COURSE OUTLINE

COURSE TITLE: COMPUTER AND INTERNET LITERACY
COMMON COURSE NUMBER: CGS1060C
EFFECTIVE TERM: 
CREDIT HOURS: 3

CONTACT HOUR BREAKDOWN
(per 16 week term)
Lecture: 32
Lab: 16
Clinic: 
Other: 

College Placement Testing Requirements
N/A
Prerequisite
None
Corequisite
None
Pre/Corequisite
None

COURSE DESCRIPTION: This is an introductory course in basic computer and internet use. It covers computer hardware and software fundamentals (including the use of "Windows"), key productivity applications (including word processing, spreadsheets, and presentation "systems"), and living in an online world (including network fundamentals, e-mails, and the effective use of the Internet as a communication tool and information resource). Students will develop basic computer skills to aid them with college studies and workforce readiness. Hands-on use of a personal computer is required.

UNIT TITLES
1. OPERATING SYSTEM BASICS
2. COMPUTER HARDWARE AND CONCEPTS
3. COMPUTER SOFTWARE AND CONCEPTS
4. TROUBLESHOOTING
5. COMMON APPLICATION FEATURES
6. WORD PROCESSING ACTIVITIES
7. SPREADSHEET ACTIVITIES
8. PRESENTATION ACTIVITIES
9. DATA MANAGEMENT
10. COLLABORATION
11. BROWSERS
12. NETWORKING CONCEPTS
13. DIGITAL COMMUNICATION
14. DIGITAL CITIZENSHIP
15. SAFE COMPUTING
16. RESEARCH FLUENCY

EVALUATION:
Evaluation may include written examinations, skills-based examinations, in-class and homework assignments/projects, and presentations.

UNITS

Unit OPERATING SYSTEM BASICS

General Outcome
1.0 The student shall be able to identify what an OS is and its purpose; manage computer files and folders; manage computer configuration, Control Panel, OS drivers.

Specific Learning Outcomes
1.1 Explain the differences between software applications and Operating systems and demonstrate their uses.
1.2 Demonstrate the following OS features and explain each of their uses: Power On/Power Off, Log on/log off/switch user, Lock/Unlock, Difference between common OSs.
1.3 Explain how hardware can influence the operating system and software and vice versa.
1.4 Explain why software updates are important, including security fixes, bugs, adaptation to new hardware availability and other plugin options.
1.5 Demonstrate how to update software, automatic settings, manual updates.
1.6 Identify Menus, tool bars, Windows, Folders, sub-folders, directories, subdirectories, and views. Demonstrate how to navigate between them, expand and collapse them, and change views within each structure.
1.7 Demonstrate an understanding of file management tools, such as keyboard shortcuts, copy, paste, delete, move, rename, create shortcuts, and search; and demonstrate how to use each to manage files and folders.
1.8 Identify common filename extensions used with common applications on various operating systems environments, including but not limited to .xlsx, .docx, .exe, .swf, .pdf, .text, .zip, .jpg, .tif, .mp3, .m4a, and .avi.
1.9 Specify which applications and operating systems use each of the listed filename extensions and how they are used.
1.10 Demonstrate how to configure basic desktop customization (visual options, languages, date and time, accessibility options) in a typical commercial OS user interface (UI). Include how to change colors, textures, images and other default settings for backgrounds, desktops, files, folders, window elements, etc.
1.11 Describe the various states of operation available in a typical consumer-level OS. Include shutdown, hibernation, standby, fully awake, etc.

1.12 Describe the purpose, features and functions of user accounts (including administrator accounts) and user rights in a typical consumer-level OS or mobile device.

1.13 Demonstrate how to set up and modify user accounts and rights, including those for administrators, Group policies, read/write (and other) levels of access to files, directories, and applications.

