



ECDL

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ECDL Syllabus

Contents of the ECDL Standard Modules

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Syllabus 5.0

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Syllabus 2.0

**Editor**

PSI Services (Switzerland) Inc.
Elisabethenanlage 7
CH-4051 Basle

Phone +41 61 270 88 77
Fax +41 61 270 88 76

info@icdl.ch
www.icdl.ch

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You can find the online version of this ICDL syllabus at www.icdl.ch.

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ECDL Standard – prove your extensive digital skills

The ECDL Standard certificate proves that you can use a computer competently and efficiently as well as your extensive practical skills in using common Office programmes and further important applications. The ECDL Foundation has created new modules and updated the test contents according to the latest developments.

This ECDL syllabus describes the knowledge you need to pass ECDL Standard modules. You can also use this booklet as a checklist to find out which skills you still need to acquire. To obtain an ECDL Standard certificate you need to pass all four Base modules plus three Standard modules of your choice. The contents of the ECDL Base modules are listed in the ECDL Base syllabus.

You can get more information on the ECDL Expert Certificate on www.ecdl.lu.

ECDL Modules and Certificates

Base Modules	Standard Modules	Advanced Modules
Computer Essentials	Using Databases	Word Processing
Online Essentials	Presentation	Spreadsheets
Word Processing	Online Collaboration	Database
Spreadsheets	IT Security	Presentation
	Image Editing	

ECDL Base Certificate



4 Base modules

ECDL Standard Certificate



4 Base modules

+ 3 Standard modules of your choice

ECDL Expert Certificate



3 Advanced modules of your choice

Using Databases

This module requires the candidate to understand the concept of a database and demonstrate competence in using a database.

Module Goals

Successful candidates will be able to:

- ▶ Understand what a database is and how it is organized and operated
- ▶ Create a simple database and view the database content in various modes
- ▶ Create a table, define and modify fields and their properties; enter and edit data in a table
- ▶ Sort and filter a table or form; create, modify and run queries to retrieve specific information from a database
- ▶ Understand what a form is and create a form to enter, modify and delete records and data in records
- ▶ Create routine reports and prepare outputs ready for distribution

Category	Knowledge Area	Ref.	Knowledge Item
1 Under- standing Databases	1.1 Key Concepts	1.1.1	Understand what a database is
		1.1.2	Understand the difference between data and information
		1.1.3	Understand how a database is organized in terms of tables, records and fields
		1.1.4	Know some of the common uses of large-scale databases like: airline booking systems, government records, bank account records, hospital patient details
	1.2 Database Organization	1.2.1	Understand that each table in a database should contain data related to a single subject
		1.2.2	Understand that each field in a table should contain only one element of data
		1.2.3	Understand that field content is associated with an appropriate data type like: text, number, date/time, yes/no
		1.2.4	Understand that fields have associated field properties like: field size, format, default value

Category	Knowledge Area	Ref.	Knowledge Item
		1.2.5	Understand what a primary key is
		1.2.6	Understand what an index is. Understand how it allows for faster data access
	1.3 Relationships	1.3.1	Understand that the main purpose of relating tables in a database is to minimize duplication of data
		1.3.2	Understand that a relationship is built by matching a unique field in one table with a field in another table
		1.3.3	Understand the importance of maintaining the integrity of relationships between tables
	1.4 Operation	1.4.1	Know that professional databases are designed and created by database specialists
		1.4.2	Know that data entry, data maintenance and information retrieval are carried out by users
		1.4.3	Know that a database administrator provides access to specific data for appropriate users
		1.4.4	Know that the database administrator is responsible for recovery of a database after a crash or major errors
2 Using the Application	2.1 Working with Databases	2.1.1	Open, close a database application
		2.1.2	Open, close a database
		2.1.3	Create a new database and save to a location on a drive
		2.1.4	Display, hide built-in toolbars. Restore, minimize the ribbon
		2.1.5	Use available Help functions
	2.2 Common Tasks	2.2.1	Open, save and close a table, query, form, report
		2.2.2	Switch between view modes in a table, query, form, report
		2.2.3	Delete a table, query, form, report
		2.2.4	Navigate between records in a table, query, form
		2.2.5	Sort records in a table, form, query output in ascending, descending numeric, alphabetic order

