

What is Cyber Security?

security is something we have some knowledge of

types of security we may know about

airport

stadium

stores (scanners at the exits)

streets (cameras)

to understand what cyber security is, we have to understand what cyber is

cyber is short for cyberspace

space is something we have some knowledge of

physical space

1d space (point)

2d space (line)

3d space (cube, life)

4d space?

space space (you know, where the moon is)

a "space" is just a domain (where something resides)

it defines a bounded region (like an office or a room)

cyber is what i call a pop culture word

other things that fall into that category: world class, data fusion, synergy

it actually encompasses a large "space"

but for the purposes of this class, let's restrict it to that space in which digital information moves around

so you might consider a computer, cable and another computer a part of cyberspace

but there are other things we can see if we "step outside the box"

for example, a sensor on a buoy in the ocean that monitors wave height

it can transmit its data to a remote location in a seemingly invisible "manner"

this "manner" is a process of modulation where a portion of the electromagnetic spectrum (em) is utilized to transmit information from the sender to a receiver

demodulation occurs at the receiving end to decode the message

the em spectrum includes many things (radio waves, infrared, etc)

bottom line: cyberspace is that space in which digital information moves around

this space requires infrastructure

that infrastructure may include such things as computers, laptops, routers, switches, cabling, sensors, and many others (including cell phones)

we know a good bit about computers (and maybe even routers), but all this other stuff is a bit less known

cyber security is security inside this space

this may involve individual computers and machines (maybe you've heard of antivirus and firewalls) and anything in between