**Unit 2 **COMPUTER HARDWARE AND CONCEPTS

**General Outcome**

2.0 The student shall be able to identify common computer technology; types of devices; and describe factors that affect computer performance. Specific Learning Outcomes

2.1 Explain the common terms associated with peripheral devices, including but not limited to processing speed, input/output, monitor and projector, mice, keyboards, stylus, microphone, speakers, touchpad, printers, and touchscreen.

2.2 Distinguish between computer hardware and software.

2.3 Describe what Input / Output devices do, the service or capability they add to a computer, and how they interact with each other and the computer as a whole.

2.4 Define important terms associated with computer storage, including volatile (RAM), involatile (SSD drive, Magnetic hard drive, ROM, Flash drives), and units of measurement (mega, giga, tera, peta, zetta, and bit vs. byte).

2.5 Compare and contrast the various types of storage.

2.6 Describe the different types of computer; server, desktop, laptop, tablet, smartphone, and other mobile devices.

2.7 Compare and contrast the different types of computers and mobile devices. Include functionality, capacity, construction, capability, uses, etc. in your comparisons and contrasts.

2.8 Specify criteria that could be used to evaluate the pros and cons of various computing devices and peripherals. Focus on performance issues.

2.9 Describe the concepts of processing capacity, processing speed, memory capacity, memory speed, storage capacity, and storage speed including how each interacts with the other to determine overall computing capacity, speed and power.

**Unit 3 **COMPUTER SOFTWARE AND CONCEPTS

**General Outcome**

3.0 The student shall demonstrate software management skills; identify various licensing models; identify what software to use for a specific task; identify available software tools.

**Specific Learning Outcomes**

3.1 Describe how to install various kinds of software, including application software, drivers and system software, upgrades and patches, on various types of personal computers and configure the environment for use.

3.2 Demonstrate how to uninstall and reinstall various kinds and classes of software, including application software, drivers and system software, upgrades and patches from various types of personal computers including desktops, laptops, tables, smart phones, etc.

3.3 Understand the various licensing models (freeware, shareware, open-source, premium applications) used for computer software such as operating systems, application programs, system software, databases, browsers, etc.

3.4 Demonstrate an understanding of the legal and ethical obligations associated with End User License Agreements (EULAs) and the user’s responsibilities, commitments, and benefits that can be derived by entering into a typical computer industry EULA.

3.5 Demonstrate an understanding of the concept of a site license, how each party benefits, restrictions, obligations, etc.

3.6 Demonstrate an understanding of the differences between single seat and volume licensing agreements. Contrast how each benefits party.

3.7 Demonstrate an understanding of the similarities and differences between a basic, consumer-level relational database management system and a typical spreadsheet program, including an understanding of which situations would be better suited to which product.

3.8 Describe what desktop publishing is, how and when desktop publishing software should be used, and the general feature set included in a representative desktop publishing program.

3.9 Describe what a presentation program is, its purpose, how it is used, and the general feature set included in a typical consumer-level presentation program.

3.10 Demonstrate how to use templates, default settings, and quick start aids to rapidly generate usable application user data.

3.11 Describe the purpose and use of a personal computer-based entertainment program. List the features that could be expected to be found in such a program and explain how they work.

3.12 Demonstrate how to edit, modify, or adjust (as appropriate) graphics, pictures, slides, audio and video.

3.13 Explain what file compression is and how it works with various file types.

3.14 Explain what software updates and patches are and how they are managed and applied to personal computers (PCs).

3.15 Explain how files are stored on a Hard Disk.

3.16 Demonstrate how to organize, compress, defragment, and otherwise optimize a computer’s hard disk performance.

3.17 Explain the danger posed by viruses and malware and how virus and malware scanning software work.

3.18 List common/popular brands and types of virus and malware scanning software.

**Unit 4 Troubleshooting**

**General Outcome**

4.0 The student shall be able to troubleshoot and manage software problems, hardware problems, and problems relating to devices and peripherals; demonstrate how to backup and restore software and data.