Category	Knowledge Area	Ref.	Knowledge Item
3 Tables	3.1 Records	3.1.1	Add, delete records in a table
		3.1.2	Add, modify, delete data in a record
	3.2 Design	3.2.1	Create and name a table and specify fields with their data types like: text, number, date/ time, yes/no
		3.2.2	Apply field property settings: field size, number format, date/time format, default value
		3.2.3	Create a validation rule for number, date/time, currency
		3.2.4	Understand consequences of changing data types, field properties in a table
		3.2.5	Set a field as a primary key
		3.2.6	Index a field (with, without duplicates allowed)
		3.2.7	Add a field to an existing table
		3.2.8	Change width of columns in a table
4 Retrieving Information	4.1 Main Operations	4.1.1	Use the search command for a specific word, number, date in a field
		4.1.2	Apply a filter to a table, form
		4.1.3	Remove the application of a filter from a table, form
	4.2 Queries	4.2.1	Understand that a query is used to extract and analyse data
		4.2.2	Create a named single table query using specific search criteria
		4.2.3	Create a named two-table query using specific search criteria
		4.2.4	Add criteria to a query using one or more of the following operators: = (Equal), <> (Not equal to), < (Less than), ≤ (Less than or equal to), > (Greater than), ≥ (Greater than or equal to)
		4.2.5	Add criteria to a query using one or more of the following logical operators: AND, OR, NOT
		4.2.6	Use a wildcard in a query, * or %, ? or _
		4.2.7	Edit a query: add, modify, remove criteria

Category	Knowledge Area	Ref.	Knowledge Item
5 Objects	5.1 Forms	4.2.8	Edit a query: add, remove, move, hide, unhide fields
		4.2.9	Run a query
		5.1.1	Understand that a form is used to display and maintain records
		5.1.2	Create and name a form
		5.1.3	Use a form to insert new records
		5.1.4	Use a form to delete records
		5.1.5	Use a form to add, modify, delete data in a record
		5.1.6	Add, modify text in headers, footers in a form
		6.1.1	Understand that a report is used to print selected information from a table or query
		6.1.2	Create and name a report based on a table, query
6 Outputs	6.1 Reports, Data Export	6.1.3	Change arrangement of data fields and headings within a report layout
		6.1.4	Present specific fields in a grouped report by sum, minimum, maximum, average, count, at appropriate break points
		6.1.5	Add, modify text in headers, footers in a report
		6.1.6	Export a table, query output in spreadsheet, text (.txt, .csv), XML format to a location on a drive
		6.2.1	Change the orientation (portrait, landscape) of a table, form, query output, report. Change paper size
		6.2.2	Print a page, selected record(s), complete table
	6.2 Printing	6.2.3	Print all records using form layout, specific pages using form layout
		6.2.4	Print the result of a query
		6.2.5	Print specific page(s) in a report, print complete report

Presentation

This module requires the candidate to demonstrate competence in using presentation software.

Module Goals

Successful candidates will be able to:

- ▶ Work with presentations and save them in different file formats
- ▶ Choose built-in options such as the Help function within the application to enhance productivity
- ▶ Understand different presentation views and when to use them, choose different slide layouts and designs and edit slides
- ▶ Enter, edit and format text in presentations. Recognize good practise in applying unique titles to slides
- ▶ Choose, create and format charts to communicate information meaningfully
- ▶ Insert and edit pictures, images and drawn objects
- ▶ Apply animation and transition effects to presentations and check and correct presentation content before finally printing and giving presentations

Category	Knowledge Area	Ref.	Knowledge Item
1 Using the Application	1.1 Working with Presentations	1.1.1	Open, close a presentation application. Open, close presentations
		1.1.2	Create a new presentation based on default template
		1.1.3	Save a presentation to a location on a drive. Save a presentation under another name
		1.1.4	Save a presentation as another file type: Rich Text Format, template, show, image fileformat, version number
		1.1.5	Switch between open presentations
	1.2 Enhancing Productivity	1.2.1	Set user preferences in the application: user name, default folder to open and save files
		1.2.2	Use available Help functions
		1.2.3	Use magnification/zoom tools
		1.2.4	Display, hide built-in toolbars. Restore, minimize the ribbon

Category	Knowledge Area	Ref.	Knowledge Item
2 Developing a Presentation	2.1 Presentation Views	2.1.1	Understand the uses of different presentation view modes: normal view, slide sorter view, outline view, slide show view
		2.1.2	Recognize good practice in adding slide titles: use a different title for each slide to distinguish it in outline view, when navigating in slide show view
		2.1.3	Change between presentation view modes: normal view, slide sorter view, slide show view
	2.2 Slides	2.2.1	Choose a different built-in slide layout for a slide
		2.2.2	Apply an available design template to a presentation
		2.2.3	Change background colour on specific slide(s), all slides
		2.2.4	Add a new slide with a specific slide layout like: title slide, chart and text, bulleted list, table/ spreadsheet
		2.2.5	Copy, move slides within the presentation, between open presentations
		2.2.6	Delete slide(s)
	2.3 Master Slide	2.3.1	Insert a graphical object (picture, image, drawn object) into a master slide. Remove a graphical object from a master slide
		2.3.2	Enter text into footer of specific slides, all slides in a presentation
		2.3.3	Apply automatic slide numbering, automatically updated date, non-updating date into footer of specific slides, all slides in a presentation
3 Text	3.1 Handling Text	3.1.1	Recognize good practice in creating slide content: use short concise phrases, bullet points, numbered lists
		3.1.2	Enter text into a placeholder in standard, outline view
		3.1.3	Edit text in a presentation
		3.1.4	Copy, move text within, between presentations
		3.1.5	Delete text
		3.1.6	Use the undo, redo command

