
Order the book from the Web if necessary. Do **NOT** purchase the 8th edition!

Additional Course Material: The Powerpoint slides used in class will be made available in Canvas. It is your responsibility to download and/or print the slides before class.

IDEA Center Learning Objectives:

Objective 1) Gaining factual knowledge (terminology, classifications, methods, trends).

Objective 2) Learning fundamental principles, generalizations, or theories.

Objective 3) Learning to apply course material (to improve thinking, problem solving, and decisions).

Objective 11) Learning to analyze and critically evaluate ideas, arguments, and points of view.

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).

Course Requirements:

- 0) **Prerequisite:** 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 desirable.
- 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/2015_stat2000_fall/stat2000.html
Homework will be collected in class in the following week. 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 12 assignments (30 points each). However, only your best 10 homework assignments will contribute to your course grade. Therefore, you can miss to turn in two entire homework assignments 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.

Graded homeworks will be circulated in class. If you prefer that your graded homework does not get circulated in class, please contact me by e-mail and let me know that you want to collect your graded homework in private. You can then pick up your graded homework from my office during my office hours. Any other uncollected homeworks can also be picked up from my office during my office hours.
- 3) **Software:** This course will primarily use the *StatCrunch* statistical software package, accessible at <https://www.statcrunch.com/>. Moreover, we will make use of other software and teachware available on the Web on many occasions. In addition to *StatCrunch*, you can use any other statistical software package (such as Excel and R) 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.
- 4) **Midterms:** There will be two 200 point 50min midterms on Fr 10/2 and Fr 11/6. 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. Even if you have a legitimate reason to take a make-up exam, be aware that such an exam in general is **more difficult** than a regular exam (as this may originate from a past semester or was prepared by another instructor).

Graded midterms will be individually handed out in class. However, uncollected graded midterms will be added to the pile of graded homeworks and will be circulated in future classes. In case you are not able to collect your graded midterm personally while handed out in class and you prefer that your graded midterm does not get circulated in class, please contact me by e-mail and let me know that you want to collect your graded midterm in private. You can then pick up your graded midterm from my office during my office hours.

5) Final: There will be a 2-hour, 300 point comprehensive final exam, on Fr 12/18 from 9:30am to 11:20am. Everyone has to take the final exam.

6) Plagiarism and Cheating: Plagiarism and cheating are not acceptable at any time. This includes turning in the work from somebody else as your own work (such as copying homework solutions from the web or from the solution book that often can be found at amazon.com), and providing or receiving help from someone else during an exam. If you receive help (e.g., for the homeworks) from some other source, you must clearly acknowledge that source, e.g., list the book or web site or indicate that a solution was produced with the help of a friend or tutor. The *USU Student Code of Conduct*, accessible at <http://www.usu.edu/student-services/student-code/>, outlines possible consequences in case of plagiarism or cheating.

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 9/7 (Labor Day) and from Wednesday 11/25 to Friday 11/27 (Thanksgiving Break). The class from Friday 10/16 (Fall Break) will be held on Thursday 10/15.

Homework posted on Web: Typically every Friday between 9/4 and 12/11. Exceptions will be announced in class (12 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 class in the following week.

Midterms: Friday 10/2 and Friday 11/6 (50min in class).

Final: Friday 12/18 from 9:30am to 11:20am (2 hours).

Grading System:

Final	30%	300 pts
Midterms	2 x 20% = 40%	2 x 200 pts = 400 pts
Homework	30%	best 10 x 30 pts = 300 pts
<hr/>		
Total	100%	1000 pts

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