**Specific Learning Outcomes**

4.1 Explain the possible dangers and problems that can be caused by software updates and how to resolve them.

4.2 Explain the concepts associated with version control of Operating System (OS) software. Further explain how the OS version can affect the compatibility of other software on the PC.

4.3 Demonstrate how to identify and remove a virus or other malware from an infected PC.

4.4 Explain what ‘safe mode’ is in popular PC operating systems, and how and when it should be used when troubleshooting problems on a personal computer system.
4.5 Explain where and how to find information beyond that stored on the PC to help troubleshoot problems on a PC.

4.6 List popular Knowledge base, forums, and self-help web sites and explain how to use them for troubleshooting.

4.7 Demonstrate how to invoke and interpret the information available in a PC’s Task, Process, or Application Manager. Further demonstrate how to use this tool when troubleshooting a problem on the affected PC.

4.8 Explain how different versions of firmware affect performance of hardware subsystems on a PC and how that information may be used in troubleshooting a problem on a PC.

4.9 Explain the role of Cables and other connectors that connect the various parts of a computer together and what can happen when one or more cable or connector does not make the proper connection. Explain how this information may be used to troubleshoot problems on a personal computer.

4.10 Explain how different versions of firmware can affect performance of peripheral devices and hardware attached to a PC and how that information may be used in troubleshooting a problem on a PC.

4.11 Explain the concepts associated with version control of Operating System (OS) software. Further explain how the OS version can affect the compatibility of various hardware components on the PC.

4.12 Explain what a device driver is, how it fits into the operating system architecture, and how incompatibilities may lead to problems. Further explain how this information may be used in troubleshooting a problem on a PC.

4.13 Demonstrate how to backup and then restore software and data to a safe offsite location.

4.14 Explain how to backup and then restore software and data to a storage device, external to, but in close physical proximity to the PC.

4.15 Demonstrate how to backup and then restore software and data safely to the cloud.

4.16 Explain the implications of versioning and re-cycling of backups in an incremental backup system. Explain how to properly restore from an incremental backup system.

Unit COMMON APPLICATION FEATURES

General Outcome

5.0 The student shall be able to identify common features and commands of key applications, use formatting tools located in key applications, navigate key applications, work with multi-media files.

Specific Learning Outcomes

5.1 Demonstrate the use of keyboard shortcut keys or “hot keys” to invoke application features in an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.2 Demonstrate how to move, copy, and paste user data within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.3 Demonstrate how to reveal or hide user data from view within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.4 Demonstrate how to print user data from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product and control the configuration in which the data is presented or printed as listed in the objective.

5.5 Demonstrate how to check spelling within user data, find and replace portions of user data, and use the Undo and Redo features to alter user data within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.6 Demonstrate how to move user data using the Drag and Drop features within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.7 Demonstrate how to control presentation and configuration of user data within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product using the feature sets listed in the objective.

5.8 Identify the various sources of help, built-in, online, context-sensitive, help lines, chat services, coworkers, help desks, etc. available to get assistance in learning how to use an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.9 Describe how each source of help is accessed, what kind of help can be found at each source, and which resources are available when.

5.10 Demonstrate how to select user data using the features within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.11 Demonstrate how to sort user data using the features built into an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.12 Demonstrate how to organize, configure, and/or format user data from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product using a ‘Styles’ or ‘Styles-like’ feature in such a way as to control the look, feel, and display characteristics with which the data is presented on-screen or printed.

5.13 Demonstrate how to control the font and display features listed in the objective from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product in such a way as to control the look, feel, and other display characteristics with which the user data is presented on-screen or printed.

5.14 Demonstrate how to launch and terminate an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.15 Further demonstrate how to open an application data file and make it available for editing within an application program and how to close an application data file so that it is no longer immediately available to an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.16 Demonstrate how to save user data in an application data file using the same and/or different file names and path information from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.17 Demonstrate how to create a new empty application data file, either blank, or using an available templates provided with the application from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.18 Demonstrate how to manipulate OS and application windows to automatically resize to the settings listed in the objective while using an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.19 Describe how to search for specific subsets of user data within a larger set of user data in an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.20 Demonstrate how to display user data from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product and control the size, orientation, portion of data displayed and other display configuration settings in which the data is presented as listed in the objective, including ways to save, change, and delete those settings.