Category	Knowledge Area	Ref.	Knowledge Item
	3.2 Formatting	3.2.1	Change text formatting: font sizes, font types
		3.2.2	Apply text formatting: bold, italic, underline, shadow
		3.2.3	Apply different colours to text
		3.2.4	Apply case changes to text
		3.2.5	Align text: left, centre, right in a text frame
	3.3 Lists	3.3.1	Indent bulleted text. Remove indent from bulleted text
		3.3.2	Adjust line spacing before and after bulleted, numbered lists
		3.3.3	Switch between the different standard bullet, number styles in a list
	3.4 Tables	3.4.1	Enter, edit text in a table slide
		3.4.2	Select rows, columns, entire table
		3.4.3	Insert, delete rows and columns
		3.4.4	Modify column width, row height
4 Charts	4.1 Using Charts	4.1.1	Input data to create built-in charts in a presentation: column, bar, line, pie
		4.1.2	Select a chart
		4.1.3	Change the chart type
		4.1.4	Add, remove, edit a chart title
		4.1.5	Add data labels to a chart: values/numbers, percentages
		4.1.6	Change the background colour of a chart
		4.1.7	Change the column, bar, line, pie slice colours in a chart
	4.2 Organization Charts	4.2.1	Create an organization chart with a labelled hierarchy by using a built-in organization chart feature
		4.2.2	Change the hierarchical structure of an organization chart
		4.2.3	Add, remove co-workers, subordinates in an organization chart

Category	Knowledge Area	Ref.	Knowledge Item
5 Graphical Objects	5.1 Insert, Manipulate	5.1.1	Insert a graphical object (picture, image, drawn object) into a slide
		5.1.2	Select a graphical object
		5.1.3	Copy, move graphical objects, charts within the presentation, between open presentations
		5.1.4	Resize, delete graphical objects, charts in a presentation
		5.1.5	Rotate, flip a graphical object
	5.2 Drawing	5.1.6	Align a graphical object relative to a slide: left, centre, right, top, bottom
		5.2.1	Add different types of drawn object to a slide: line, arrow, block arrow, rectangle, square, oval, circle, text box
		5.2.2	Enter text into a text box, block arrow, rectangle, square, oval, circle
		5.2.3	Change drawn object background colour, line colour, line weight, line style
		5.2.4	Change arrow start style, arrow finish style
		5.2.5	Apply a shadow to a drawn object
		5.2.6	Group, ungroup drawn objects in a slide
		5.2.7	Bring a drawn object one level forward, one level backward, to the front, to the back of other drawn objects
6 Prepare Outputs	6.1 Preparation	6.1.1	Add, remove transition effects between slides
		6.1.2	Add, remove preset animation effects for different slide elements
		6.1.3	Add presenter notes to slides
		6.1.4	Select appropriate output format for slide presentation like: overhead, handout, on-screen show
		6.1.5	Hide, show slides
	6.2 Check and Deliver	6.2.1	Spell check a presentation and make changes like: correcting spelling errors, deleting repeated words

Category	Knowledge Area	Ref.	Knowledge Item
		6.2.2	Change slide setup, slide orientation to portrait, landscape. Change paper size
		6.2.3	Print entire presentation, specific slides, handouts, notes pages, outline view of slides, number of copies of a presentation
		6.2.4	Start a slide show from first slide, from current slide
		6.2.5	Navigate to next slide, previous slide, specified slide during a slide show

Online Collaboration

This module sets out concepts and skills relating to the setup and use of online collaborative tools, such as storage, productivity applications, calendars, social media, web meetings, learning environments, and mobile technology.

