

## Telecommunications Room Design

You are to design the layout of a telecommunications room. The room is a dedicated room located in an academic building on a university campus. The room is approximately 12' x 20'. You can assume the room has basic electricity run to it.

You must consider such things as wire management, proper temperature, conduits, electricity, security, etc. You must determine the type of network device(s) to use in this room (such as hub, bridge, layer-2 switch, layer-3 switch, and router).

You must also consider the type of media/cabling that you would suggest for the runs from the telecommunications room to the wall drops for the client. You do not have to specify how much cable must be purchased, but determine what cable will be run.

When making your decisions, consider all applicable industry standards and best practices. If you based any of your decisions on a standard(s) and/or best practice(s), indicate that in your justification and include the standard(s) and/or best practice(s) that you used for your decision. Keep in mind that standards should be followed and best practices should be considered.

You will turn in the following:

- Rack(s) design (use network notepad or Visio)
- Room design, if necessary (use network notepad or Visio)
- Itemized equipment list (include quantities for items but not costs)
- Justification for the network device(s) chosen
- Justification for the type of cable chosen
- Justification for any other decision you feel may warrant a justification

This room will currently support 232 network connections. There will be a fiber connection from this telecommunications room to the network operations center. The fiber for this connection is already run to the room. The fiber is coiled on a wall for now, waiting installation into the racks.