5.21 Demonstrate how to resize, crop, and rotate pictures, videos, audio, or other multimedia content within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

5.22 Demonstrate how to incorporate (insert and attach) and display pictures, videos, audio, or other multimedia content within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

Unit WORD PROCESSING ACTIVITIES

6.0 The student shall be able to create, format, and edit document data within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.
General Outcome

6.0 The student shall be able to use word processing software to organize data and use design tools and layout tools to format documents.

Specific Learning Outcomes

6.1 Demonstrate how to organize text and data into tables within a word processor. Further demonstrate the ability to add columns, rows, merge and split cells within those tables.

6.2 Demonstrate how to organize text and data into lists within a word processor. Further demonstrate the ability to order and re-order those lists according to various criteria (alphabetize, lowest-highest, by date, etc.).

6.3 Demonstrate how to arrange user data and set options within a word processor so as to cause those text and data to display and print in a particular format or layout. Within that context control the attributes and structures listed in the objective to display and print as specified, including ways to save, change, and delete those saved configurations.

6.4 Demonstrate how to set line and paragraph spacing within a word processor.

6.5 Demonstrate how to indent text within a word processing program.

6.6 Demonstrate how to use templates to create commonly used business documents such as faxes, resumes, business letters, invoices, etc.

6.7 Demonstrate how to use reference tools provided in a word processing application to format a research paper using a specific style (APA, MLA).

6.8 Demonstrate how to use reference tools provided in a word processing application to create an automated bibliography.

6.9 Demonstrate how to use reference tools provided in a word processing application to cite references.

6.10 Demonstrate how to use reference tools provided in a word processing application to insert endnotes and footnotes.

Unit 7  SPREADSHEET ACTIVITIES

General Outcome

7.0 The student shall be able to use spreadsheet software for data management and use design and layout tools to format spreadsheets.

Specific Learning Outcomes

7.1 Demonstrate how to add, insert, remove, and delete rows and columns in a spreadsheet environment.

7.2 Demonstrate how to add, adjust, and adjust the size of cells and the amount of data displayed in a cell within a spreadsheet.

7.3 Demonstrate how to adjust the alignment and positioning of cells and the positioning and orientation of data as displayed in cells within a spreadsheet.

7.4 Demonstrate how to locate, move focus to, or otherwise activate cells within a worksheet.

7.5 Demonstrate knowledge of the ramifications of using relative and/or absolute cell referencing.

7.6 Demonstrate the difference between a worksheet and a workbook and how to move between and among them.

7.7 Demonstrate how and when to merge or un-merge cells within a spreadsheet, including how to preserve, manage, and arrange data within the merged or unmerged cells.

7.8 Demonstrate how to construct formulas using standard mathematical operators (=, +, -, *, /). Demonstrate how to use functions; specifically, demonstrate how to use the most common functions, such as SUM(), AVERAGE(), COUNT(), MIN(), and MAX().

7.9 Demonstrate how to set formatting options associated with a cell or a range of cells so that cells display their data in specific formats, such as currency, dates, decimals, and number of significant places regional formats.

7.10 Demonstrate how to set the formatting options associated with a cell or range of cells so that cells display their data in specific text formats, such as different font faces, font sizes, bolding, italicizing, stroke color, background colors, and regional character settings.

7.11 Demonstrate how to create the types of charts commonly included in spreadsheet applications, including Pie charts, Line graphs, and bar graphs (histograms), and Sparklines.

7.12 Demonstrate how to associate datasets with charts, affecting how they display and how to move the component parts of the chart. Demonstrate move the chart around within a spreadsheet and within workbooks.

