Independence

The importance of understanding independence is that it allows to decouple complicated event into a product of simple events. Be sure you understand the difference between independence and disjoint. In terms of reading, try to read Examples 2.31, 2.32, 2.33, and 2.34. Make sure you can follow the steps and the logic.

In my opinion, the power of independence is more appealing when we have a number of events. This is chapter 2.6 of the textbook. But for some reason I find this section very confusing except the first few pages. So I would recommend you to read Example 2.36, 2.37 and 2.38.

Bertsekas and Tsitsiklis chapter 1.5 has a good introduction to independence. I like the way they discuss Example 1.19, which makes things very clear. You do not need to follow the concept of conditional independence as it is more advanced. But you have to understand the idea of independence of a collection of events, i.e., Example 1.22 - Example 1.23. Reliability on page 40 can be skipped. But independent trials and binomial probabilities should be studied carefully. Read BT pages 41-43.

Counting

I did not include textbook chapter 2.3 in the syllabus because I believe you have learned it before. If you have not learned these concepts, it is also not very difficult to follow. There are two main ideas in chapter 2.3. One is combination, and the other one is permutation. Combination does not take into account of the ordering, whereas permutation does. If you find the textbook difficult to follow, try BT chapter 1.6. Go through Figure 1.17 and the text on page 46-49. All other stuff can be derived from here.