Home Office Internet Tutorial for ECC Faculty

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[Click here to test your Internet Speed using Google Recommended M-Lab](#)

[Download speed is how fast your internet connection can transfer data from a server to you. Download speeds are important for downloading files, loading a website, streaming a video or streaming music. Upload speed is how fast your internet connection can transfer your data to a server.](#)

Zoom System Requirements for Windows, macOS, Linux

Recommended bandwidth for meetings and webinar panelists*:

- For 1:1 video calling:

    ○ 600kbps (up/down) for high quality video

    ○ 1.2 Mbps (up/down) for 720p HD video

    ○ Receiving 1080p HD video requires 1.8 Mbps (up/down)

    ○ Sending 1080p HD video requires 1.8 Mbps (up/down)

- For group video calling:

    ○ 800kbps/1.0Mbps (up/down) for high quality video

    ○ For gallery view and/or 720p HD video: 1.5Mbps/1.5Mbps (up/down)

    ○ Receiving 1080p HD video requires 2.5mbps (up/down)

    ○ Sending 1080p HD video requires 3.0 Mbps (up/down)

*kbps= kilobyte per second; mbps= Megabyte per second

1 Mega byte is 1000 kilobytes

Zoom System Requirements for Windows, macOS, Linux

- For screen sharing only (no video thumbnail): 50-75kbps

- For screen sharing with video thumbnail: 50-150kbps

- For audio VoiP: 60-80kbps

- For Zoom Phone: 60-100kbps

Zoom System Requirements for Windows, macOS, Linux

Recommended bandwidth for webinar attendees:

- For 1:1 video calling: 600kbps (down) for high quality video and 1.2 Mbps (down) for HD video

- For screen sharing only (no video thumbnail): 50-75kbps (down)

- For screen sharing with video thumbnail: 50-150kbps (down)

- For audio VoiP: 60-80kbps (down)

Modem versus Router

Your modem is a box that connects your home network to the wider Internet.

A router is a box that lets all of your wired and wireless devices use that Internet connection at once and also allows them to talk to one another without having to do so over the Internet.

From:
https://www.nytimes.com/wirecutter/blog/modem-vs-router/
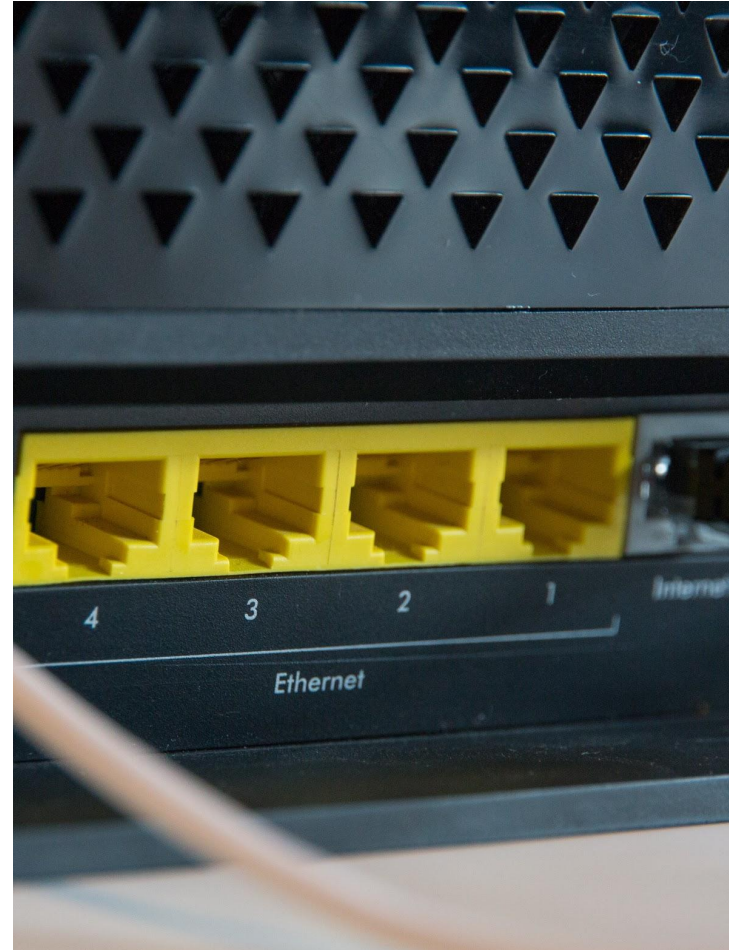
Tips on Internet Speed

- Using an ethernet cable to connect to the Internet will be the fastest and most reliable network connection.
    - The longer the ethernet cable, the slower the speed (but still probably better than WiFi)
- If you are using WiFi, the further the distance between your computer and your modem/router, and the more obstacles (walls, doors, windows, etc), the slower the speed.
- The age of your device (computer, tablet, phone, etc), the amount of memory, and the number of devices (computers, tvs, Smart Home devices, video games, phones, watches, etc) connected to your network (wifi and ethernet), will also affect the speed of your internet (older=slower, <memory=slower, ++devices= slower).

Devices to Help Improve Speed

Wifi Repeaters effectively contains two wireless routers, similar to the wireless router you already have in your home or office. One of these wireless routers picks up the existing WiFi network. It then transfers the signal to the other wireless router, which transmits the boosted signal.

Examples of Wifi Repeaters on Amazon

Power line adapters basically turn the electrical wiring of a home into network cables for a computer network. You need at least two power line adapters to form the first power line connection. The first adapter is connected to the router and the second to the Ethernet-ready device at the far end.

Examples of Powerline Adapters on Amazon

Unpaid Endorsement from Pete Marcoux

I purchased these PowerLine adapters.
https://www.amazon.com/gp/product/B01N7YQO9G/ref=ppx_yo_dt_b_asin_title_o07_s00?ie=UTF8&psc=1

Before I hooked them up, my download speed through WIFI was 69.8 mbps and upload a paltry 1.63 mbps.

Using the adapters, my download speed was a blazing 159.6 and upload 22.2 (which is important for Zoom). They recommend both outlets are on the same circuit- mine aren't. If they were, I'd imagine the speeds would be even faster.

Everyone's home wiring is different, so there is no guarantee you'll get similar results.

Security Tips from Paul Yoder

- Change your default router password [(click here for instructions)](#)

- Use a VPN connection whenever possible [(Explanation of VPN)](#)

  - If you do use a VPN make sure the VPN provider is reputable. Try to avoid "free" VPN providers. You can never tell what they are doing with the VPN traffic. Since they control the traffic they could also see what is being transmitted.

- ITS recommends either [Malwarebytes](#) or [Bitdefender](#) for your personal computers

  - Your district device has protection already installed

- **Never** use your ECC credentials to setup non-work-related accounts

- Don't let anyone else use you ECC-issued laptop for personal use