INTRODUCTION

The internet is a vast, ever changing medium—some would say the most powerful tool ever created. The internet is a way to share and express information and ideas in a simple way that is accessible to nearly 2.2 billion people all over the world. This class will allow you to learn the history of the internet, the basics of browsers, how to use a search engine, the fundamentals of website navigation, tips for online safety, and more. Basic knowledge of the mouse and keyboard is strongly suggested before taking this class.

In this class we will discuss:

- The history of the internet
- Differences between the internet and the World Wide Web
- Web browsers and navigating webpage
- Using search engines
- Online safety

THE INTERNET: A BRIEF HISTORY

What is the internet?

The internet is a massive “network of networks,” a networking infrastructure. It connects millions of computers together globally. The computer you are sitting at (as long as it’s connected to the internet) can communicate with the computer across the street, down the block, or even around the world so long as the computer on the other end is connected to the internet as well. Information that travels over the internet does so via a variety of languages known as protocols. The internet is a cooperative endeavor—no organization is “in charge” of the internet.

Is the World Wide Web (WWW) the same as the internet?

The World Wide Web was invented in 1991 by Tim Berners-Lee, while consulting at CERN (European Organization for Nuclear Research) in Switzerland. Many people use the terms internet and World Wide Web (aka. the Web) interchangeably, but in fact the two terms are not synonymous. The internet and the web are two separate but related things.

The World Wide Web, or simply “the web,” is a way of accessing information over the medium of the internet. It is an information-sharing model that is built on top of the internet. The web uses the HTTP protocol (hypertext transfer protocol), which is only one of the many “languages” spoken over the internet, to transmit data. The web also utilizes special software called browsers to access...
Web documents (more commonly known as web pages) that are linked to each other via hyperlinks. Web documents also contain text, graphics, sounds, and video.

As mentioned earlier, the web’s HTTP protocol is just one of the ways that content can be transmitted via the Internet. Some other popular ways to access data over the internet include:

- E-mail (short for electronic mail), which relies on simple mail transfer protocol (SMTP) or internet message access protocol (IMAP).
- Instant messaging via software like AOL Instant Messenger (AIM), Yahoo Messenger, Skype, and Windows Live Messenger.
- File transfer protocol (FTP) which allows someone to upload or download a file from the internet (or more precisely, from or to a remote computer/server via the internet).

If you walk into a car dealership and say “I want to buy a vehicle...” Well, a vehicle can be any number of things: a car, a van, a truck, an SUV, a motorcycle, maybe even a boat. “Vehicle” is a very general term. If you walk into a car dealership and say “I want to buy a car,” then you are being much more specific and eliminating trucks, vans, SUVs, and so forth from your buying options. Think of the term “vehicle” as being similar to the internet. It’s a broad term that covers a lot. Think of “World Wide Web” as a term similar to car—it’s a bit more specific. While the vast majority of “vehicles” on the road are in fact cars, not all vehicles are cars. Similarly, while the vast majority of what you may do on the internet involves the World Wide Web, not everything on the internet is part of the web.

The bottom line is, the web is just a portion of the internet, albeit a large portion, but the two terms are not synonymous and should not be confused.

What is the internet used for?

A lot of different things! People use the internet to apply for jobs, play games, do research, watch movies, listen to music, go to school, stay in contact with friends, family, and co-workers, run a small business, buy or sell products, and much more.

How do you connect to the internet?

There are many different ways to connect to the internet from your personal computer. The most popular ways are listed below.

**Dial-up:** With a dial-up connection, the internet user can connect to the Internet via telephone line and an internet service provider (ISP). This method is inexpensive, yet obsolete. It provides the user with the slowest overall connection speeds. However, it may suit the purposes of the occasional internet user without a need for a fast or consistent connection.