Module Goals

Successful candidates will be able to:

- ▶ Understand the key concepts relating to online collaboration and cloud computing
- ▶ Set up accounts to prepare for online collaboration
- ▶ Use online storage and web-based productivity applications to collaborate
- ▶ Use online and mobile calendars to manage and plan activities
- ▶ Collaborate and interact using social networks, blogs, and wikis
- ▶ Schedule and host online meetings and use online learning environments
- ▶ Understand key mobile technology concepts and use features such as e-mail, applications, and synchronisation

Category	Knowledge Area	Ref.	Knowledge Item
1 Collaboration Concepts	1.1 Key Concepts	1.1.1	Recognise that ICT (Information and Communication Technology) can support and promote online collaboration
		1.1.2	Identify the main types of services supporting online collaboration like: cloud computing, mobile technology. Identify the main types of tools supporting online collaboration like: common productivity applications, social media, online calendars, online meetings, online learning environments
		1.1.3	Identify key characteristics of online collaborative tools like: multiple users, real time, global reach, concurrent access
		1.1.4	Outline the benefits of using online collaborative tools like: shared files and calendars, reduced travel expense, ease of communication, enhanced teamwork, global access

Category	Knowledge Area	Ref.	Knowledge Item
2 Preparation for Online Collaboration		1.1.5	Be aware of the risks associated with using online collaborative tools like: unauthorised access to shared files, insufficient management of version control, malware threats, identity/ data theft, service interruptions
		1.1.6	Recognise the importance of intellectual property rights and the appropriate use of content when using online collaborative tools
		1.2.1	Understand ways in which cloud computing facilitates online and mobile collaboration like: storage of shared documents and files, access to a range of online applications and tools
	1.2 Cloud Computing	1.2.2	Outline the benefits of cloud computing for users like: reduced costs, enhanced mobility, scalability, automatic updates
		1.2.3	Outline the risks of cloud computing like: dependence on provider, data protection and control, potential loss of privacy
		2.1.1	Understand that additional applications, plug-ins may need to be installed to use certain online collaborative tools
	2.1 Common Setup Features	2.1.2	Identify common equipment used to support online collaboration like: webcam, microphone, speakers
		2.1.3	Recognise that firewall restrictions may cause access issues for users of a collaborative tool
		2.2.1	Download software to support online collaborative tools like: VOIP, IM, document sharing
	2.2 Setup	2.2.2	Register and/or set up a user account for a collaborative tool. Deactivate, delete/close a user account
3 Using Online Collaborative Tools	3.1 Online Storage and Productivity Applications	3.1.1	Understand the concept of online storage solutions and identify common examples
		3.1.2	Identify the limitations of online storage like: size limit, time limit, sharing restrictions
		3.1.3	Upload, download, delete online files, folders

Category	Knowledge Area	Ref.	Knowledge Item
		3.1.4	Understand that common productivity applications can be accessed via the web. Identify common examples of web-based productivity applications like: word processing, spreadsheets, presentations
		3.1.5	Identify features of web-based productivity applications: allows files to be updated by multiple users in real-time, allows files to be shared
		3.1.6	Create, edit and save files online
		3.1.7	Share, unshare a file, folder to allow other users to view, edit, own a file, folder
		3.1.8	View, restore previous versions of a file
	3.2 Online Calendars	3.2.1	Share a calendar. Grant permission to view, edit a shared calendar
		3.2.2	Show, hide shared calendars
		3.2.3	Use a shared calendar to create an event, recurring event
		3.2.4	Set a reminder for an event
		3.2.5	Invite, uninvite people, resources to an event. Accept, decline an invitation
		3.2.6	Edit, cancel an existing event
	3.3 Social Media	3.3.1	Identify social media tools that support online collaboration like: social networks, wikis, forums and groups, blogs, micro blogs, content communities
		3.3.2	Set up, modify available permissions/privacy options like: read access, write access, user invites
		3.3.3	Find, connect to social media users, groups. Remove connections
		3.3.4	Use a social media tool to post a comment, link
		3.3.5	Use a social media tool to reply to, forward a comment
		3.3.6	Use a social media tool to upload content like: images, videos, documents

Category	Knowledge Area	Ref.	Knowledge Item
		3.3.7	Remove posts from social media. Be aware that permanently deleting posts and photos may be difficult
		3.3.8	Use a wiki to add to or update a specific topic
	3.4 Online meetings	3.4.1	Open, close online meeting application. Create a meeting: time, date, topic. Cancel the meeting
		3.4.2	Invite, uninvite participants, set access rights
		3.4.3	Start, end a meeting
		3.4.4	Share, unshare desktop, files in an online meeting
		3.4.5	Use available chat features in an online meeting
		3.4.6	Use video, audio features in an online meeting
	3.5 Online Learning Environments	3.5.1	Understand the concept of an online learning environment. Identify online learning environments like: Virtual Learning Environments (VLEs) and Learning Management Systems (LMS)
		3.5.2	Understand the features, functions available within an online learning environment like: calendar, noticeboard, chat, assessment records
		3.5.3	Access a course in an online learning environment
		3.5.4	Upload, download a file in an online learning environment
		3.5.5	Use a course activity like: quiz, forum
4 Mobile Collaboration	4.1 Key Concepts	4.1.1	Identify types of mobile devices like: smart-phone, tablet
		4.1.2	Understand that mobile devices use an operating system. Identify common operating systems for mobile devices
		4.1.3	Understand the term Bluetooth and its use
		4.1.4	Understand internet connection options available for mobile devices: wireless (WLAN), mobile internet (3G, 4G). Understand associated features of these options like: speed, cost, availability

