**Data Communications and Networking**

Compare and contrast cat. 6 unshielded twisted pair (UTP), coaxial, and single mode fiber optic cabling types. Describe one or two of the advantages and/or disadvantages associated with using each cable type for a business’s network infrastructure.  Consider the (a) cost per foot or meter; (b) termination/installation cost; (c) bandwidth; (d) cable length/transmission distance; (e) end point devices (i.e., workstation, wireless access point, switch, router, server, SAN, etc.); (f) use – in-building horizontal or vertical; and (g) conversion or interface equipment.  Be sure to support your information with the appropriate citation(s).

The paper must use APA 6th ed., 7th printing formatting and contain a title page, 3 to 5 pages of content, and a minimum of three peer-reviewed references.

**Assignment Resource(s)**:

* [Horizontal Cabling Costs: Fiber vs. Copper Calculations](http://www.cablinginstall.com/articles/print/volume-10/issue-5/contents/optical-fiber/horizontal-cabling-costs-fiber-vs-copper-calculations.html) - All-fiber networks often provide both short- and long-term cost benefits.
* [The Difference between Fiber Optic Cable, Twisted Pair and Coaxial Cable](http://www.fs.com/blog/the-difference-between-fiber-optic-cable-twisted-pair-and-cable.html)
* [Eight Advantages of Choosing Fiber Over Copper Cable](http://blog.blackbox.com/technology/2015/04/8-advantages-to-choosing-fiber-over-copper-cable/) - Choosing fiber optic cable over copper cable is often advantageous.
* [Comparative Study between Fiber Optic and Copper in Communication](http://www.ijtra.com/view/comparative-study-between-fiber-optic-and-copper-in-communication-link.pdf) - Here is a performance comparison between fiber optics and cable wire in communication.
* [Chapter 4 – Transmission Media](http://www.di.unisa.it/~vitsca/RC-0809I/ch04.pdf) - Transmission media is discussed in Chapter 4.