Unit 8  PRESENTATION ACTIVITIES

General Outcome

8.0 The student shall be able to use presentation software to create presentations by inserting content, managing and designing slides.

Specific Learning Outcomes

8.1 Demonstrate how to insert text into a presentation application so as to display properly and effectively in the desired font face, size and style in a slide show.

8.2 Demonstrate how to insert a table into or create a table and insert text into it in a presentation application so as to display properly and effectively in the desired font face, size and style in a slide show.

8.3 Demonstrate how to insert an audio, video, animations, and other media clips into a presentation application so as to display properly and effectively with the desired timing and control in a slide show presentation.

8.4 Demonstrate how to insert a chart into or create a chart and insert text, numbers, and shapes into it in a presentation application so as to display properly and effectively in the desired colors, layout, and format in a slide show presentation.

8.5 Demonstrate how to insert shapes, graphics, and pictures of various formats, file formats, sizes, palettes, etc. into or create shapes and graphics and insert content into them in a presentation application so as to display properly and effectively in the desired colors, layout, and format in a slide show presentation.

8.6 Demonstrate how to add slides into or create slides within a presentation application.

8.7 Demonstrate how to delete slides from or remove slides from within a presentation application.

8.8 Describe how to alter the presentation order of slides or move them around within a presentation application.

8.9 Demonstrate how to position and reposition presentation elements on the slide background or palette within a presentation application.

8.10 Demonstrate how to animate presentation elements and control their movement over, under, and among other slide elements and slide background within a presentation application.

8.11 Demonstrate how to invoke, remove, and control special effects associated with and defining how slides transition from one to another during the execution of a presentation application slide show.

Unit 9  DATA MANAGEMENT

General Outcome

9.0 The student shall be able to use database management software to store, modify, and extract information from a database.
Specific Learning Outcomes

9.1 Demonstrate how and when to filter data columns, including how to select what to display or hide in cells within the filtered range. Demonstrate how to sort ranges of data in various orders, custom and predetermined, vertically and horizontally.

9.2 Demonstrate how to run pre-defined (or “canned”) reports from within a consumer-oriented, personal computer-based database management system.

9.3 Demonstrate how to create and successfully execute a simple report from within a consumer-oriented, personal computer-based database management system.

9.4 Demonstrate how to search a database by using pre-scripted queries stored within a consumer-oriented personal computer-based database management system.

9.5 Demonstrate how to use the features built into a consumer-oriented personal computer-based database management system to successfully search for and retrieve specific user data.

9.6 Demonstrate how to successfully create, modify, and delete new data records from within a consumer-oriented personal computer-based database.

Unit 10 COLLABORATION

General Outcome

10.0 The student shall be able to use the comment tool in key applications and share files using email, network storage, and cloud storage environments.

Specific Learning Outcomes

10.1 Demonstrate the ability to review comments created by another regarding the user data and settings within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

10.2 Demonstrate the ability to accept or reject changes, edits, additions, deletions, and so forth created by another and intended for you within the user data associated with an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

10.3 Demonstrate the ability to add comments and edits intended for review or action by another to the user data associated with an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.

10.4 Demonstrate how to attach files of various sorts to email messages and send them successfully to another email recipient. Demonstrate an understanding of the implications of this sharing process on further edits to files shared in this particular way.

10.5 Demonstrate how to find, navigate to, access, and edit files of various sorts in a network storage environment.

10.6 Demonstrate how to find, navigate to, access, and edit files of various sorts in a cloud storage environment and an understanding of the implications of multiple users sharing and editing user data files in this environment.

Unit 11 BROWSERS

General Outcome

11.0 The student shall be able to distinguish between the Internet, Browsers, and WWW and shall be able to navigate the Internet, Browsers, and WWW.

Specific Learning Outcomes

11.1 Explain the concepts of: Internet, Browsers, and WWW.

11.2 Explain the differences between: Internet, Browsers, WWW

11.3 Demonstrate how to use each: Internet, Browsers, WWW

11.4 Explain the use/need and importance for each of the domains listed in the objectives. Briefly explain and demonstrate country codes.

