Math 120 Spring 2010

Time: Tues/Thurs 10:45-12:05
Room: Serra 209
Instructor: Dr. J. Friedman, janef@sandiego.edu
Office: Serra 159E, ext. 4015
Office Hours: Monday 2:00-4:00, Wednesday 3:00-4:00, Thursday 2:30-3:30 and by appointment.
Stapler: A stapler is required for this course.
Prerequisites: Math 115 or the equivalent.

Texts Our textbook for the course is *The Basic Practice of Statistics* by David S. Moore, 4th edition, published by W. H. Freeman and Company. This text is available in the bookstore. We will be using the free statistical software R. The text *Introductory Statistics with R* by Peter Dalgaard, is available as an e-book at Copley library. You may find this text helpful.

Learning Outcomes
* Students will gain experience in visualizing, presenting and interpreting data.
* Students will understand the role chance plays in natural phenomenon and our lives.
* Students will be able to understand statistical ideas as used in common media.
* Students will understand the distinction between causation and correlation.
* Students will understand and apply the concept of statistical inference.
* Students will be able to apply selected statistical tests, understanding the conditions assumed.

Grades
1) Homework will be assigned and collected frequently. Your homework should be neatly written and easy to read. Assignments more than one page long must be stapled together. It is possible that on some days more than one assignment will be due. Separate assignments should be done on separate sheets of paper and should not be stapled together.

   You should always explain all your reasoning and show all your work. Since, on tests and quizzes no credit will be given for answers alone, it is important that you get used to explaining your reasoning and showing your work. Because of time constraints, only a very small amount of class time will be devoted to answering homework questions. I will answer no questions in class about homework due that day. I will be happy to answer questions about homework during office hours or by appointment.

   It is not possible to learn mathematics without solving problems. You should consider the problems I assign to be a minimum. If you find you are having difficulty with some concept or type of problem you should solve additional related problems.

   Please note you are responsible for knowing all the material in the assigned readings whether or not it is discussed in class or addressed directly in the homework. You are also responsible for all material discussed in class whether or not it is covered in the assigned readings or homework assignments.

   You are responsible for finding out what was covered in class and what assignments you have missed if you are absent from class. If you miss a class, you are still required to turn in on time the homework assigned that class. Late homework will not be accepted under any circumstances.

   Homework is due at the beginning of class on the date it is due. Homework will be worth 10% of your grade.

2) There will be frequent short quizzes. Some quizzes may be unannounced. The quizzes will almost always be given at the beginning of class. There will be no make-up quizzes under any circumstances. Therefore, consistent tardiness or absence will have a negative effect on your quiz grade. In computing your quiz average I will drop your two lowest quiz grades. Your combined quiz score will be worth 15% of your grade in this course.

3) There will be two in-class exams during the semester. The tests are tentatively scheduled for Thursday March 4 and Thursday April 22. A portion of each exam may be take-home. There will be no make up exams under any circumstances. In the event that you have a legitimate reason for missing an exam (such as a verifiable serious illness or other extreme circumstance), you will be allowed to have your final exam score substituted for the missing exam score.

   Each exam will be worth 15% of your grade.

4) Each student will conduct an individual statistical project. This project will provide the students with an opportunity to use the methods studied in the class with real data. The final project will be due near the end of the semester. There will be intermediate deadlines for the project throughout the semester. The project will
include a report and justification of the methods used and the conclusions drawn, and include data which support
the conclusions. The quality and clarity of your writing will be assessed as part of your grade on the project.

The project will be worth 20% of your grade.

5) There will be a cumulative final exam on Tuesday May 18 from 11:00-1:00. The final exam will be worth 20%
of your grade.

6) Attitude, attendance and class participation will be worth 5% of your grade.

Some suggestions for studying for this class.
1) Come to class prepared and ready to learn. This includes making sure you have gotten enough sleep and are
ready to engage your mind, and that you are up to date with the reading in the text-book and with your homework.

2) Participate actively and keep your attention focused on mathematics during class time. Do not let your
thoughts wander, or if they do, bring them back to what we are studying. Often during class we will stop to work
problems and then I will go over them. Do this work with sincerity. It is easy to think you understand what to do
as you watch me do it, it is much harder to do the work on your own. If you do work on these problems, you will
get much more out of the time you spend in class.

3) Do not be shy about asking questions in class. If you have a question it is likely other students are also
confused. You will be doing your classmates a favor if you are brave and ask.

4) Read and reread your textbook. You should read the relevant sections of your text-book before we discuss
them in class. This will enable you to better understand the class discussion. Reread the material after we have
discussed it in class.

5) As soon as possible after each class, look over your notes and reflect back on the class. Math is cumulative,
if you do not understand something today, it will most likely interfere with your understanding of some other topic
later in the semester. Anything which you do not understand ask about at once.

6) Come and see me in my office. If your schedule conflicts with my office hours, make an appointment. Very
little class time will be spent on answering questions about the homework, going over homework, reviewing for tests
or going over tests. I am very happy to spend time with you in my office discussing homework and tests.

7) Study with other students. Working on problems in groups is often helpful. Find a small group of students
with whom you work well and meet with them regularly.

8) Do lots and lots of problems. The more problems you work, the more comfortable you will be with this
material. You should view the problems I assign as a bare minimum. I encourage you to work additional problems
from your text-book and to make up problems for yourself. I will be happy to discuss any such additional work with
you in my office.

9) Work hard, work consistently and be persistent. You should expect to devote a lot of time to this course.
You should spend a minimum of six hours a week outside of class time. The time should be consistent throughout
the semester. Cramming right before an exam is not an effective technique. Some of the work may seem difficult.
But you will learn the most when you struggle and then succeed in understanding a concept.

Other.

Spring Break is March 8-March 12, there are no classes during spring break. April 1-April 5 is Easter Break,
there are no classes during Easter Break.

If you are taking this class pass/fail you need the equivalent of a C- to pass.

You are not entitled to an incomplete in this course unless you are doing passing work in the course and some
sort of extraordinary reason, unrelated to this course, prevents you from completing all of the course requirements.

Cheating is in violation of USD's academic integrity policy. Make sure you are familiar with this policy.
The last day to enroll in classes and to drop a class without a W is Wednesday February 3.
The last day to change from a grade to the pass/fail option or vice versa is Wednesday March 24.
The last day to withdraw from a course this semester and receive a W is Tuesday April 6.