

## Christian Ellsworth

### IT 315

#### Question 1

##### Basement Floor total cost

Since, the width of the school is 300 feet. I will estimate that the length of the longest cable run will be 45 meters or (150 feet). The shortest cable run will be from the telecommunication closet to the adjacent room which will be 1 foot. The average of the shortest and longest cable will be 75 feet (the average will be the same amongst all floors). The cables running into the telecommunication closet room will be 30 (since there are two live network outlets for each classroom). So, now I will multiply my 75 feet by 30 (multiplying the average of the longest and shortest cable to the total amount of cables running into the room). So, the total amount of cabling for the basement will be roughly 2,250 feet of cabling.

##### Basement Floor total cost

Equipment	Size	Price
Cable	2,250ft	\$393.63 (34.99 per 200ft)
RJ45	10 pack	\$7.99
Patch panels (24 port)	1	\$42.99
Wall plates	4 ports	\$12.98
<b>Total</b>		<b>\$457.59</b>

##### First floor

Equipment	Size	Price
Cable	2,550ft	\$446.12 (34.99 per 200ft)
RJ45	10 pack	\$7.99
Patch panels (24 port)	1	\$42.99
Wall plates	4 ports	\$12.98
<b>Total</b>		<b>\$510.08.</b>

##### Second floor

Equipment	Size	Price
Cable	2,700ft	\$472.36 (34.99 per 200ft)
RJ45	10 pack	\$7.99
Patch panels (24 port)	1	\$42.99
Wall plates	4 ports	\$12.98
<b>Total</b>		<b>\$536.32</b>

##### Third floor

Equipment	Size	Price
Cable	2,400ft	\$419.88 (34.99 per 200ft)

RJ45	10 pack \$7.99
Patch panels (24 port)	1 \$42.99
Wall plates	4 ports \$12.98
<b>Total</b>	<b>\$483.84.</b>

#### Price reference link

<https://www.amazon.com/Ethernet-Internet-Network-Computer-Connectors/dp/B09PH9T2ZK?th=1>  
[https://www.amazon.com/CableCreation-100-PACK-Connector-Connectors-Transparent/dp/B01K9Z4A2E/ref=sr\\_1\\_4?crid=2O56FWT9HM0DG&keywords=rj45%2Bconnectors&qid=1701585957&sprefix=rj45%2Caps%2C524&sr=8-4&th=1](https://www.amazon.com/CableCreation-100-PACK-Connector-Connectors-Transparent/dp/B01K9Z4A2E/ref=sr_1_4?crid=2O56FWT9HM0DG&keywords=rj45%2Bconnectors&qid=1701585957&sprefix=rj45%2Caps%2C524&sr=8-4&th=1)  
[https://www.amazon.com/Ethernet-Outlet-Network-Keystone-Coupler/dp/B08TZZRPCF/ref=sr\\_1\\_3?crid=K6MLXTG1T1UW&keywords=rj45%2Boutlet%2Bwall%2Bplate&qid=1701586237&sprefix=wall%2Bplates%2Bfor%2Boutlets%2B%2Brj45%2Caps%2C741&sr=8-3&th=1](https://www.amazon.com/Ethernet-Outlet-Network-Keystone-Coupler/dp/B08TZZRPCF/ref=sr_1_3?crid=K6MLXTG1T1UW&keywords=rj45%2Boutlet%2Bwall%2Bplate&qid=1701586237&sprefix=wall%2Bplates%2Bfor%2Boutlets%2B%2Brj45%2Caps%2C741&sr=8-3&th=1)

## Question 2

### Equipment Room

Equipment	Price
Server racks	\$99.99
Servers (4)	\$2200
Router	\$79.99
Core Switch	\$189.99
Uninterruptible Power Supply	\$98.86

### Telecommunications Closet

Equipment	Price
Patch Panels (24 port)	\$42.99
Switches (24 port)	\$110.99
Routers	\$79.99

