

# Security

## Outline

Encryption Algorithms

Authentication Protocols

Message Integrity Protocols

Key Distribution

Firewalls

# Why do we care about Security?

- “The art of war teaches us to rely not on the likelihood of the enemy’s not coming, but on our own readiness to receive him; not on the chance of his not attacking, but rather on the fact that we have made our position unassailable.” *The Art of War*, Sun Tzu
- There **are** bad guys out there who can easily take advantage of you.
- Reference: *Cryptography and Network Security, Principles and Practice*, William Stallings, Prentice Hall

# Overview

- Security services in networks
  - Privacy: preventing unauthorized release of information
  - Authentication: verifying identity of the remote participant
  - Integrity: making sure message has not been altered

