## **ICS 212 Program Structure**

## **TCP Header Format**

0 0 1 2 3 4 5 6 7 8	1 9 0 1 2 3 4 5 6	2 5 7 8 9 0 1 2 3 4 5	3 6 7 8 9 0 1
Source Port		Destination Port	
Sequence Number   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+			
Acknowledgment Number			
Data     Offset   Reserved	U A P R S F   R C S S Y I  G K H T N N	Window	
Checksum		+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-   Urgent Pointer	

TCP Header Format

Note that one tick mark represents one bit position.

Source Port: 16 bits

The source port number.

Destination Port: 16 bits

The destination port number.

Sequence Number: 32 bits

Acknowledgment Number: 32 bits

Data Offset: 4 bits

The number of 32 bit words in the TCP Header.

Reserved: 6 bits

Reserved for future use. Must be zero.

Control Bits: 6 bits (from left to right):

URG: Urgent Pointer field significant ACK: Acknowledgment field significant

PSH: Push Function

RST: Reset the connection

SYN: Synchronize sequence numbers

FIN: No more data from sender

Window: 16 bits

Must be zero.

Checksum: 16 bits

Must be ffff.

**Urgent Pointer: 16 bits** 

Must be zero.