

Wireless@TCNJ Planning

The College's Information Technology administration and staff (IT) is committed to The College's core mission "to provide facilities, programs, services, and amenities that enhance opportunities for formal and informal interaction in a living-learning environment." The implementation of wireless networking on campus expands the range of opportunities for learning outside traditional classrooms and laboratories and allows students to access web resources and to collaborate on projects in a variety of public spaces. Wireless computing, nonetheless, is not meant to replace traditional "wired" networks on campus. While wireless coverage of common spaces will provide students, faculty, and administrators with additional opportunities for collaboration using electronic tools, wireless networks have technical limitations that make them a poor replacement for physical networks.

Wireless local area networks (WLAN) are best suited for applications that transmit data intermittently and have low bandwidth requirements. Web browsing, email, and instant messages are typical examples of such applications. Data-intensive applications, such as high-resolution multimedia, CAD, and certain network-based applications, may perform poorly over a wireless network. WLAN technology uses a shared bandwidth model unlike our wired network. As more people connect to a wireless access point (AP), the available bandwidth must be divided among all those connected. If five people connect to a particular AP, each person will be able to use 1/5 of the bandwidth if they access the network simultaneously. In addition to the bandwidth sharing, the distance from the computer to the AP, as well as any obstacles that the radio signal must traverse will affect the connection speed. It is not unusual to realize a true speed of 1Mbps or less while using a WLAN.

In an effort to provide wireless networking where appropriate and where most functional, IT staff have sought input from academic and administrative stakeholders who are best able to identify high-traffic common areas well-suited to wireless networks. The implementation of new wireless networking areas is determined based on this input, the availability of Facilities staff who perform a portion of the work, and funding availability. To date, wireless functionality is available throughout the Brower Student Center, the atrium of the Social Sciences Building, the main cafe space of Holman Hall, and portions of the Science Complex. The New Library, Green Hall, Loser, and the common areas of New Residence Hall and Eickhoff Hall will soon have wireless access available. Wireless access in these areas will give students, faculty, and staff the ability to access web-based resources and to communicate electronically, facilitating learning outside the classroom and collaboration across the campus.