11.5 Explain how hyperlinks function in a web browser environment

11.6 Demonstrate how to set a homepage and the reason for doing so.

11.7 Demonstrate how to move back, forward and refresh in a variety of browsers. Identify universal symbols used for each term.

11.8 Explain why favorites/bookmarks are helpful. Describe how to establish, save, invoke, and delete a bookmark.

11.9 Explain what a plugin is and its function. Describe how to find, install, configure, use, disable, enable, and delete a plugin.

11.10 Explain how the history function of a browser works and how to use it.

11.11 Demonstrate how to search using an internet browser, including the use of advanced features such as using basic Boolean logic including, Or, And, plus sign +, quotation marks “”, etc.

11.12 Describe how to clear history.

11.13 Explain how to use multiple tabs and the benefits associated with using them.

11.14 Explain the differences between downloading and uploading and how speed can vary.
General Outcome

12.0 The student shall be able to use Internet connections, explain network types and features capabilities, and the ability to troubleshoot network problems.

Specific Learning Outcomes

12.1 Explain the units of measurement associated with an internet connection and what they mean -- mbps, kbps.
12.2 Explain the things that can limit or increase speed: multiple browsers open, wireless connection, etc.
12.3 Explain the differences between Dial up and broadband connections and the process each uses to establish a connection.
12.4 Explain how wireless signals can be "stolen" and the importance of maintaining security with wireless access. Explain types of security including WEP, WPA and others.
12.5 Explain the difference between the Firewalls and Gateways. Explain that the risks of networks are managed through careful procedures for allowing access to the network by network administrators and other security. Explain the concept of a port and how it may be opened (unblocked) or closed (blocked) and how those settings affect WAN and LAN network connections.
12.6 Explain the concepts associated with the term DNS (Domain Name Server).
12.7 Explain the concepts associated with the term Addressing.
12.8 Explain the concepts associated with and the difference between the terms LAN and WAN.
12.9 Explain the concepts associated with the term VPN.
12.10 Demonstrate the ability to solve simple networking connectivity problems in various settings.
12.11 Explain methods of identifying common network problems.
12.12 Explain the concepts associated with the term IP Addressing.

General Outcome

13.0 The student shall be able to communicate through email and real-time communication programs, i.e., Twitter, Skype and text messaging.

Specific Learning Outcomes

13.1 Explain the terms Username, Password, and Credentials. Explain the need for and demonstrate "secure" examples of usernames, passwords and credentials.
13.2 Explain the elements of an email message (subject line, body, reply, reply all, forward, attachments, address book CC and BCC) and how to properly use them.
13.3 Explain the concepts associated with automated email features (auto-respond, out of office, auto-forward, signatures), personal folders (archive), junk mail, and spam.
13.4 Explain the differences between real-time text communications (IM, chat, SMS). Explain how each works and when they should be used.
13.5 Explain the differences between real-time digital communications (MMS, real-time video, Skype, VoIP, video conferencing). Explain how each works and when they should be used.
13.6 Demonstrate how to use each of the listed modes of real-time Audio-Visual communication. Explain how each of the listed modes of communication work and when they should be used.
13.7 Demonstrate how to configure and use features in various popular social media sites such as Facebook, LinkedIn, Twitter, and the like to show one’s current status, grant or limit accessibility to others, post information, or otherwise publish desired information to the public at large with immediacy.

General Outcome

14.0 The student shall be able to demonstrate proper digital communications standards and the responsible and legal use of computers.