Category	Knowledge Area	Ref.	Knowledge Item
		4.1.5	Understand key security considerations for mobile devices like: use a PIN, backup content, turn wireless/Bluetooth on/off
	4.2 Using Mobile Devices	4.2.1	Connect to the Internet securely using wireless, mobile technology
		4.2.2	Search the web
		4.2.3	Send, receive e-mail
		4.2.4	Add, edit, remove a calendar event
		4.2.5	Share pictures, videos using options like: e-mail, messaging, social media, Bluetooth
	4.3 Applications	4.3.1	Identify common applications like: news, social media, productivity, maps, games, ebooks
		4.3.2	Understand that applications are obtained from application stores. Identify common application stores for mobile devices
		4.3.3	Search for a mobile device application in an application store. Recognise that there may be purchase, usage costs associated with an application
		4.3.4	Install, uninstall an application on a mobile device
		4.3.5	Update applications on a mobile device
		4.3.6	Use an application on a mobile device like: voice or video communication, social media, map
	4.4 Synchronisation	4.4.1	Understand the purpose of synchronising content
		4.4.2	Set up synchronisation settings
		4.4.3	Synchronise mobile devices with mail, calendar, other devices

IT Security

This module sets out concepts relating to the secure use of ICT in daily life and skills used to maintain a secure network connection, use the Internet safely and securely, and manage data and information appropriately.

Module Goals

Successful candidates will be able to:

- ▶ Understand the importance of keeping information and data secure, and identify common data/privacy protection, retention and control principles
- ▶ Recognise threats to personal security from identity theft and potential threats to data from using cloud computing
- ▶ Use passwords and encryption to secure files and data
- ▶ Understand the threat of malware and be able to protect a computer, device or network from malware and address malware attacks
- ▶ Recognise common network and wireless security types and be able to use personal firewalls and personal hotspots
- ▶ Protect a computer or device from unauthorised access and be able to safely manage and update passwords
- ▶ Use appropriate web browser settings and understand how to authenticate websites and browse the web securely
- ▶ Understand communication security issues that can arise from using e-mail, social networks, voice over Internet protocol, instant messaging and mobile devices
- ▶ Back up and restore data to local and cloud storage locations and delete and dispose of data and devices securely

Category	Knowledge Area	Ref.	Knowledge Item
1 Security Concepts	1.1 Data Threats	1.1.1	Distinguish between data and information
		1.1.2	Understand the terms cybercrime, hacking
		1.1.3	Recognise malicious, accidental threats to data from individuals, service providers, external organisations
		1.1.4	Recognise threats to data from extraordinary circumstances like: fire, floods, war, earthquake
		1.1.5	Recognise threats to data from using cloud computing like: data control, potential loss of privacy

Category	Knowledge Area	Ref.	Knowledge Item
	1.2 Value of Information	1.2.1	Understand basic characteristics of information security like: confidentiality, integrity, availability
		1.2.2	Understand the reasons for protecting personal information like: avoiding identity theft, fraud, maintaining privacy
		1.2.3	Understand the reasons for protecting workplace information on computers and devices like: preventing theft, fraudulent use, accidental data loss, sabotage
		1.2.4	Identify common data/privacy protection, retention and control principles like: transparency, legitimate purposes, proportionality
		1.2.5	Understand the terms data subjects and data controllers and how data/privacy protection, retention and control principles apply to them
		1.2.6	Understand the importance of adhering to guidelines and policies for ICT use and how to access them
	1.3 Personal Security	1.3.1	Understand the term social engineering and its implications like: unauthorised computer and device access, unauthorised information gathering, fraud
		1.3.2	Identify methods of social engineering like: phone calls, phishing, shoulder surfing
		1.3.3	Understand the term identity theft and its implications: personal, financial, business, legal
		1.3.4	Identify methods of identity theft like: information diving, skimming, pretexting
	1.4 File Security	1.4.1	Understand the effect of enabling /disabling macro security settings
		1.4.2	Understand the advantages, limitations of encryption. Be aware of the importance of not disclosing or losing the encryption password, key, certificate
		1.4.3	Encrypt a file, folder, drive
		1.4.4	Set a password for files like: documents, spreadsheets, compressed files

