College of Pharmacy

Lecture Four

Title: Dealing with the Internet and exploring sites.

Instructions to the Students:

- *By the end of this lecture readers will be familiar with the main concept of Internet and browsing tools and techniques.*
- *Before start:*
- *You need to find an internet Access.*
- *You need to use your own computer to practice and y*
- *Further information can be found at the references given in the content of the subject.*
- *Also you can find more information in the internet.*
- *The content is prepared in such way that suits the pharmacy college students.*
- *Also you can contact the instructor in his office any working day time between 12:00 to 2:00*

Outlines:

- What is the Internet
- How to connect
- How to use Internet
- The Internet as a Research Tool
- Useful sites for *pharmacy students.*

Definition:

Internet, a system architecture that has revolutionized communications and methods of commerce by allowing various computer networks around the world to interconnect. Sometimes referred to as a "network of networks," the Internet emerged in the United States in the 1970s but did not become visible to the general public until the early 1990s. By 2020, approximately 4.5 billion people, or more than half of the world's population, were estimated to have access to the Internet.

Internet capabilities

The Internet provides a capability so powerful and general that it can be used for almost any purpose that depends on information, and it is accessible by every individual who connects to one of its constituent networks. It allows people to work collaboratively at many different locations. It supports access to digital information by many applications, including the World Wide Web (WWW).

It supports human communication via:

1. social media
2. electronic mail (e-mail)
3. "chat rooms,"
4. Newsgroups
5. audio and video calls
6. E- commerce
7. E-business
8. E- Learning
9. E- shopping

Foundation of the Internet

The Internet resulted from the effort to connect various research networks in the United States and Europe. First, DARPA established a program to investigate the interconnection of "heterogeneous networks." This program, called 'Internetting', was based on the newly introduced concept of open architecture networking, in which networks with defined standard interfaces would be interconnected by "gateways." A working demonstration of the concept was planned. In order for the concept to work, a new protocol had to be designed and developed; indeed, a system architecture was also required.

By the 1980s other U.S. governmental bodies were heavily involved with networking, including the Department of Energy, the National Science Foundation (NSF), and the National Aeronautics and Space Administration (NASA). While DARPA had played a important role in creating a small-scale version of the Internet among its researchers, NSF worked with DARPA to expand access to the entire scientific and academic community and to make TCP/IP the standard in all federally supported research networks. In 1985–86 NSF funded the first five supercomputing centres—at :

1. Princeton University
2. University of Pittsburgh
3. University of California
4. San Diego the University of Illinois
5. Cornell University.
6. And others

In the 1980s NSF also funded the development and operation of the NSFNET, a national "backbone" network to connect these centres. By the late 1980s the network was operating at millions of bits per second. NSF also funded various non-profit local and regional networks to connect other users to the NSFNET. A few commercial networks also began in the late 1980s; these were soon joined by others, and the Commercial Internet Exchange (CIX) was formed to allow transit traffic between commercial networks that otherwise would not have been allowed on the NSFNET backbone. In 1995, after extensive review of the situation, NSF decided that support of the NSFNET infrastructure was no longer required, since many commercial providers were now willing and able to meet the needs of the research community, and its support was withdrawn. Meanwhile, NSF had

fostered a competitive collection of commercial Internet backbones connected to one another through so-called network access points (NAPs).

Today a loosely structured group of several thousand interested individuals known as the Internet Engineering Task Force (IETF) participates in a grassroots development process for Internet standards. Internet standards are maintained by the non-profit Internet Society, an international body with headquarters in Reston, Virginia. The Internet Corporation for Assigned Names and Numbers (ICANN), another non-profit, private organization, oversees various aspects of policy regarding Internet domain names and numbers.

Connect to Internet

Connecting to Internet can be complicated task for those who are unfamiliar with the network or type of internet that they're trying to connect to. However, given the popularity of the internet in the world today, it is important to know how to connect. Basically, to connect to internet you need the following:

1. Computer, laptop or mobile phone
2. Subscription to Internet service provider (ISP)
3. Internet Access can be using one of the Following
    a. Ethernet cable connection
    b. Telephone line cable Connection
    c. Wi-Fi connection
    d. Wi-max Connection
    e. Hot Spot Connection
4. OS settings:

The above requirements can be defined as follow:

1. **Computer, laptop or mobile phone**

2. **Subscription to Internet service provider (ISP)** , , internet service provider (ISP) is an organization that provides many services for accessing, using, or participating in the Internet. An ISP can be organized in various forms, such as commercial, community-owned, non-profit, or otherwise privately owned. Internet services typically provided by ISPs can include Internet access, Internet transit, domain name registration, web hosting, Usenet service, and colocation. An ISP typically serves as the access point or the gateway that provides a user, access to everything available on the Internet. In Sudan, a company such as (Zain Sudani… etc.) can be classify as an ISP.

