

**SYLLABUS**  
**MATHEMATICS 110 -81-2- PROBABILITY AND STATISTICS**  
**Fall 2008**

Blaney Hall 202 from 7 – 9:30pm on Thursday nights

Instructor: Deana L. Deichert

Office Hours: Before class

Office: Curtis 204

Phone: Home – 610-705-0195 ( between 9am and 9pm ONLY)  
Office – 610-606-4666 x3384 – do NOT leave a message  
E-Mail – [dldeiche@cedarcrest.edu](mailto:dldeiche@cedarcrest.edu)

**COURSE DESCRIPTION:**

This course examines the collection, organization, analysis and interpretation of data in the context of applications from such fields as business, education, political science, economics, psychology, sociology, nutrition and medicine. The importance of experimental design and sampling techniques are studied and stressed throughout the course. Elementary probability theory is introduced as well as the following theoretical distributions: binomial, normal, Student's t, and chi-square. Linear regression techniques and correlation analysis are used to study bivariate populations. Computer technology is used heavily throughout the course including an introduction to MINITAB statistical software (available locally on college computers). An algebra background is required as well as scientific or statistical calculator. For credit in the mathematics major, at least two semesters of college level calculus is a prerequisite; mathematics majors should register for MAT 210 and expect to complete additional calculus-based work.

**COURSE OBJECTIVES:**

- 1) Discuss statistics as it applies to ones every day experiences.
- 2) Study standard ways data is analyzed (i.e. averages) and presented (i.e. histograms).
- 3) Work with a number of the basic theoretical probability distributions.
- 4) Understand how to predict population parameters based upon statistics derived from samples from the population.
- 5) Be informed about the importance of experimental design and sampling techniques used in research.

**INSTRUCTIONAL METHOD:**

The primary method of presentation of the material will be lecture/discussion supported by chapter worksheets. Because this material is extremely cumulative in nature, students are strongly urged to attend class regularly and to complete all work assigned. Students should try to get a study group together to assist each other in questions and assignments. This works best when students do a problem first and then compare and discuss their answers. Copying homework will not help you learn the material and will leave you lost come exam time. If a group of students has a question, they should come in during office hours to seek additional help from myself or Gary Moll (x3485 in Admin 213 - 9am – 6pm)

PURCHASES:

- 1) TEXT: Elementary Statistics 6<sup>th</sup> edition – Allan G. Bluman  
ISBN # 9-78-0-07-310368-6
- 2) CALCULATOR: TI –83 or TI – 84 are excellent
- 3) THREE RING NOTEBOOK WITH DIVIDERS
- 4) Graph Paper

EVALUATION:

QUIZZES/GRADED ASSIGNMENTS.....35%

8 graded assignments will be given throughout the semester. Each one will count for 5% of your grade. The lowest grade will be dropped. Your work must be written out completely on these assignments. You may work in a group but you must each hand in your own assignment in your own handwriting. It is expected that each person receive an A on all of these quizzes.

NOTEBOOK.....15%

A class notebook will be collected from each student on the day of the final. A sheet will be given to the student prior to the notebook collection outlining the exact order of the contents. Failure to have papers in the correct order without proper indexing and headings will result in a loss of points. Also, photocopied notes and homework assignments are not allowed. Work must be in your own handwriting. Notebooks ( or missing assignments) that are not handed in by the end of class on the day they are due may be handed in later for half credit. The notebook should contain the following headings:

- Notes and Worksheets
- Book Homework
- Extra Credit
- Graded Assignments

MIDTERM.....20%

FINAL EXAM.....30%

A final exam will be given on the last day of class. This will be a cumulative exam. Please bring in a SASE on that day if you would like to know your final grade ahead of time. If you must be absent for the exam due to circumstances beyond your control, you are required to call or email me both at home and the Cedar Crest by the end of class. Failure to do so will result in a 0% on the test or exam.

EXTRA CREDIT....?????????

Students may do any problems in the book that are not regularly assigned as extra credit. Approximately every 10 problems will earn an extra credit check. Also, there will be handouts throughout the semester that will be considered extra credit. Extra credit is not assigned a certain point value. The amount of points awarded for extra credit will be under my own discretion and will be added on to your final grade. Attendance will also play a part in extra credit. There is no penalty for someone who does not do extra credit.