Category	Knowledge Area	Ref.	Knowledge Item
2 Malware	2.1 Types and Methods	2.1.1	Understand the term malware. Recognise different ways that malware can be concealed on computers and devices like: Trojans, rootkits, backdoors
		2.1.2	Recognise types of infectious malware and understand how they work like: viruses, worms
		2.1.3	Recognise types of data theft, profit generating/extortion malware and understand how they work like: adware, ransomware, spyware, bot-nets, keystroke logging, diallers
	2.2 Protection	2.2.1	Understand how anti-virus software works and its limitations
		2.2.2	Understand that anti-virus software should be installed on computers and devices
		2.2.3	Understand the importance of regularly updating software like: anti-virus, web browser, plug-in, application, operating system
		2.2.4	Scan specific drives, folders, files using anti-virus software. Schedule scans using anti-virus software
		2.2.5	Understand the risks of using obsolete and unsupported software like: increased malware threats, incompatibility
	2.3 Resolving and Removing	2.3.1	Understand the term quarantine and the effect of quarantining infected/suspicious files
		2.3.2	Quarantine, delete infected/suspicious files
		2.3.3	Understand that a malware attack can be diagnosed and resolved using online resources like: websites of operating system, anti-virus, web browser software providers, websites of relevant authorities
3 Network Security	3.1 Networks and Connections	3.1.1	Understand the term network and recognise the common network types like: local area network (LAN), wireless local area network (WLAN), wide area network (WAN), virtual private network (VPN)
		3.1.2	Understand how connecting to a network has implications for security like: malware, unauthorised data access, maintaining privacy

Category	Knowledge Area	Ref.	Knowledge Item
4 Access Control		3.1.3	Understand the role of the network administrator in managing authentication, authorisation and accounting, monitoring and installing relevant security patches and updates, monitoring network traffic, and in dealing with malware found within a network
		3.1.4	Understand the function, limitations of a firewall in personal, work environment
		3.1.5	Turn a personal firewall on, off. Allow, block an application, service/feature access through a personal firewall
	3.2 Wireless Security	3.2.1	Recognise different options for wireless security and their limitations like: Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA)/ Wi-Fi Protected Access 2 (WPA2), Media Access Control (MAC) filtering, Service Set Identifier (SSID) hiding
		3.2.2	Understand that using an unprotected wireless network can lead to attacks like: eavesdroppers, network hijacking, man in the middle
		3.2.3	Understand the term personal hotspot
	4.1 Methods	3.2.4	Enable, disable a secure personal hotspot, and securely connect, disconnect devices
		4.1.1	Identify measures for preventing unauthorised access to data like: user name, password, PIN, encryption, multi-factor authentication
		4.1.2	Understand the term one-time password and its typical use
		4.1.3	Understand the purpose of a network account
		4.1.4	Understand that a network account should be accessed through a user name and password and locked, logged off when not in use
	4.2 Password Management	4.1.5	Identify common biometric security techniques used in access control like: fingerprint, eye scanning, face recognition, hand geometry
		4.2.1	Recognise good password policies, like: adequate password length, adequate letter, number and special characters mix, not sharing passwords, changing them regularly, different passwords for different services

Category	Knowledge Area	Ref.	Knowledge Item
5 Secure Web Use	5.1 Browser Settings	4.2.2	Understand the function, limitations of password manager software
		5.1.1	Select appropriate settings for enabling, disabling autocomplete, autosave when completing a form
		5.1.2	Delete private data from a browser like: browsing history, download history, cached Internet files, passwords, cookies, auto-complete data
	5.2 Secure Browsing	5.2.1	Be aware that certain online activity (purchasing, banking) should only be undertaken on secure web pages using a secure network connection
		5.2.2	Identify ways to confirm the authenticity of a website like: content quality, currency, valid URL, company or owner information, contact information, security certificate, validating domain owner
		5.2.3	Understand the term pharming
		5.2.4	Understand the function and types of content-control software like: Internet filtering software, parental control software
6 Communications	6.1 E-Mail	6.1.1	Understand the purpose of encrypting, decrypting an e-mail
		6.1.2	Understand the term digital signature
		6.1.3	Identify possible fraudulent e-mail, unsolicited e-mail
		6.1.4	Identify common characteristics of phishing like: using names of legitimate organisations, people, false web links, logos and branding, encouraging disclosure of personal information
		6.1.5	Be aware that you can report phishing attempts to the legitimate organisation, relevant authorities
		6.1.6	Be aware of the danger of infecting a computer or device with malware by opening an e-mail attachment that contains a macro or an executable file
	6.2 Social Networking	6.2.1	Understand the importance of not disclosing confidential or personal identifiable information on social networking sites

