THE COURSE

Syllabus

Worldwide economic, political, social and cultural forces are making it ever more important that students learn to reason, interpret and articulate quantitatively. Yet in United States quantitative literacy is still an un-addressed issue nationally. Students enrolled in the *CHANCE* course learn the quantitative reasoning skills that they will need to understand today's world and tomorrow's.

As statistics continue to grow as a subject of importance to the general public, CHANCE students, through discussion of problems and issues of public concern, will learn the relevance of statistical ideas in public policy. Statistics is the science of extracting information from data and it is well connected with probability and mathematics, yet it is interdisciplinary in nature. The course involves extensive reading and discussion of current news from newspaper, journal articles and internet sites, and utilizes the Chance Database at (http://www.dartmouth.edu/~chance/)

Guest speakers and video strips, writing assignments, computer simulation and data manipulation activities, and student projects.

This course differs from traditional mathematics courses in content and organization. The class meetings will emphasize group discussion rather than traditional lecture format. There are **5 components in this course.**

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TextBook:
Self-study/class discussion topics from text book
For All Practical Purposes, Mathematical Literacy in Today's World, sixth edition, COMAP, W. H. Freeman and Company, New York.

Previously used textbooks include 1**.** Freedmen, Pisani, Purves and Adhikari, *Statistics,* 2nd edition. 2. Moore David S., *Statistics: Concepts and Controversies*. 3. Rossman Allan J., *Workshop Statistics*, Discovery with Data, first edition.

Topics:

- Statistics: The Science of Data
  - Producing Data
  - Exploring Data
  - Probability: The Mathematics of Chance
  - Statistical Inference

- Video segments from “Statistics: Decisions through data”, COMAP will be augmented.

- The Digital Revolution or Digital Divide?

- Identification Numbers

- Transmitting Information

- From beepers to cell phones and the Internet/web world

- Social Choice and Decision Making

- Social Choice: The Impossible Dream

- Weighted Voting Systems

- Electing the President

- Modeling in Mathematics (open topic)

Journal:

Each student will keep a journal for the course. The Journal notebook will consist of 3 distinct parts. The first part is vocabulary list (from textbook and readings) and the third part is the homework /study notes from textbook. The middle part, the “Journal” part, is what is meant by the unqualified word journal. Journal assignments are rather open - ended and student has considerable latitude in deciding what goes into the journal- Discussion of current news through mathematical looking glass and Journal entry. Journal should be kept on loose- leaf paper in a 3-ring binder, entries dated and pages numbered. Articles read can be taped/stapled to the page (with reference clearly cited) following related discussion and questions/answers for discussion in class. Each entry should be approximately one page in length (more is fine, less is not) dated and titled. There should be a journal entry for each class period. Write student name on each page in the upper right hand corner. Each day we will pick one or two student journal entries for class discussion. Journal will be collected and read periodically.

Some suggested sources:

Chance News, Atlanta Journal-Constitution, The New York Times, USA Today, Science, Nature, and Internet.

Short papers (4)
Each paper is three to four page long on matters of public interest/consequence with some statistical information. Papers should be doubled spaced. Be sure to include title page with your name, due date and the title of the paper. List all reference and source material used. The paper should be turned in at the beginning of the class period on the due date.

Guest Speakers **
Previously explored topics through Guest Speakers (some video taped)

Violence, an epidemic (Project Gun Stop)
On HIV/AIDS
Statistics and the Business world
Breast Cancer
GALLUP Poll
Statistics behind the Television
Battered Women

** Majority of the speakers have been Spelman Alumnae (some former students of Nagambal Shah) currently professional/civic leaders in the area.

CHANCE Fair (Final Project)
There will not be a final exam for the course. In its place student will undertake a major research project. The course will conclude with a **Chance Fair** where the student will do a poster presentation of the Final project to the class. The fair will be held during the last week of the class. The research paper pertaining to the Chance Fair project is due the day of the final exam as set by the college calendar.

Examples of some Chance Fair Project Topics:

Rape-Violation of Body and Soul
Drinking and Driving-It Hurts Everybody!
Death Penalty and Proportionality Review
Anorexia
Depression
World Over- Population-Problems and Discussions
Separate Society-Racial Conflict in U.S.
Domestic Abuse
Suicide--A U.S. Epidemic

Grading

Class Participation	10%	
Journal (vocabulary and journal)	10%	
Text book self study section		10%
Short papers	40%	
Chance Fair	30%	

Final course grade will be assigned according to the following:

A	A-	B+	B	B-	C+
95-100%	90-94%	87-89%	83-86%	80-82%	77-79%

C	C-	D+	D	F
73-76%	70-72%	65-69%	60-64%	Below 60%