**Broadband:** Cable and DSL are in this category. With a cable connection, the user must subscribe to a cable-television/internet service. These connections offer speeds up to 70 times faster than dial-up. They also allow the user to stay connected to the internet at all times; the user need only open a browser window to access the internet, as there is no log-on process to complete. Like cable internet service, DSL offers much faster speeds than those available with dial-up modems. However,
there are a wide range of speeds available from different providers, generally going up to 3 Mbps (3000 Kbps). With DSL, normal telephone wires are used to combine usually separate voice and data lines, allowing users to connect to the internet and talk on the phone via the same telephone line.

**Wi-Fi:** It’s even possible to connect to the internet wirelessly from home or while you are out and about. Wireless technology allows users to have mobile connections, accessing the web where and when they need to. Wi-Fi networks can be found at many businesses, restaurants, and other public areas (parks, schools, libraries) or a home connection can be set up through your ISP. These technologies vary in terms of connectivity, reliability, and cost, but they all allow users to connect whether they are at home, school, work, or on the road.

### GETTING ONLINE

A web browser is the computer program you use to retrieve and view webpages. On most computers, including those at the Library, the browser you will use is called Internet Explorer (IE). There are dozens of other web browsers (Firefox, Google Chrome, Safari, & Opera are some of the most popular). They may look different, but the same basic elements will be there and they all take you to the same place—the internet.

**Opening up the browser**

One thing you will notice about the computer as you become more comfortable with it—there are usually at least three ways to do everything. For example, on most computers there will be an icon on the desktop for your internet browser. Typically it will be the brand name of the browser, for example the icon will usually say “Internet Explorer” (although on Library computers it will say “Internet & Catalog”). By double clicking on this icon, your browser should automatically open up and take you to your home page. The home page is the first webpage that is displayed when you open your internet browser. If you don’t see the icon on the desktop for Internet Explorer, try clicking on the Start button on the lower left hand corner of the screen. Often right there on the start button menu you will see an option for Internet Explorer. A single click of the mouse will take you to the internet if you click on the browser option. Sometimes on a home computer you might even have a little logo next to the Start button on your desktop taskbar. If you have IE on your computer, it will probably look like a lowercase blue “e” with a yellow ring around it. This is the logo for Internet Explorer, and clicking on it will open the browser. None of these options for opening up a browser are “right” or “wrong”—it’s just a matter of personal preference. They all take you to the same final destination!
Basic parts of the browser

When you open your browser window, no matter which browser you use, you will usually see several main parts:

The address bar is where the web address of the page you are currently on is displayed. It’s the white bar at the very top of your page. If you want to go to a new website and know the Uniform Resource Locator (URL), or web address, of the site you’d like to go to, you can click in the address bar and type in the URL followed by the enter button to go directly to that page.

Tip: One cool thing about the address bar is that sometimes as you are typing, a drop down list of different webpages will open. This is called an auto-suggest or auto-complete feature (you’ll see this later when we learn about search engines too!). If you see the site you want to visit on the list, you can click it with the mouse to go to the page without typing the whole address in.

Next to the address bar on the left, you’ll see the Back button and Forward button. Once you leave the first webpage you are on, the back button will become active. Clicking on it will take you back—one page at a time – along your path since opening up your web browser. For example, if you start on www.cincinnatilibrary.org and go to www.cnn.com and finally www.cincinnati.com, clicking the back arrow button twice will bring you back to your starting point. Once you have gone back a page at some point during your session, the forward button will become active. This will allow you to move forward a page and revisit pages that you have already seen.

On the right of the address bar, you’ll see two buttons. One has a red “X” on it. This is the Stop button. You can use it to stop loading a page. The other button loads pages, but the way it displays will change depending on what you are doing. If you are typing a web address into the address bar, a button called the Go button will appear as a single arrow. If you click the Go Button, it will send a command to “go” to the webpage. If you don’t want to take your hands off the keyboard, pressing “Enter” will accomplish the same thing as pushing the Go button. If you are already on a webpage, it will display as two arrows, which is called the Refresh button. If you would like to reload the page, click the refresh button. This will bring up the most current version of the webpage that you are viewing. It is especially useful on sites like CNN.com that are updated constantly throughout the day.
The Toolbar

In most computer programs, the toolbar is located on the top of the screen and contains all of the various options, effects, and well, tools, you might need while using that particular program.

