**Reading for Lecture 14:**

**Read:**

I recommend that you read these in the order they are listed below. All available on Canvas.

1. Berson, T.A. and Denning, D.E. “Cyberwarfare,” Guest Editors’ Introduction to IEEE Security & Privacy Magazine special issue on Cyberwarfare, Sept-Oct., 2009, pp. 13-15. *Provides a brief historical background for the topic from two experts and overviews of other articles (that are not included in the reading).*

2. National Research Council (NRC), *Technology, Policy, Law, and Ethics Regarding U.S. Acquisition and Use of Cyberattack Capabilities*. Chapter 1, pp. 9-23. (Up to Section 1.8). [Note re Box 1.1: the little dialog balloon reflects a comment: these commands have been replaced by U.S. Cyber Command since this report was written”].

*Provides a more detailed and somewhat more technical of cyberattack technology and issues*.

3. Sanger, David. “U.S. Directs Cyberweapons at ISIS for First Time.” New York Times, p. 1, 25 August 2016. (available on Canvas)

*News from this week related to cyberattacks.*

**Lecture 13: Exercises**

1. Based on your reading the NYT article (#2 above) and the NRC report (#2 above), would you characterize the reported activities against ISIS as “cyberexploitation” or “cyberattack”? Explain your answer.

2. Two major elements of the Law of Armed Conflict are “proportionality” and “distinction”. Proportionality prohibits the use of any kind or degree of force that exceeds that needed to accomplish the military objective. Distinction means discriminating between lawful combatant targets and noncombatant targets such as civilians, civilian property, POWs, and wounded personnel who are out of combat. Interpreting these principles in the context of cyberwarfare can be tricky.

Suppose Ruritania and Zenda are having an international dispute. Ruritania’s government websites are suddenly defaced and the Ruritania cyber command finds evidence that Zenda is responsible.

A. An adviser to the President of Ruritania calls for the Ruritanian air force to bomb Zenda’s largest computer installation, which is located in the center of a populous city. Comment on this response in terms of proportionality and distinction.

B. A second advisor recommends that Ruritania recruit a botnet and mount a similar denial of service attack against Zenda. Again, comment on proportionality and distinction for this course of action.

3. Imagine yourself in the year 2036 as the leader of a company or a nation. Recalling the contents of this course and your personal experience, list two issues relating to cybersecurity and/or privacy that might arise for you in your job and explain why you think they will be important.

Your imagined role:

A. Issue 1:

B. Issue 2:

4. Make up a question for the professor to answer in the final lecture that you think might help you in 2036.