This course is a fairly traditional introduction to probability and statistics with emphasis on the application of these techniques to social problems, especially law and public policy.

There are three books for the course. Finkelstein and Levin, *Statistics for Lawyers*, which is available at the copy center in E52 for $22; Bulmer, *Principles of Statistics*; and Goldberg, *Probability: An Introduction*. In addition I have assigned a recent article on genetics and intelligence from *Scientific American*.

You are expected to (1) do weekly problem sets; (2) 2 midterm exams (the first of which is diagnostic); and (3) a final exam. The problems will consist of exercises from the book and computer problems distributed in class.

**Topic 1. Describing Data (week 1)**
- Key statistical concepts: random variable, mean, variance, correlation, histogram; expectations and risk; rationality
- Readings: F & L, Chapter 1

**Topic 2. Elements of Probability (weeks 2 and 3)**
- Key theoretical concepts: events, probability; dependence and independence;
  - Bayes Theorem
- Readings: Bulmer, Chapters 1 and 2; Goldberg, Chapters 1 and 2;
  - F & L, Chapter 3

**Topic 3. Counting (weeks 4 and 5)**
- Key concepts: probability distribution; sampling; voting power
- Readings: Bulmer, Chapter 3; Goldberg, Chapter 3; F&L, Chapters 2 and 9.

**Topic 4. The Binomial and the Normal (weeks 6, 7, and 8)**
- Key concepts: Central Limit Theorem; Law of Large Numbers; classical inference
- Readings: Bulmer, Chapters 5, 6, 7; Goldberg 4.1 to 4.5, 5.1; F & L, Chapter 4

**Topic 5. Comparing Samples (weeks 9 and 10)**
- Key concepts: experiments; t-distribution, chi-square distribution.
- Readings: Bulmer, Chapters 8, 9, 10; F & L, Chapter 5; Scientific American

**Topic 6. Regression (weeks 11 and 12)**
- Key concepts: conditional means
- Readings: Bulmer, Chapter 12; F & L, Chapter 12.1 - 12.10.