

Math 305 --- Statistics Section 01
Schedule# 80292

**Syllabus
Fall 2009**

Dr. Chetan Prakash, Instructor

Text: ``Statistics'' by Agresti & Franklin, 2nd edition

Time/Place: MW 4:00 to 5:50 pm at JB-262

Instructor's Office: JB 327

Phone: 537-5390

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Office Hours: MW 3:00-4:00 pm, TTh 1:15-1:45 pm and by appointment

Material to be covered: Chapters 1 through 10

The Course: After covering descriptive statistics and exploring the associations between random variables, we will turn to the basics of *probability theory*: quantifying uncertainty; and then to *inferential statistics*: using mathematics to make assertions about populations from results about smaller samples.

Schedule: Our coverage of the material will be approximately a chapter per week. Some sections and the whole of Chapter 4 will be assigned as reading sections: we will discuss the exercises in class after students have read them.

Outcomes: Students will learn:

- About the need for data: decisions should, as far as possible, be made from data and not be based on anecdote, hopes, fears or opinions.
- About the importance of careful data production: how different methods affect the reliability and interpretation of data.
- To understand and produce graphical and numerical summaries of data
- The principles of variability that is natural, predictable and quantifiable.
- The basics of statistical inference and prediction.

Homework: Homework for grading via *MyStatLab* (a part of Pearson's *MyMathLab*) will be assigned weekly and due the following Wednesday. You are responsible for making sure that you have and are registered for *MyMathLab*.

Answers to the odd-numbered exercises are given in the text, so these can be treated as further examples in addition to the assigned exercises. I will also provide worked solutions to some even-numbered exercises: please use these as a study guide for tests. Though worked solutions to many of these exercises may be found in my solutions and in the students' study guide to the text (available for an extra charge), you are strongly encouraged to first *work the exercises yourself*. There are also review exercises at the end of each part -- these are useful when revising for a midterm or final.

We will discuss any questions you have regarding homework at the beginning of each class. Please keep in mind that these discussions will be of use to you only if you have at least attempted the exercises beforehand. Do not spend more than 30 minutes on any exercise; most exercises will take considerably less time. *Do take every opportunity to discuss the exercises with each other, with a tutor, or with me.*

Power Point: I will provide power-point slides for the lectures on my website. At the end of each class you will know what section(s) are to be covered at the next meeting. It will help you a great deal if you can also study the text *before* coming to class. **Don't just look at the slides: do read the book!**

Tutors: Please note that many math majors have not had a statistics course of this type and there may be few tutors in the Learning Center or in the Math Departments tutorial program who have had an applied course like this: you may be better off going to tutors in departments like psychology, where sophisticated statistical methods are used as a matter of course.

Furlough Days: Due to the state's budget problems, faculty members are legally bound not to work on 6 days of this term. I have placed as many of these days as possible on midterm days or days when I am travelling for research, and on one of the state-mandated closure days. For this class:

Class will not be held on Monday, November 30 (State Budget Campus Closure Day)

Tests: Two in-class *midterm tests* will take place on Monday, October 26 and Monday, November 23. You will be informed of the material to be covered on each midterm during the prior week. Our review of the material on the day before the test will be of use to you if you have already studied the material and bring questions to class. Tests may contain true-false and multiple choice questions, as well as show-your-work questions for partial credit.

The *final* will be on Wednesday, December 9 at 4 p.m. and will be cumulative, with an emphasis on the last part of the course.

Please bring a scientific calculator with statistics capabilities to the tests. Please familiarize yourself with its use.

Make-ups: *No make-ups will be allowed for the midterms.* Instead, the final grade will replace one of your midterm grades, if the final grade is higher. Also, the homework assignments will have time-limits on them: you will need a compelling reason for me to extend this limit, so please do your homework as soon as possible.

Grading: The total of your homework assignments, each of your midterms and the final will be worth 25% of the grade each. Your course grade will be calculated on the following scale: an A from 88-100%, a B from 75-87%, a C from 63-75%, and a D for 50-65%.

Notes:

1. The responsibility for learning the material is yours. Please expect to spend, on average, 2 hours of home work for each hour in class. *Read the sections we are to cover before coming to class.* It is my responsibility to facilitate your learning by pointing the way, helping you with specific problems you bring to class or to my office hours, and giving you feedback on your progress. However, watching me work exercises or reading someone else's solutions is not enough --- you must do it yourself. Sincerity of effort will lead you to the joy of doing mathematics.
2. This is a fast-paced course, so it will not be possible to discuss all questions during class time. Do please utilize as many resources as you can, e.g., my office hours, tutors, and study groups with other students. By all means look up other texts if they seem more readable to you.

3. Please keep up to date with the material, and try not to miss any midterms or home assignments. You are responsible for bringing calculators to the exams. **Make-ups for midterms will not be given** (see above). *If you are forced to be absent or to delay completing a homework assignment, you will need a compelling reason [NOT planned family vacations etc.] and I will need to have made prior arrangements with you regarding make-ups.*
4. You can always get in touch with me by leaving a message, either by phone or e-mail. I should get back to you within a working day. If you live outside the local calling area, expect me to ask you to call me back.
5. Please make chapter summaries for yourself and use the review questions at the end of each part as practice tests. At the end of class on the day before the midterm our review will consist of discussing any questions you have.
6. Graded work (quizzes, midterms) will generally be returned, along with solutions, within *{\bf one week}* after being handed in.
7. Final grades will be posted on MyCoyote at the end of term.

Important Dates:

Wednesday, September 30: Last Day to Add without permission

Wednesday, October 14: Last Day to Add/Drop with permission

Thursday, October 22: State Budget Closure - Campus closed: No classes

Monday, October 26: Midterm 1

Wednesday, November 11: Veteran's Day - Campus closed: No classes

Monday, November 23: Midterm 2

Thursday, November 26: Thanksgiving Day - Campus closed: No classes

Monday, November 30: State Budget Closure - Campus closed: No classes

Wednesday, December 9: Final at 4 p.m.

Departmental web page: <http://www.math.csusb.edu>

Students with Disabilities: If you are in need of an accommodation for a disability in order to participate in this class, please let me know ASAP and also contact Rosie Garza in Services to Students with Disabilities in UH-183, 909-537-5238, ssd@csusb.edu.

H1N1 (Swine Flu) and Attendance: To avoid a pandemic outbreak of H1N1, the campus is encouraging students, faculty, and staff to stay at home if they have any flu-like symptoms instead of coming to campus. So if you think you may have the flu, please stay home. You will NOT need to bring a doctor's note to excuse your absence. You WILL be able to make up any quizzes, exams, or other work that you miss by staying at home for this reason, but you must inform me immediately by email or phone on the day you stay away.