In the most recent version of Internet Explorer the Toolbar is located on the right side of the page and looks like this:

The Internet Explorer toolbar contains buttons for some of the tasks you are likely to want to do while on the web. Here are the ones you’ll use most:

Home will take you back to your home page. On library computers this is the library’s website; if you have a home computer, you can set it to any page you want.

Print will send the page you are on to the printer.

There are other options on the toolbar as well, although most of them are for more advanced users. You can also customize your toolbar on your home computer to include more (or less) options than the ones listed.

The Status Bar

The status bar is at the bottom of the page directly above the taskbar/Start button. When you move your mouse pointer over a hyperlink the web address of the link will show up on the left side of the status bar. When you click on a link, you will see a blue bar start moving across the bottom middle of the status bar. This shows that the page you just clicked on is loading. Often this will move very quickly, but if the page you’re trying to look at is a very large page with lots of pictures, or if you’re on a slower connection at home, the bar can move more slowly. The rectangle that says “Internet” indicates that, yes, you are connected to the internet (this may register as “no connection” if you are at home and a cable comes unplugged). By clicking on the upside down triangle next to 100% you can choose the size of your browser screen. An upside down triangle or arrow pointing down in any context is a good indication that there are choices to select from.
Parts of a web address

There are typically four main parts to a URL or web address. Let’s look at the example below.

http://www.CincinnatiLibrary.org

(a) The http:// stands for hypertext transfer protocol which we discussed earlier. This helps your web browser locate the webpage or website, and to display it for you to see. Most browsers will automatically add this prefix, so you don’t have to worry about typing it every time.

(b) The www stands for World Wide Web. This means that the page you’re looking for is somewhere on the World Wide Web. For some websites, it’s not even necessary to type in the “www” part.

(c) The next section, which is “cincinnatilibrary” in this example, is the name of the webpage or website (aka the “host”). It is flanked by dots on either side which separate it from other sections of the web address.

(d) The .org here is the top level domain name. This tells you where the webpage is registered, and often tells you what kind of website it is. For instance, .com usually means that you’re looking at a commercial site, or a site that someone has paid to use. Some other common domain names are .edu (sites for educational institutions), .org (sites belonging to organizations), and .gov (sites sponsored by local, state, or federal governments).

Links

When you move the mouse around on your desk it will move your little pointer in the same direction around the screen. If you took the Computers for Beginners, Part I class here at the Library, you may remember the different shapes that your mouse cursor may take. Here’s a quick review.

The hand pointer cursor is the one you will be looking for most often on the internet. When you put your mouse on top of a word or picture or video and it changes to the hand pointer, you know that you can click on that spot and it will take you to another webpage. Text, images, video or other content that is clickable and takes you to another website are called hyperlinks, or just links for short. The entire World Wide Web is based of this idea—pages being “chained” together through the use of hyperlinks.

Often times (although not always) text links will be either underlined or they will be in a different color (usually blue) to help them stand out from other text. As you click on a text link it will usually change color (usually to red) indicating that you have clicked on it. Once you have clicked on a link and you return back to the same page, the link may be yet another color (usually dark purple) indicating that it is a link you have already visited.
USING SEARCH ENGINES

Use a search engine if you know the kind of information you are looking for but are uncertain of the exact address to go to with your browser. A search engine is a tool for searching for information on the internet. Most search engines use a simple keyword search, which means you don’t have to type in your whole question, just the most important words.

The most are Google (www.google.com), Yahoo (www.yahoo.com), and Bing (www.bing.com) although there are many other search engines out there. For our purposes today, we will focus on Google. It should be noted, however, that most search engine work basically the same.

Google it!