Category	Knowledge Area	Ref.	Knowledge Item
7 Secure Data Management		6.2.2	Be aware of the need to apply and regularly review appropriate social networking account settings like: account privacy, location
		6.2.3	Apply social networking account settings: account privacy, location
		6.2.4	Understand potential dangers when using social networking sites like: cyber bullying, grooming, malicious disclosure of personal content, false identities, fraudulent or malicious links, content, messages
		6.2.5	Be aware that you can report inappropriate social network use or behaviour to the service provider, relevant authorities
		6.3.1	Understand the security vulnerabilities of instant messaging (IM) and Voice over IP (VoIP) like: malware, backdoor access, access to files, eavesdropping
	6.3 VoIP and Instant Messaging	6.3.2	Recognise methods of ensuring confidentiality while using IM and VoIP like: encryption, non-disclosure of important information, restricting file sharing
	6.4 Mobile	6.4.1	Understand the possible implications of using applications from unofficial application stores like: mobile malware, unnecessary resource utilisation, access to personal data, poor quality, hidden costs
		6.4.2	Understand the term application permissions
		6.4.3	Be aware that mobile applications can extract private information from the mobile device like: contact details, location history, images
		6.4.4	Be aware of emergency and precautionary measures if a device is lost like: remote disable, remote wipe, locate device
	7.1 Secure and Back up Data	7.1.1	Recognise ways of ensuring physical security of computers and devices like: do not leave unattended, log equipment location and details, use cable locks, access control
		7.1.2	Recognise the importance of having a backup procedure in case of loss of data from computers and devices

Category	Knowledge Area	Ref.	Knowledge Item
		7.1.3	Identify the features of a backup procedure like: regularity/frequency, schedule, storage location, data compression
		7.1.4	Back up data to a location like: local drive, external drive/media, cloud service
		7.1.5	Restore data from a backup location like: local drive, external drive/media, cloud service
	7.2. Secure Deletion and Destruction	7.2.1	Distinguish between deleting and permanently deleting data
		7.2.2	Understand the reasons for permanently deleting data from drives or devices
		7.2.3	Be aware that content deletion may not be permanent on services like: social network site, blog, Internet forum, cloud service
		7.2.4	Identify common methods of permanently deleting data like: shredding, drive/media destruction, degaussing, using data destruction utilities

Image Editing

This module sets out essential concepts and skills relating to the ability to understand the main concepts underlying digital images and to use an image editing application to enhance images, apply effects, and prepare an image for printing and publishing.

Module Goals

Successful candidates will be able to:

- ▶ Know about the main concepts of using digital images and understand graphic format options and colour concepts
- ▶ Open an existing image, save an image in different formats, and set image file options
- ▶ Use built-in options such as displaying toolbars, palettes to enhance productivity
- ▶ Capture and save an image, use various selection tools, and manipulate images
- ▶ Create and use layers, work with text, use effects and filters, and use drawing and painting tools
- ▶ Prepare images for printing or publishing

Category	Knowledge Area	Ref.	Knowledge Item
1 Imaging Concepts	1.1 Digital Images	1.1.1	Identify common uses of digital images like: web and print publishing, distribution by e-mail and mobile phone, home printing, digital photo frames
		1.1.2	Understand the terms pixel, resolution and identify the key features of a digital image: composed of discrete pixels, represented digitally in binary code
		1.1.3	Understand the terms lossy, lossless image file compression
		1.1.4	Understand the term copyright and the implications for image use. Understand the terms royalty-free images and rights-managed images
	1.2 Graphic Formats	1.2.1	Understand the terms raster and vector graphics and distinguish between them. Identify common raster (jpeg, gif) and vector (svg, eps) formats

Category	Knowledge Area	Ref.	Knowledge Item
	1.3 Colour Concepts	1.2.2	Recognize proprietary digital image editing application formats: psd, psp, xcf, cpt
		1.3.1	Understand the term colour model and recognize common colour models: RGB, HSB, CMYK, grayscale
		1.3.2	Understand the terms colour palette, colour depth
		1.3.3	Understand the terms hue, saturation, colour balance
		1.3.4	Understand the terms contrast, brightness, gamma
		1.3.5	Understand the term transparency
	2.1 Capturing Images	2.1.1	Save an image from a digital camera to a location on a drive
		2.1.2	Use the print screen facility to capture a full screen, active window
		2.1.3	Save an image from an image library, web page to a location on a drive
		2.1.4	Open a scanning application and scan an image: preview, set scanning parameters, scan, save
2 Image Capture	2.1 Capturing Images	2.1.1	Save an image from a digital camera to a location on a drive
		2.1.2	Use the print screen facility to capture a full screen, active window
		2.1.3	Save an image from an image library, web page to a location on a drive
		2.1.4	Open a scanning application and scan an image: preview, set scanning parameters, scan, save
		2.1.1	Open, close an image editing application. Open, close image files
		3.1.2	Create a new image file and set options: colour model, size, resolution, background colour
		3.1.3	Create a new image file from clipboard
3 Using the Application	3.1 Image Creation	3.1.4	Switch between open image files
		3.1.5	Save an image to a location on a drive. Save an image under another name to a location on a drive
		3.1.6	Save, export an image as another file type like: jpeg, gif, tiff, png
	3.2 Settings	3.2.1	Set background colour, foreground colour
		3.2.2	Set grid properties: units, horizontal spacing, vertical spacing, colour

