THE GEORGE WASHINGTON UNIVERSITY  
Department of Statistics  
Graduate Certificate Program in Applied Quantitative Risk Analysis  

Foundational Issues in Risk Analysis  
Stat 6282 - Fall 2011  

SYLLABUS

**Instructor:** Dr. Nozer Singpurwalla  
**Phone:** 202-994-7515  
**E-mail:** nozer@gwu.edu  
**Office Hours:** Wednesdays 5:00-6:00pm, by appointment only.  
**Lecture:** Wednesdays 6:00-8:00pm, Room 612, GW Graduate Education Center, 950 N. Glebe Road, Arlington, VA 22203

**Course Description:** The material covered in this course is based on Chapter 2 in *Reliability and Risk: A Bayesian Perspective* by N.D. Singpurwalla. Topics it covers are the axioms of probability, conditional probability, the law of total probability, interpretations of probability (physical, logical, personal and subjective), Bayes’ law, Bayes factors, the notion of a probability model and the likelihood, independence and interdependence, utility and decision making, and statistical inference: frequentist and Bayesian.

**Prerequisites:** None: Mathematical Maturity.

**Learning Outcome:** Upon completion of the course a student should have an appreciation for the meaning of probability and how to make it operational via its mathematical architecture.
**Textbook:** *Reliability and Risk – A Bayesian Perspective* by Nozer D. Singpurwalla, Wiley 2006.

**Grading Policy:** Your final grade will be determined by the following weighted average:

- Class Discussion 25%
- Homework 15%
- Midterm 25% (October 19, 2011)
- Final 35% (December 7, 2011)