Google is pretty much just a simple search box. As you begin typing, Google will begin to autosuggest words or phrases which it thinks you might be searching for. The suggestions become more specific the more letters you type. If you see what you are looking for in the auto suggest drop down feature, click it with your mouse—you don’t have to type in the whole entry. You can also perform a search by typing in your keyword(s) and pressing the Enter button on your keyboard.

Google, like all search engine sites, makes money by advertising. In most cases, this takes the form of sponsored links. Search engines usually indicate sponsored links by putting them on a different section of the page of search results and/or by labeling them as “sponsored links.” So for example, when you type in a search for “pizza” you are likely to get sponsored links from pizza restaurants.
Deciphering your search results

Once you do a search, you’ll be taken to a new page with results for your search keyword(s). For instance, if you do a search for pizza, in the middle part of the page you will see the list of results for the search “pizza.” The title of each result is a link to the page (for example, clicking on “Dominos” will take you to www.dominos.com). There will also be a brief description of the site underneath the link. After looking at the site, you can click the back button on your browser to go back to your list of search results so you can explore the next site.

The more information you provide in your keywords, the more precise your results will be. For example, you’ll notice that the first result for pizza is Dominos (or perhaps Pizza Hut). But maybe you are looking for Papa John’s. So, instead of typing in “pizza” try doing a search for “Papa John’s.” To make it even more exact, try doing a search for “Papa John’s Cincinnati.” While it is possible to be too specific, generally speaking the more information you provide, the more relevant your results will be.

At the top of the page on the far right you will notice it says “Results 1-10 of about….” That means that results displayed on the page right now are just the first 10 of however many total results there were for your keyword (sometimes the search engine will get fancy and tell you it only took .23 seconds to retrieve all those results). At the bottom of your search results page, you may see links to related searches as well as a series of numbers. The numbers are all the different pages of search results. Most search engines will only display around ten sites on a page. In order to view the next ten, you’ll have to click on the next page number of your search results, or the link that says next.

Oh, and by the way, yes you can order your pizza online.

More great things about search engines

Using a search engine is also a good idea for the spelling impaired among us. Google will auto suggest the proper spelling of words (as long as you come somewhat close) as you type in your search and once you arrive on the search results page.

Using a search engine is a great way to show the sheer size of the internet. Even obscure sounding keyword searches like “lemon flavored sardines” returns over 3,000,000 hits! Virtually any topic you can imagine can be found through a search engine. Just for another example, try typing in Abraham Lincoln as a search. You will get a biography, pictures, quotes, and more all within a second. By the way, all told there are over 11 million websites that mention Lincoln!

Google provides a lot of other services, including maps, local weather, image and video searching, free email accounts, and more.
BASIC WEBSITE NAVIGATION

Every website you visit is unique. However, most well designed websites will have similar navigation options. Navigating—or moving around a website from page to page—is a skill that takes a bit of practice and a lot of experience. That said, being able to recognize where to look for the information you seek is crucial to improving your navigation techniques—and it can drastically cut down on the amount of time you spend searching for what you need.

We will use the Public Library’s website (www.cincinnatilibrary.org) as an example to demonstrate some basic navigation techniques. Typically, when you first pull up a website there will be a row of links across the top of the webpage or down one side. These links divide the website’s content into categories. Some of the categories you are likely to find:

- Home – This allows you to return to the starting page (the “Home page”) of the website at any time.
- About Us – This usually lists some information about the purpose, history and owners of an organization.
- Locations – This will give you information about the various locations of an organization as well as telephone numbers and street addresses (such as the locations and phone numbers of library branches).
- Register New User - This allows you to create an account with the website
- Sign In – This allows you to log in to an existing account

Across the bottom of the page you will generally find a small print that act as links to even more categories, such as:

- Contact Us – This will give you one, or several methods to contact the organization (phone, mail, or email).
- Privacy Policy and/or Terms & Conditions – Legal information about the terms of using the website and about what the organization may or may not do with your personal information, etc.
- Help – This is a good place to start if you are having trouble locating what you need.

There will also likely be a search box located somewhere on the page. You use a search box to type in keywords to help you find website content. For example, on the Library’s website you can type in the title of a book you are trying to locate and the search function will list books in our catalog with that title.

