

# Introduction to Statistical Methods — Stat 2000, Section 001, Spring 2012

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[http://www.math.usu.edu/~symanzik/teaching/2012\\_stat2000/stat2000.html](http://www.math.usu.edu/~symanzik/teaching/2012_stat2000/stat2000.html)  
Office hours: MWF 12:00noon-1:00pm and by appointment.

Classes — Lectures & Rooms: MWF 9:30am – 10:20am, Mo 1/9 – Fr 4/27, 2012: TSC AUD.

Recitations — Lectures & Rooms: Each Tuesday and Thursday, except Tu 1/10 (Week 1), Th 1/12 (Week 1), Tu 2/21 (Mo Lecture instead), Tu 3/13 and Th 3/15 (Spring Break). Recitations will be held by Oleksandr Gromenko ([agromenko@gmail.com](mailto:agromenko@gmail.com)):

- Section 501, TR 9:00am – 9:50am, HPER 116.
- Section 502, TR 1:30pm – 2:20pm, FAV 262.
- Section 503, TR 3:00pm – 3:50pm, ENGR 203.

Oleksandr will announce his office hours in class and in the recitation sessions.

Text: *Introduction to the Practice of Statistics, Seventh Edition*  
by Moore/McCabe/Craig (2012), W. H. Freeman and Company, New York.

Course Reader: A required course reader with the Powerpoint slides used in class will be available for about \$12 at the campus bookstore.

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/2012\\_stat2000/stat2000.html](http://www.math.usu.edu/~symanzik/teaching/2012_stat2000/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 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.

**3) Recitation Lectures:** In addition to class, you have to register for one of the three recitation sessions. Recitation lectures will be held on 27 days throughout the semester as outlined above. When regularly attending these recitation lectures, you will be more likely to pass this course and obtain a better 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) i>clickers:** We will use i>clickers for several purposes, such as recording attendance, opinion polls (“Who is going to win the next election?”), or for multiple-choice questions. One

point will be awarded for each response to an attendance question and opinion poll question. Also, one point will be awarded for a correct answer to a multiple-choice question. Overall, up to a maximum of 30 points can be obtained by answering i>clicker questions. There will be about 40 to 60 i>clicker questions this semester. This will allow you to obtain the maximum i>clicker score even if you miss some i>clicker questions or answer some of the multiple-choice questions incorrectly. It is your responsibility to have your i>clicker operational at the time it is needed. There will be lectures where the i>clickers won't be used and there will be other lectures where the i>clickers will be used more than once. We will start with the i>clickers on We 1/18 (or later).

- 6) **Midterms:** There will be two 185 point 50min midterms on Fr 2/10 and Fr 3/23. 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).

- 7) **Final:** There will be a 2-hour, 300 point comprehensive final exam, on Mo 4/30 from 9:30am through 11:20am. Everyone has to take the final exam.
- 8) **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 1/16 (Martin Luther King Day) and from Monday 3/12 to Friday 3/16 (Spring Break). The class from Monday 2/20 (President's Day) will be held on Tuesday 2/21.

**Homework posted on Web:** Typically every Friday between 1/13 and 4/20. 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 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 Oleksandr during his office hours.

**Midterms:** Friday 2/10 and Friday 3/23 (50min in class).

**Final:** Monday 4/30 from 9:30am through 11:20am (2 hours).

### Grading System:

Final	30%	300 pts
Midterms	$2 \times 18.5\% = 37\%$	$2 \times 185 \text{ pts} = 370 \text{ pts}$
Homework	30%	best 10 x 30 pts = 300 pts
i>clicker	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 on average about 30% of Ds and Fs awarded. To obtain a better outcome, the department recently started to offer extensive recitation lectures. It is strongly suggested to attend those lectures whenever possible to obtain a better grade (or at least a passing grade)!**

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