3. **Internet Access** can be using one of the Following

    a. Ethernet cable connection, an Ethernet cable is the most common type of network cable used on a wired network whether at home or in any other office or company or network services cafe. This cable connects wired devices together to the local network for file sharing and Internet access. Devices like smartphones, mobile tablets, iPods, handheld gaming systems, and so forth can usually only connect to Wi-Fi services, due to the their portable nature. Therefore, you won't be able to connect a mobile device to Ethernet or to a dial-up network. Ethernet and dial-up connections are limited to computers and non-portable gaming devices.

b. **Telephone line cable Connection,** a dial up connection can be provided using telephone line to access the internet. You need

    i. a subscription at one service provider

    ii. **A modem** device there are two type of modems internal an external. The one shown in the figure below is the external one while the internal one is and internal card plugged in the motherboard of the PC and is similar to the Network Interface Card (NIC). There is another type of modem that connect to the ISP using wireless connection. This modem is called **DSL modem** shown in the figure bellow.
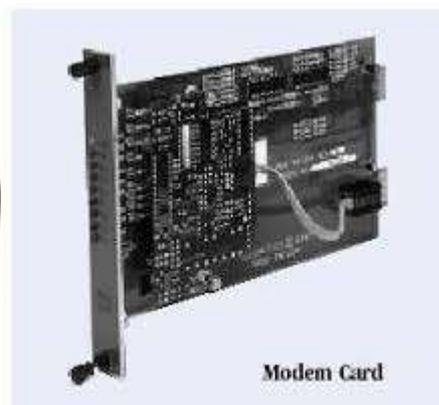
   iii. A telephone line

As shown in The Figure below
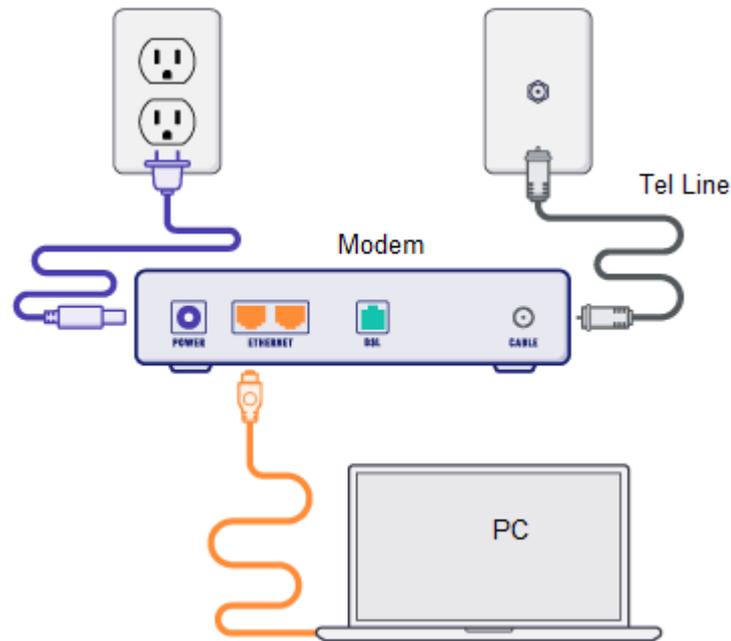
c. **Wi-Fi connection**, Wi-Fi is a wireless networking technology that allows devices such as computers (laptops and desktops), mobile devices, smart phones, and other equipment such as printers and video cameras and screens to connect to the Internet. It allows these devices to exchange information with one another, creating a network. Internet connectivity occurs through a wireless router. Wireless routers are commonly found in homes. They're the hardware devices that Internet service providers use to connect you to their cable or xDSL Internet network. A wireless router is sometimes referred to as a wireless local area network (WLAN) device. A wireless network is also called a Wi-Fi network.

A wireless router combines the networking functions of a wireless access point and a router. Read more about wireless routers.

A wireless access point (AP) allows wireless devices to connect to the wireless network. Having a Cisco wireless network makes it easy to bring new devices online and provides flexible support to mobile workers.

