STAT 702/J702  
Augusts 19th, 2004  
Instructor: Brian Habing  
Department of Statistics  
LeConte 203  
Telephone: 803-777-3578  
E-mail: habing@stat.sc.edu
Today

• Syllabus
• Introduction to Mathematical Statistics
• R
• The Foundations of Probability
Statistics is the Science of Data

• Collecting Data
• Summarizing Data
• Modeling the Structure of the Data
• Drawing Inferences about the Structure of the Data
STAT 702 covers the foundational aspects of probability that we will be connecting to inference. (Chapters 1-6)

STAT 703 (and the end of STAT 702) then develops and uses this foundation to develop the inferential procedures (Chapters 7-11&15).
Chapter 1 – Probability

My *Webster’s New World Dictionary* defines probability as:

1. a being probable, likelihood
2. something probable
Looking up *probable* doesn’t really seem to apply:

likely to occur or be
So, we could check **likelihood**:

a being likely to happen; probability

Clearly the dictionary won’t be too helpful here.
One way of defining the probability of an event is:

The probability of an event is the proportion of times (relative frequency) that the event is expected to occur when an experiment is repeated a large number of times under identical conditions.