#### Price reference link

[https://www.amazon.com/NETGEAR-8-Port-Multi-Gigabit-Ethernet-Unmanaged/dp/B076642YPN/ref=sr\\_1\\_2?crid=YZT0ZG4BI550&keywords=core%2Bswitch&qid=1701587783&sprefix=c%2Caps%2C1687&sr=8-2&th=1](https://www.amazon.com/NETGEAR-8-Port-Multi-Gigabit-Ethernet-Unmanaged/dp/B076642YPN/ref=sr_1_2?crid=YZT0ZG4BI550&keywords=core%2Bswitch&qid=1701587783&sprefix=c%2Caps%2C1687&sr=8-2&th=1)  
[https://www.amazon.com/ASUS-AX1800-Router-RT-AX1800S-Subscription-Free/dp/B09M9477NS/ref=sr\\_1\\_4?crid=2KA8R7RZCM8ZJ&keywords=router&qid=1701587715&sprefix=router%2Caps%2C481&sr=8-4&th=1](https://www.amazon.com/ASUS-AX1800-Router-RT-AX1800S-Subscription-Free/dp/B09M9477NS/ref=sr_1_4?crid=2KA8R7RZCM8ZJ&keywords=router&qid=1701587715&sprefix=router%2Caps%2C481&sr=8-4&th=1)  
[https://www.amazon.com/PowerEdge-E5-2680V3-2-50GHz-Storage-Renewed/dp/B0842XNLS7/ref=sr\\_1\\_3?keywords=server&qid=1701587608&sr=8-3](https://www.amazon.com/PowerEdge-E5-2680V3-2-50GHz-Storage-Renewed/dp/B0842XNLS7/ref=sr_1_3?keywords=server&qid=1701587608&sr=8-3)

[https://www.amazon.com/VEVOR-Adjustable-Standing-Networking-Equipment/dp/B0C64X8J8R/ref=sr\\_1\\_4?crid=73DM9ZUVMXUU&keywords=server%2Brack&qid=1701587535&srefix=server%2Brack%2B%2Caps%2C577 &sr=8-4&th=1](https://www.amazon.com/VEVOR-Adjustable-Standing-Networking-Equipment/dp/B0C64X8J8R/ref=sr_1_4?crid=73DM9ZUVMXUU&keywords=server%2Brack&qid=1701587535&srefix=server%2Brack%2B%2Caps%2C577 &sr=8-4&th=1)

[https://www.amazon.com/Liebert-Protection-Three-Year-Warranty-PST5-660MT120/dp/B07BXZPF99/ref=sr\\_1\\_4?crid=2VYNXE0U00BOZ&keywords=Uninterruptible+Power+Supply&qid=1701587987&srefix=uninterruptible+power+supply server%2Brack%2Caps%2C1131&sr=8-4](https://www.amazon.com/Liebert-Protection-Three-Year-Warranty-PST5-660MT120/dp/B07BXZPF99/ref=sr_1_4?crid=2VYNXE0U00BOZ&keywords=Uninterruptible+Power+Supply&qid=1701587987&srefix=uninterruptible+power+supply server%2Brack%2Caps%2C1131&sr=8-4)

[https://www.amazon.com/Cable-Matters-Listed-Rackmount-Mount/dp/B0072K1OWY/ref=sr\\_1\\_4?crid=2U6UJ0LCV7OLA&keywords=patch%2Bpanel&qid=1701588415&srefix=patch%2Bpane%2Caps%2C553&sr=8-4&th=1](https://www.amazon.com/Cable-Matters-Listed-Rackmount-Mount/dp/B0072K1OWY/ref=sr_1_4?crid=2U6UJ0LCV7OLA&keywords=patch%2Bpanel&qid=1701588415&srefix=patch%2Bpane%2Caps%2C553&sr=8-4&th=1)

### Question 3

Equipment	Price
Firewall (300 users)	\$229

### Price reference link

[https://www.amazon.com/Firewalla-Security-Firewall-Business-Parental/dp/B0BYMN4YZ3/ref=sr\\_1\\_4?crid=2I2BKQCYEAAZE&keywords=firewall&qid=1701589219&srefix=firewall%2B200%2Bports%2Caps%2C336&sr=8-4&th=1](https://www.amazon.com/Firewalla-Security-Firewall-Business-Parental/dp/B0BYMN4YZ3/ref=sr_1_4?crid=2I2BKQCYEAAZE&keywords=firewall&qid=1701589219&srefix=firewall%2B200%2Bports%2Caps%2C336&sr=8-4&th=1)