What a wireless access point does for your network is similar to what an amplifier does for your home stereo. An access point takes the bandwidth coming from a router and stretches it so that many devices can go on the network from farther distances away. But a wireless access point does more than simply extend Wi-Fi. It can also give useful data about the devices on the network, provide proactive security, and serve many other practical purposes. When you access Wi-Fi, you are connecting to a wireless router that allows your Wi-Fi-compatible devices to interface with the Internet. As shown in the figure below:

d. **Hot Spot Connection** , a hot spot is a kind of wi-Fi scenrios which offer internet to many peoples in one area using the same sciario in the above figure. The hot spot is usually used in hotels, Schools, University and cafeterias. It usually you need to pay for that, however, there are some free hotspot points.

e. **Wi-max Connection**, The original IEEE 802.16 standard was published in 2001. It refers to interoperable implementations of the IEEE 802.16 family of wireless-networks standards ratified by the WiMAX Forum. (Similarly, Wi-Fi refers to interoperable implementations of the IEEE 802.11 Wireless LAN standards certified by the Wi-Fi Alliance.) WiMAX Forum certification allows vendors to sell fixed or mobile products as WiMAX certified, thus ensuring a level of interoperability with other certified products, as long as they fit the same profile. The original IEEE 802.16 standard was published in 2001. WiMAX adopted some of its technology from WiBro, a service marketed in Korea. In many cases, this has resulted in competition in markets which typically only had access through an existing incumbent DSL (or similar) operator. Additionally, given the relatively low costs associated with the deployment of a WiMAX network (in comparison with 3G, HSDPA, xDSL, HFC or FTTx), it is now economically viable to provide last-mile broadband Internet access in remote locations. Mobile WiMAX was a replacement candidate for cellular phone technologies such as GSM and CDMA, or can be used as an overlay to increase capacity. Fixed WiMAX is also considered as a wireless backhaul technology for 2G, 3G, and 4G networks in both developed and developing nations. In North America, backhaul for

urban operations is typically provided via one or more copper wire line connections, whereas remote cellular operations are sometimes backhauled via satellite. In other regions, urban and rural backhaul is usually provided by microwave links. WiMAX has more substantial backhaul bandwidth requirements than legacy cellular applications. Consequently, the use of wireless microwave backhaul is on the rise in North America and existing microwave backhaul links in all regions are being upgraded. Capacities of between 34 Mbit/s and 1 Gbit/s are routinely being deployed with latencies in the order of 1 ms.

In many cases, operators are aggregating sites using wireless technology and then presenting traffic on to fibre networks where convenient. WiMAX in this application competes with microwave radio, E-line and simple extension of the fibre network itself.

The scalable physical layer architecture that allows for data rate to scale easily with available channel bandwidth and range of WiMAX make it suitable for the following potential applications:

- Providing portable mobile broadband connectivity across cities and countries through various devices.
- Providing a wireless alternative to cable and digital subscriber line (DSL) for broadband access.
- Providing data, telecommunications (VoIP) and IPTV services.
- Providing Internet connectivity as part of a business continuity plan.
- Smart grids and metering.

4. **OS settings:** Regardless of what operating system or device you are using, you will need to access your network settings at some point in the process. The process is slightly different for every device and depend on the OS, but the general path that you will need to take to access your network settings is usually the same, depending on the OS. Some common devices or operating systems, and their paths to the settings, are listed below.

- Windows XP: Start –> Control Panel –> Network and Internet Connections.
- Windows Vista: Start –> Network –> Network and Sharing Centre
- Windows 7: Start –> Control Panel –> Network and Internet
- Windows 8: Start –> Search "View network connections" –> View Network Connections
- Windows 10: Search "View network connections" –> View Network Connections
- Mac OS X Jaguar and later: System Preferences –> Network
- Ubuntu and Fedora: Network Manager
- iOS (iPhone, iPad, etc.): Settings –> Wi-Fi
- Android: Settings –> Wi-Fi (or Wireless & Networks)
- Windows phone: Settings –> Wi-Fi

5. **Browser**, a web browser is a software application for accessing information on the World Wide Web. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device. Web browsers are used on a wide range of devices, such as desktops, laptops, tablets, and smartphones. The most used browsers are :

a) Google Chrome

b) Safari

c) Firefox

d) Microsoft explorer and Edge

e) Opera

f) And others.

A web browser is not the same thing as **a search engine**, though the two are often confused.

6. A **search engine** is just a website that provides links to other websites. However, a user must have a web browser installed on his computer to connect to a website's server and display its web pages. An examples of Search engines websites is:

   a. Google, (www.google.com)

   b. MSN (www.msn.com)

   c. ASK (www.ask.com)

   d. others

The Internet as a Research Tool

The internet can be a good tool for researcher. By browsing the Internet, much as you would browse the shelves of a library, you can access information on seemingly limitless topics. In addition, web-based catalogues are available in many libraries to assist researchers in locating printed books, journals, government documents, and other materials.

