box when you click on the bookmark **try holding down the shift key** and clicking here.

- Lesson 11-1 Conditional Probability
  - Conditional Probability (ASTERISKS ICON)
  - Conditional Probability : Conditional Probability : Birthweights and Smoking (EXPOSITIONS ICON)
  - Conditional Probability : Conditional Probability : Conditional Probability (TOOLS ICON)
  - Conditional Probability : Conditional Probability : Probabilities and Tables (PERSONAL EXERCISES ICON)
  - An ActivStats bookmark file (.mrk) for Lesson 11-1. If you do not get a **Save As...** dialog box when you click on the bookmark **try holding down the shift key** and clicking here.
- Lesson 11-2 Independence
  - Women/Marital Status III (HOMEWORK ICON)
  - Women/Marital Status I (HOMEOWORK ICON)
  - Women/Marital Status II (HOMEWORK ICON)
  - Conditional Probability : Independence : The General Multiplication Rule (TOOLS ICON)
  - Conditional Probability : Independence : Independence (EXPOSITIONS ICON)
  - An ActivStats bookmark file (.mrk) for Lesson 11-2. If you do not get a **Save As...** dialog box when you click on the bookmark **try holding down the shift key** and clicking here.

Supplemental Notes from the Instructor

- To help distinguish between independent and mutually exclusive events consider the following experiment: randomly select a single card from an ordinary deck of playing cards (see Figure 4.3 pg. 207 if your not familiar with playing cards). Let F = {select a facecard i.e. J, Q, K}, H = {select a heart}, Q = {select a Queen}, and K = {select a King}. The following table classifies some pairs of events as mutually exclusive and or independent.

Events	Mutually Exclusive	Independent	Justification for Independence Claim
K, Q	Yes	No	P(K & Q) = 0 but P(K)P(Q) = 0.0059
K, H	No	Yes	P(K & H) = P(K)P(H | K) = 0.0192 and P(K)P(H) = 0.0192
K, F	No	No	P(K & F) = P(K) = 0.0769 but P(K)P(F) = 0.0178

It is not possible to have two (non-impossible) events that are both mutually exclusive and independent at the same time since for two (non-impossible) mutually exclusive events (say A and B) we have P(A & B) = 0 but P(A)P(B) > 0.

- Suppose we have an urn that contains 10 balls. There are 4 red balls number 1, 2, 3, and 4 and 6 green balls number 5, 6, 7, 8, 9, and 10. The experiment consists of randomly selecting one ball from the urn. Can you construct a similar table to the one above for this experiment?