

# **The Cave Hill Campus Wireless Access Guide**



## **Computer Centre**

## What is a wireless LAN and how does it work?

A Wireless LAN (WLAN) is a system that uses radio frequencies (RF) to allow transmission of information without a physical connection. Client machines, typically laptops or PDAs connect through a physical device called an **access point** to get network access.

## What do I need to connect?

The only hardware that is **necessary** is a laptop/notebook or PDA with an IEEE 802.11b, IEEE 802.11g or combo (IEEE 802.11 a and g) **wireless card**. The card may be either:-

- (i) **Embedded/internal/built-in** (wireless card already installed, most newer machines)
- (ii) **External** (machine not already wireless equipped, older machines)

## Is any configuration necessary?

Not much, just these few things:-

1. **Enable/Turn on** the wireless radio card in your machine (if your machine is wireless has a built-in radio) or insert a **wireless card adapter** into a PCMCIA slot of the machine (if an external card is required).
2. Set the **TCP/IP** settings of the wireless connection to both **obtain an IP address automatically** and **obtain DNS server address automatically**.
3. Ensure that the **Connection settings** of the browser are set to **dial whenever a network is not present** or **never dial a connection**.  
**NB** If using Internet Explorer, this is done in the browser window by clicking on **Tools** then **Internet Options** then on the **Connections** tab and select one of the above options.
4. Ensure that the **LAN settings** of the browser are set to **automatically detect settings** and no proxy server settings are active.  
**NB** If using Internet Explorer, this is done in the browser window by clicking on **Tools** then **Internet Options** then on the **Connections** tab then **LAN settings** and select the above option.

## How do I connect?

The wireless network is designed such that once the client machine is configured correctly it will see the wireless network and be then able to connect. The campus wireless network name (**SSID**) is **cavehill**. Once the connection has been established, users will be able to surf the internet and/or access email.

**NB** Currently the wireless network does not connect to the internal campus network so there is **no access** to printing services or the main library's databases. However, the student systems like WebCT/Blackboard and Campus Pipeline can be accessed.

## Where can I connect?

The wireless coverage areas are as follows (see the **Campus Wireless Coverage Map**).

1. Teaching Complex (Amphitheatre, LTs 1-3, LRs 1-4)
2. Main Library (level on the first floor)
3. Junior Common Room (JCR)
4. The Quadrangle
5. Computer Centre (Computer Centre, Social Sciences and DEC car parks)
6. Students' Union (Guild)
7. Law Library
8. Science Lecture Theatre (SLT)
9. Management Studies (MSRs 1-3)
10. Bookshop (Sci-Tech Tree and Gazebo)

The Campus plans to **extend wireless coverage to the entire campus**, so keep checking the notice boards and the student systems to see when and where new coverage areas are created.

## Any Troubleshooting tips?

There are a few things that can be checked to solve or at least identify any problems.

1. First of all, review the configuration steps, incorrect configurations are very common sources of connectivity problems. So ensure that:-
  - (i) The **radio** (embedded/built-in) **is turned on** or the **wireless client adapter** (external) **is enabled**.
  - (ii) The **Wireless connection is enabled**. Many times only the Ethernet connection is enabled so no wireless connection can be made.

**NB** These two are the most common misconfigurations.

2. Type the command **ipconfig** at the command prompt. The **IP address** of the wireless connection should be in the range **172.16.24.xxx to 172.16.31.xxx** where **xxx** is **1-254**. If the **IP address** is **not of that form** then the machine is **not connected** to the campus wireless network. If the machine is not connected, it may be out of the range of the wireless network. Try moving closer to the wireless connection device (**access point**) and type **ipconfig /renew**.
3. Ensure that you are connected to the **cavehill** wireless network. Alternatively said, ensure that the **SSID** of the wireless network you are connecting to is **cavehill**. Your machine may try to connect to a **peer-to-peer network** if a machine with an active network card is nearby. **ALL** campus wireless “hot spots” have **cavehill** as their **SSID**.
4. Ensure that your **wireless client utility** is set to connect using **infrastructure mode**. Access points are infrastructure devices and this mode allows the machine to connect to them.

## Still having problems?

If problems are experienced while using or attempting to use the wireless service, send an email to [WirelessHelp@cavehill.uwi.edu](mailto:WirelessHelp@cavehill.uwi.edu) describing the problem in detail (paste the error message in your email if possible).

Also include your personal details (name, student ID etc) and your location at the time of the error.

## Any precautions?

The campus wireless network is **public network**, this means that **no authentication** is required to access the network and there is **no security** on the network. It is **strongly advised** to take the below measures to protect machines from attacks and viruses:-

1. Install and use **Anti-Virus Software** on the machine and most importantly ensure that it is **frequently updated** to get the latest **virus definitions**. An antivirus program identifies and removes computer viruses found in memory, on storage media, or in incoming files.
2. Install and use a **Personal Firewall**. A personal firewall is a software program that detects and protects the machine and its data from unauthorised intrusions by constantly monitoring all transmission to and from it.

## Glossary of Technical Terms

<b>Access point</b>	A WLAN transceiver that uses radio waves to connect wireless client machines to a wired network.
<b>Infrastructure mode</b>	A wireless mode in which communication occurs between client devices and access points only.
<b>IP Address</b>	An IP Address is the numerical address that uniquely identifies a computer on a network.
<b>SSID</b>	Service Set Identifier or wireless network name. It is a unique identifier that allows a client to recognize one access point over another.
<b>Peer-to-Peer network</b>	A wireless network which has no access point. There are communications between groups of equal devices.
<b>Wireless client adapter</b>	Wireless card used to connect to the access point.
<b>Wireless client utility</b>	The program (software) that manages the wireless client adapter (wireless card). If the wireless card is embedded/built-in then the client utility should already be on the machine. In cases where an external card is used the client utility should be installed from the accompanying CD.