Possibly the biggest obstacle facing researchers on the Internet is how to effectively and efficiently access the huge amount of information available with the simple click of the mouse. With the Internet's potential as a research tool, teachers must instruct and guide their students on manageable strategies for sorting through the abundance of information. The search for reliable resources can be both overwhelming and frustrating if students are left on their own in their initial search. A few simple guidelines can make conducting research more manageable, reliable, and efficient.

Lessons and projects should be designed so that research time on the Web can be maximized in terms of efficiency. This may mean gathering necessary information beforehand, having students work in groups, or focusing on whole-class projects.

1: Questioning --- Before going on the Internet, students should structure their questions.

 2: Planning --- Students should develop a search strategy with a list of sites to investigate.

3: Gathering --- Students use the Web to collect and gather information.

4: Sorting & Sifting --- Students analyse and categorize the data they gathered on the Web.

5: Synthesizing --- Students integrate the information into the lesson, and draw conclusions.

6: Evaluating --- Students assess the results, and if necessary, begin the process again.

Searching the Web

There are billions of pages of information on the World Wide Web, and finding relevant and reliable information can be a challenge. Search engines are powerful tools that index millions of web sites. When entering a keyword into a search engine, you will receive a list with the number of hits or results and links to the related sites. The number of hits you receive may vary a great deal among different search engines. Some engines search only the titles of the web sites, and others search the full text.

Techniques for using the different search tools vary. For best results, read the search tips or hints that are provided at each search site. Also, note that some of the search engines do not allow Boolean searches that combine words with the logical connectors of AND, OR, or NOT.

Common commands for search engines include:

- Quotation Marks (")
  Using quotation marks will help to find specific phrases involving more than one word. For example: "Karary University"
- Addition Sign (+)
  Adding a + sign before a word means that it MUST be included in each site listed. For example: + Karary + University
- Subtraction Sign (-)
  Adding a - sign before a word means that it will NOT appear in the sites listed.
- Asterisks (*)
  Asterisks can be used for wild-cards in some search engines. For example: Mexic* will look for Mexico, Mexican, Mexicali, etc.

Exploring the internet:

You can use the browser to explore the internet using different way but the common are:

A . Using the URL address, If you know the URL address of an organization you can directly type it on the URL address bar of the Organization. For example you can access Karary University web site sding the following URL: Http://www.karary.edu.sd

Or any other organization such: https://www.undp.org

B. Using any search engine, you can use the browser to open the site of the search engine such as GOOGLE and then use the search engine to open the needed site by typing the name or the URL in site as in the following snap shoot.
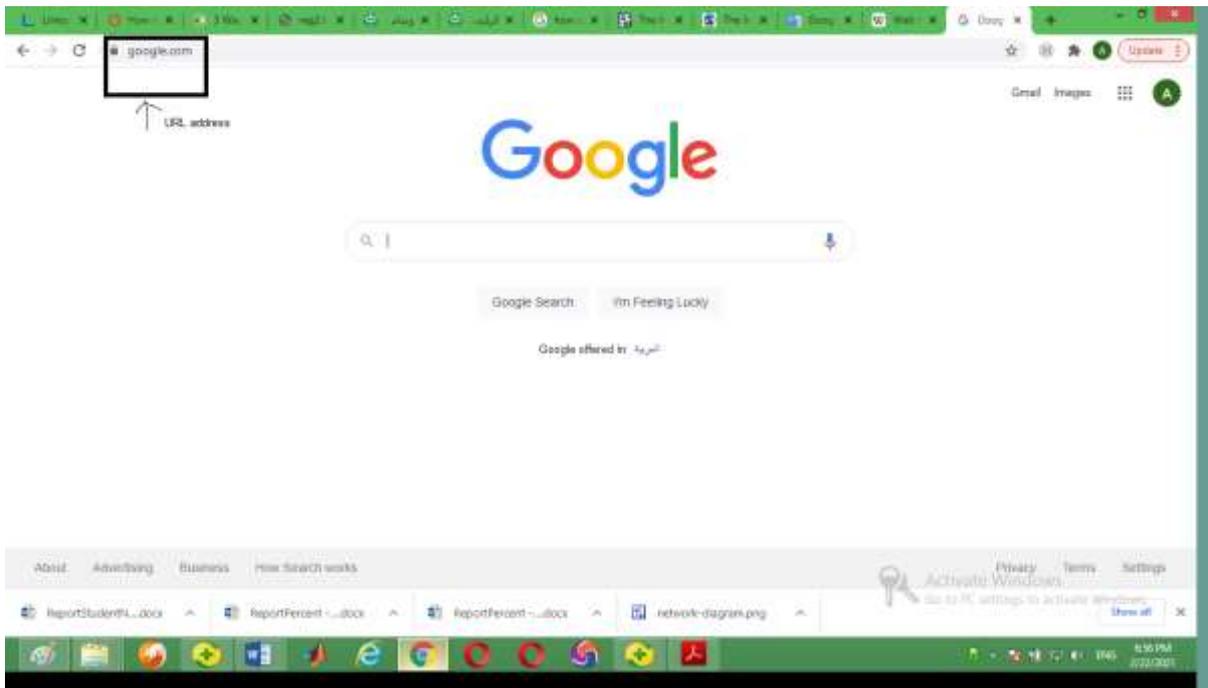
Useful Links and Sites:

