

ITBU 313: Introduction to Cyber Security, Homework 01

Chapter 01, *Computer Security, Principles and Practices*

Readings

Read chapter 01 in the *Computer Security, Principles and Practices* book.

Discussion Questions

Answer the discussion questions in writing.

1. Define the term *computer security*.
2. List and briefly describe the three objectives of computer security.
3. List and briefly describe the three levels of impact on organizations that may result from a failure of computer security. Give one example of each kind of impact.
4. List and briefly describe the four kinds of system resources that comprise the assets of a computer system.
5. Describe the difference between active attacks and passive attacks. Give one example of each.
6. *Fail-safe default* is a very important design principle. Explain what is meant by the term and give an example from your own experience of this principle in operation.
7. What is meant by *least privilege*? Give an example of this concept.
8. Explain how the concept of a *attack surface* can be useful in evaluating and classifying threats.
9. What is the purpose of building an *attack tree*? Explain the difference between AND and OR nodes.
10. The book mentions two kinds of trade-offs: (1) ease of use versus security, and (2) cost of security versus cost of failure and recovery. For each of these, explain what is meant by stating that these are “trade-offs.”