Category	Knowledge Area	Ref.	Knowledge Item
	3.3 Enhancing Productivity	3.3.1	Set basic options/preferences in the application like: transparency, grid settings, measurement units
		3.3.2	Use available Help functions
		3.3.3	Use magnification/zoom tools
		3.3.4	Use the undo, redo command. Use the undo history
		3.3.5	Display, hide built-in toolbars, palettes, windows
4 Working with Images	4.1 Selection	4.1.1	Select an entire image, layer(s)
		4.1.2	Set selection tool properties: relationship between multiple selections, feathering, anti-aliasing, width, height
		4.1.3	Select part of an image using selection tools: rectangular, elliptic, magic wand, magnetic lasso, freehand image
		4.1.4	Inverse a selection
		4.1.5	Save a selection, load a saved selection
	4.2 Image Manipulations	4.2.1	Change the canvas size of an image
		4.2.2	Resize an image in pixels, measurement units
		4.2.3	Crop an image
		4.2.4	Copy, move image(s), selection within an image
		4.2.5	Rotate, mirror an image, selection within an image
	4.3 Layers	4.3.1	Define and understand the term layer
		4.3.2	Create, copy, delete a layer
		4.3.3	Set layer properties: name, hide, show, lock, opacity, blending mode
		4.3.4	Arrange, merge, link, flatten layers
		4.3.5	Transform layer(s): scale, rotate, flip, move, trim
		4.3.6	Convert a drawn object to a raster layer
		4.3.7	Create an animated gif from layers

Category	Knowledge Area	Ref.	Knowledge Item
	4.4 Text	4.4.1	Add, edit, delete text
		4.4.2	Copy, move text
		4.4.3	Align text: left, centre, right, justified
		4.4.4	Apply text formatting: font sizes, font types, font colour
		4.4.5	Apply a text warp
	4.5 Effects and Filters	4.5.1	Apply artistic, distortion effects: pixelate, emboss, wind, ripple, twirl, desaturate
		4.5.2	Apply blur effects: gaussian, motion
		4.5.3	Apply lighting effects: lighting, flare
		4.5.4	Apply adjustments: brightness-contrast, hue-saturation, colour balance
		4.5.5	Apply sharpen, unsharpen mask
		4.5.6	Apply red eye reduction
5 Drawing and Painting	5.1 Drawing Tools	5.1.1	Add a line to an image: straight line, free drawn line, curves. Set, modify line weight, style and colour
		5.1.2	Add a shape to an image: rectangle, ellipse, n-shaped polygon. Set, modify line, fill style and colour
	5.2 Painting Tools	5.2.1	Pick up a colour value with the dropper
		5.2.2	Fill a portion of an image with the gradient tool, selecting opacity/transparency, radial, linear, position, rotation
		5.2.3	Colour a portion of an image with the paint-brush tool, selecting colour, shape, size
		5.2.4	Erase a portion of an image with the eraser tool, selecting its shape and size
		5.2.5	Fill a portion of an image with colour using the paint bucket tool
		5.2.6	Clone a portion of an image using a clone tool, selecting size, opacity
6 Prepare Outputs	6.1 Setup	6.1.1	Preview an image
		6.1.2	Select appropriate colour depth, resolution, image size, graphic format for web, screen, print use

Category	Knowledge Area	Ref.	Knowledge Item
	6.2 Print	6.2.1	Change print output orientation: portrait, landscape. Change paper size
		6.2.2	Print an image to an installed printer using defined options, default settings

Notes

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal blue lines across its entire width, set against a plain white background. There are no margins, text, or other markings present.

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LLLC

Luxembourg Lifelong Learning Center
2 – 4 rue Pierre Hentges - L-1726 Luxembourg
T +352 27 494 600 - F +352 27 494 650
formation@LLLC.lu - www.LLLC.lu



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