    a. Google:

b. YouTube:

c. MSN

ASK

AACP Recommended Websites

- Academy of Managed Care **Pharmacy** (AMCP)
- Accreditation Council for **Pharmacy** Education (ACPE)
- Alliance for **Pharmacy** Compounding (APC)
- American Association of Colleges of **Pharmacy** (AACP)
- ASHP **Best** Practices.
- Centers for Medicare and Medicaid Services (CMS)
    - https://guides.uu.edu/pharmacy/websites

The pharmacy students and pharmacists will be healthcare providers, who are responsible for optimal medication therapy in the prevention and treatment of disease. To achieve this vision, the profession has to ensure that there will be enough presence of properly educated and skilled pharmacists. A pharmacist or a pharmacy student should be updated with the latest drugs and health-related information. But most of the time they are confused about the correct source of the information. There are some useful and helpful websites for pharmacy students and pharmacists.

Most useful websites for pharmacy students and pharmacists.

1. Drug Control:

If you are a pharmacy student or pharmacist then hope you already know that drug control is a big deal in the whole world. You can visit the website URL given below to know about various Indian legislative rules and regulations on drugs and healthcare.

www.drugscontrol.org

2. Drug Database:

Drug database means all the data on drugs. You can visit and understand why is it needed? The web address of Indian drug database:

https://data.gov.in/

3. A to Z drug information:

You can find out the information about the drugs alphabetically from A to Z. Each and every drugs information are gathered there like a dictionary of drugs.

4. Medical News:

For regular medical news updates, you should visit this website the URLs are given. From these websites, you can improve medical knowledge with the whole world. So you must visit these websites. You can subscribe to their newsletters, stay informed via email. Useful websites for medical news:

www.medscape.com
www.medicalnewstoday.com

5.National Library of Medicine:

National library of medicine is a website from which you can get a lot of knowledge of medicines. This site is conducted by the government of the United States. All topics are separately designed in this site. Like health topics, drugs & supplements, medical tests, medical encyclopedia, etc. You can watch various health and medicine related videos. This a very useful website for pharmacists.

Website of the national library of medicine:

www.medlineplus.gov

6.Open Directory Project:

You can search for any drug, interactions. You can browse the brand name and generic medicine alphabetically. You can also access research-related information using this website. Some drugs are also available here. This website provides there service is more than 10 countries. Website of an open directory project:

www.mims.com/india

7.Health or disease-related information:

A pharmacy student and pharmacist should have knowledge of health studies and disease-related information. You can read about any disease and watch videos. You can access the free symptoms checker. On this website everything for free. I recommend you to visit this site.

www.webmd.com

8. Govt. website for pharmaceutical-related Information:

You can total pharmaceutical industry-related information from this website.

www.pharmaceuticals.gov.in

9.Pharma jobs:

There are thousands of pharm job portals on the Internet. But you need the real working and useful job portal to elevate your pharm career.

www.naukri.com,

www.monsterindia.com

www.indeed.co.in.

www.pharmajobportal.com, www.pharmajobs.co.

10. Research paper related topics:

If you are a research scholar or a pharmacy student, then you need these websites. Basically, M. Pharm students need these websites for thesis writing. These websites are free to access.

www.researchgate.net,

www.ncbi.nlm.nih.gov/pubmed

Research gate

Exercise:

Please us your computer and web browser try to explore the following URL:

https://data.gov.in/

www.medindia.net/doctors/drug_information/home.asp

www.express-scripts.com

www.pdr.net

www.drugs.com

Please try to create an account as research gate.

to be continued in 5>>>>>>>>>>>>>>>>>