

Syllabus: STAT 250 - Introduction to Biostatistics

CONTACT INFORMATION

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COURSE DESCRIPTION

Statistics is the art and science of using sample data to make generalizations about populations. The topics covered in this course include:

- methods for collecting and summarizing data
- methods for evaluating the accuracy of sample estimates
- techniques for making statistical inferences

Users of statistics -- researchers, government agencies like the Census Bureau and the Bureau of Labor Statistics, companies like the automakers and drug industry, etc. -- make extensive use of the computer in applying statistical methods to their problems. So will you! You will have plenty of practice in analyzing data from biostatistics and should be well prepared for problem solving involving basic statistics in the rest of your college courses, as well as gaining an understanding of the role of statistics and biostatistics in your daily life.

COURSE WEB SITE

The course website will be maintained on ANGEL (angel.psu.edu) and will contain all course materials, so you should plan to access the site regularly.

REQUIRED RESOURCES

1. A textbook, **Statistical Methods in the Biological and Health Sciences**, 3rd Edition, by J. Susan Milton. It can be purchased at the usual bookstores.
2. A simple calculator (cell phones prohibited) that can compute square roots.

COURSE FORMAT

Lectures and examples of problems will be given in class on Mondays and Fridays. Wednesdays we meet in a computer lab and will be using the statistical software MINITAB to complete activities. In most of the weekly computer labs you will work through an activity in groups that supplements the lectures/reading from that week.

SUMMARY OF COURSE REQUIREMENTS

What?	Points?	Percent?
Homework (7)	300	30%
Quizzes (5)	200	20%
Exam 1	100	10%
Exam 2	100	10%
Project	100	10%
(Final) Exam 3	200	20%
Total	1000	100%

SOME DETAILS ABOUT COURSE REQUIREMENTS

Homework

It is anticipated that there will be 7 homework assignments to be handed in during the semester. Homework will consist of lab activities and exercises from the text. Homework will be graded on a 50-point basis and is due every other week. Points will be awarded for accuracy and overall completeness of the work.

Quizzes

There will be five quizzes throughout the semester. Tentative dates are Jan 27, Feb 10, March 17, March 31 and April 28. You should refer to the course web site to determine the exact date of the quizzes and what will be covered on each.

Exams

Two semester exams and one final exam will be administered. The semester exams will have both written and multiple-choice sections. The first exam is tentatively set for Feb 24, and the second tentatively on April 14. The final exam will be determined as set by the University. Study guides will be provided for all exams.

Project

There will be one project in which you will be analyzing experimental data using the methods learned the entire semester. The project is due the last day of classes, April 28, but the assignment will be given mid-way through the semester so you can start working on it early. There will be no time given in class to work on the project. I recommend starting early to ensure you have the project done on time.

Academic Integrity

Academic integrity, which is the pursuit of scholarly activity free from fraud and deception, is an educational expectation at Penn State. This course will follow the guidelines found in Section 49-20 of the University Faculty Senate Policies for Students. See <http://www.science.psu.edu/academic/Integrity> concerning academic integrity for details.

COURSE GOALS

At the end of this course, you should be able to:

1. Understand the reasoning by which findings from sample data can be extended to larger, more general populations.
2. Critically evaluate the results of scientific studies.
3. Design, conduct, and analyze a scientific research study.
4. Read statistical summaries from and analyze data using statistical software.
5. Study and understand examples and applications from the biological and health sciences.

COURSE RULES

1. Make-up policy: Homework over one week late is not accepted. Homework within one week late will be penalized such that the highest score available is a 25 instead of a 50. If you are going to miss a quiz or exam you must contact me before or on the day of the test and supply documentation of reasons for missing. When these requirements are met, the test can be rescheduled within one week from the actual test date. The final exam can only be rescheduled through the University.
2. Students are responsible for all announcements and supplements given within any lecture or lab, as well as those not announced but posted on the course website calendar.
3. Cheating will be punished in accordance with University guidelines.

You will be graded based on the total score obtained from all of your course work. Course grades in each of the nine categories will be awarded based on the following bounds:

Final Grade	Points	Percent
A	930	93
A-	900	90
B+	870	87
B	830	83
B-	800	80
C+	770	77
C	700	70
D	600	60
F	below 600	below 60

The lower bounds could be lowered if the course work is judged to be different than in previous semesters. This judgment will be made in consultation with the other Stat 250 sections after all of the course work is graded.

IMPORTANT COURSE ADMINISTRATION DATES

Please note that as a student registered for this course, you are responsible for taking care of certain administrative details *before* the following university-wide deadlines:

Classes Begin	January 9
Martin Luther King Day - No Classes	January 16
Late Registration & Drop/Add Begins	January 19
Final Exam Conflict - Filing Period	February 13 – February 26
Spring Break - No Classes	March 6 – March 10
Classes End	April 28
Final Exams	May 1 – May 5

RACE RELATIONS PROJECT

The Race Relations Project (RRP) is a peer-facilitated diversity program that employs trained undergraduate students from Penn State to lead small group discussions on topics of race relations relevant to you and the other students participating. Two facilitators from the RRP encourage participants in your group to express their views and experiences on these issues. Because our mission is to expand the multicultural dialogue, our facilitators do not teach or preach or tell you what you should think. Instead, they encourage you to uncover for yourself what you actually think.

RRP programs occur outside of the regular meeting times of your class. Most programs are held in the evenings, although we do have some day time programs throughout the week to accommodate your schedule. For more information on the RRP, visit our website: www.racerelationsproject.psu.edu

PARTICIPATION IN THE RRP PROGRAM IS WORTH 20 POINTS TOWARD YOUR FINAL GRADE.

Be aware, the programs for this class will only be offered during the TBA weeks of the semester starting TBA and ending TBA. One week before the start date you will receive an email explaining how to register for the RRP program.

All questions regarding the RRP should be directed to the RRP staff at: racerelationsproject.psu.edu.