The exact wording and location for links may vary from site to site. What one site calls “Locations” another site will call “Find a store.” “Contact us” may be replaced with “Ask us a question.” The point is not to look for one certain heading or terms, but to be able to identify where to begin your information quest and know which path to choose to get there.
ONLINE SAFETY

Worms, trojans, spammers, phishers and viruses. They can have funny-sounding names, but these are part of the dark side of the internet and the consequences aren’t very funny. These are programs designed to infect your computer without you knowing it and they can slow down your computer, spy on you, or possibly even destroy data and cause your computer to “crash” (or stop working). Internet fraud is also something to be concerned about. Phishing and other scams can cost you time, aggravation, money or even steal your identity. The fact is, the internet can be fun, entertaining, educational, and many other wonderful things, but anyone can be on the internet, and that includes malicious people and criminals as well as good people.

You can do a few things to take precautions when you use the internet. If you have a home computer, always be sure to run current, updated antivirus software to help protect yourself from the many different types of computer viruses and other malware. You can also help yourself stay protected from viruses by not opening any emails (especially email attachments) that seem strange or are from people you don’t know. Avoid websites offering “free” music or movies as these sites are often rife with bad stuff. To protect yourself from scam artists and identity thieves, avoid giving out personal information on the internet, and always remember: if it sounds too good to be true, it probably is. Internet safety is an ongoing process that you should continue to educate yourself about.

The Public Library of Cincinnati and Hamilton County also has a handout called “A Brief Guide to Internet Safety,” which you can pick up at the TechCenter desk on the 2nd floor of the Main Library. Online safety is a continuing process, and if you are interested in learning more be sure to ask about our “Computer Safety for Everyone” class, which is offered several times a year.

PRACTICE

The best way to learn anything on the computer is simply to practice. A lot of new users have a fear of “breaking” something on the computer. This is rarely possible on most new computers, and especially on computers at the Public Library because of restrictions and security settings in place on the machines.

The trick with the internet is to find something that is of interest to you. Perhaps you like listening to music—there are websites that you can listen to music from around the world and from virtually any artist or genre you can imagine. Perhaps you like cooking – there are thousands of websites devoted to recipes, diets, and healthy living. Maybe you enjoy reading the news —try USA Today’s website. The amount of information available on the internet is virtually limitless—and more content is being added every second of every day!
Here are some fun ideas to get you going:

Try going to Google and type in your home address in the search field—see what comes up!

Visit www.CincinnatiLibrary.org and navigate to the “Programs & News” section.

Look up “Abraham Lincoln” on Google. See if you can find videos, pictures, and quotes from the 16th president.

Once you feel comfortable with the basics on the internet, you may be interested in taking “Internet for Beginners, Part II” here at the Library. This class will cover topics like the importance of creating a secure username and password for websites, evaluating online resources, uploading and downloading files, and more.

**HERE ARE SOME FUN FACTS**

- There are roughly 2.2 billion internet users in the world, which is only about 1/3 of the estimated world population (as of 2011).
- The top 5 most popular websites in the world are: Google, Facebook, YouTube, Yahoo, and Baidu (basically the Chinese version of Google).
- Google is the most popular search engine in the world. 79% of internet users use Google as their search engine, followed by Bing (9%), Yahoo (8%), and Ask.com (1.5%).
- Most people (98.5%) never go beyond the first page of search results on Google (or any search engine for that matter).

**ADDITIONAL RESOURCES**

All class resources and a schedule of additional classes facilitated by the TechCenter may be found at: http://www.cincinnatilibrary.org/main/techcenter.html


Universal Class offers more than 500 classes on many topics. These classes are instructed by real teachers who guide your learning and provide feedback on your work. Learn about Microsoft Office, Web Design, Computer Basics, Business Applications, and more! Free with your library card. From http://www.cincinnatilibrary.org, click on Research & Homework → Research Databases → Education → Universal Class.