

STAT 702/J702
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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.

