Modulation

- **carrier** - a continuously oscillating signal transmitted across a medium and used to “carry” information.

- **modulation** - the process of modifying a carrier to encode information on the carrier.
Types of Modulation

• amplitude modulation (AM) - the strength or amplitude of the carrier is varied according to the data.

• frequency modulation (FM) - the frequency of the carrier is varied according to the data.

• phase modulation (PM) - the timing or phase of the carrier is varied according to the data.
Multiplexing

- **multiplexing** - the general concept of carrying multiple signals over the same medium.
- **frequency division multiplexing (FDM)** - multiplexing using different carrier frequencies. FDM requires high bandwidth.
- **broadband technology** - the term used to describe a networking technology that uses a large part of the electromagnetic spectrum to achieve high throughput rates.
- **baseband technology** - the term used to describe a networking technology that uses a small part of the electromagnetic spectrum and sends only one signal at a time over the medium.
Multiplexing

• **spread spectrum** - a transmission technique in which a sender and a receiver agree to use several frequencies either at the same time or by changing from one to another.

• **time division multiplexing (TDM)** - multiplexing in which several senders take turns sharing a medium. Most computer networks using shared media incorporate some form of TDM.