Specific Learning Outcomes

14.1 Explain the difference between personal and professional communication and the importance of spelling and use of abbreviations in each type of communication
14.2 Explain that all caps indicates “yelling” or an over importance
14.3 Explain the differences between Phone calls, texting, email, social media postings and appropriate uses for each in both personal and professional communication.
14.4 Explain the terms spamming, flaming, bulling, and the harm that each can cause. Explain how they are not faceless, harmless electronic actions.
14.5 Explain the terms libel and slander, and the real life legal consequences of each.
14.6 Explain what censorship is. Contrast its benefits and drawbacks.
14.7 Explain what filtering is. Contrast its benefits and drawbacks.
14.8 Explain Intellectual Property, its real value and the implications of its misuse.
14.9 Explain Piracy, how to protect yourself from it and the ethical issues surrounding it.
14.10 Explain what a copyright is, how it is obtained, the legal ramifications surrounding a copyright and its value to its holder. Explain that software must be legitimately licensed before it can be used and that there are different ways software can be distributed and licensed.
14.11 Explain that software must be legitimately licensed before it can be used and that there are different ways software can be distributed and licensed.
14.12 Explain traditional licensing and installation of software on a standalone computer (single-user license) or network (network licensing). Explain the benefits of network licensing (cost, shared resources, etc.) Explain that software is increasingly being sold as a service (Software as a Service or SaaS, or Application Service Provider or ASP licensing). Explain that this involves licensing a product that is accessed via a network, Intranet or the Internet, normally via a user login. Explain alternative methods of distributing and licensing software beyond traditional purchasing, including Open Source software, Freeware and Shareware, and software bundled free with hardware purchases. Explain the user (or system administrator’s) responsibilities to only use legitimately licensed software and how users and administrators can stay informed about product licensing and other issues.
14.13 Explain what Creative Commons is, the licensing availability and legal issues surrounding it, as well as the benefits to the community.

General Outcome

15.0 The student shall be able to demonstrate the use of secure online communications and/or activities and ergonomics.
15.1 Identify the value of personal identity and the areas that this includes. Explain the ethics around identity theft, why it is wrong. Explain how and why to create good passwords and change them regularly.

15.2 Explain how to protect against identity theft including oversharings of data, how personal data is used, tracked, and sold. Explain phishing, typical signs and secure habits to protect against falling victim. Identify parts of URL that help indicate the security of a website.

15.3 Explain the terms listed in the objective. Explain how to completely remove data from hard drives, portable memory, and digital devices. Explain how to secure the data on your computer and keep it updated by backing up data to other sources – cloud, backup hard drives. Describe how to use protection programs and the value of these services. Also describe the harm that can come from not using these products and services.

15.4 Explain and demonstrate proper ergonomics and problems that come from improper ergonomic.

15.5 Explain the issues relating to poor lighting, and short term and long term eye problems.

15.6 Explain the physical issues surrounding poor body posture, especially with prolonged time in the same position(s).

**Unit RESEARCH FLUENCY**

**General Outcome**

16.0 The student shall be able to use search engines and evaluate search results, using advanced features of search engines.

**Specific Learning Outcomes**

16.1 Explain how to use search engines to acquire information. The value of the resources available on the internet.

16.2 Demonstrate how to use search engines to answer questions and solve problems by using good search terms to get specific information from reputable sources.

16.3 Explain the value and problems with internet forums. Forum users are just individuals with an interest in the forum topic, this does not make them experts, but information can be very useful. Explain how to be a good forum participant, only post good info, no “flaming” other users, etc.

16.4 Explain that ads are paid messages from companies that want to promote their products. Messages are not necessarily factual.

16.5 Explain that sponsored links are a form of advertising and not to be relied on as an informational resource.

16.6 Explain that a knowledge base is a collection of data around a particular subject. Include examples like Help menus available from software and hardware manufacturers.

16.7 Explain how to determine the validity of various sources, including but not limited to domain names/domain, published journals, government sites and documents vs. forums, blogs, and personal websites.

16.8 Explain that articles can be both factual and made up. Articles are created for a number of reasons including, reviews of products that may or may not have been given to the reviewer, personal opinion, or well researched documenting of fact.

16.9 Explain how to search for different types of media by using file types and searching applicable databases. Examples include: YouTube, Flickr, iTunes, etc.