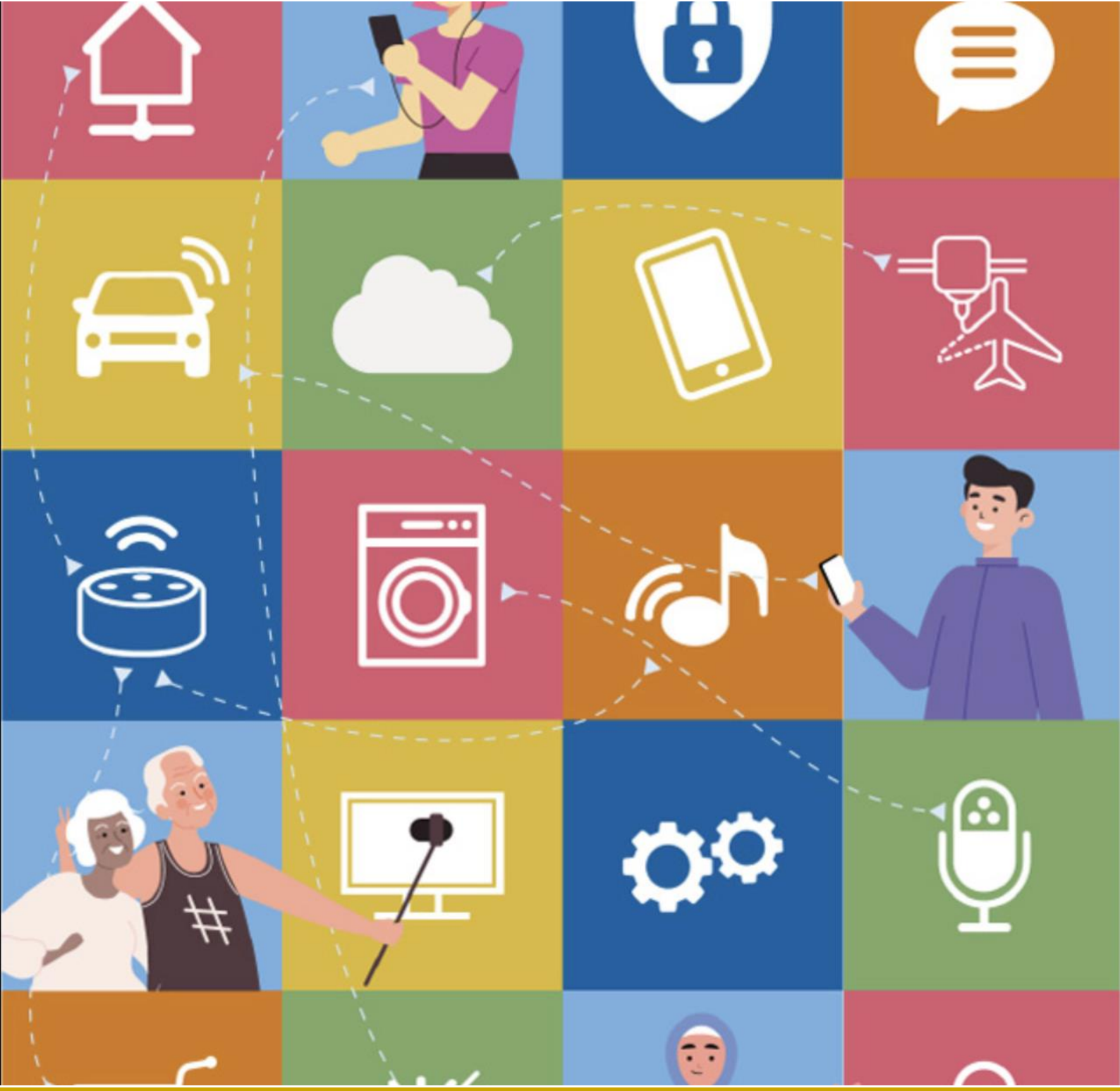

MICROCREDENTIALS FOR INFORMATION DATA LITERACY COMPETENCE 1.1: BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT

DSW
DIGITAL SKILLS WALLET

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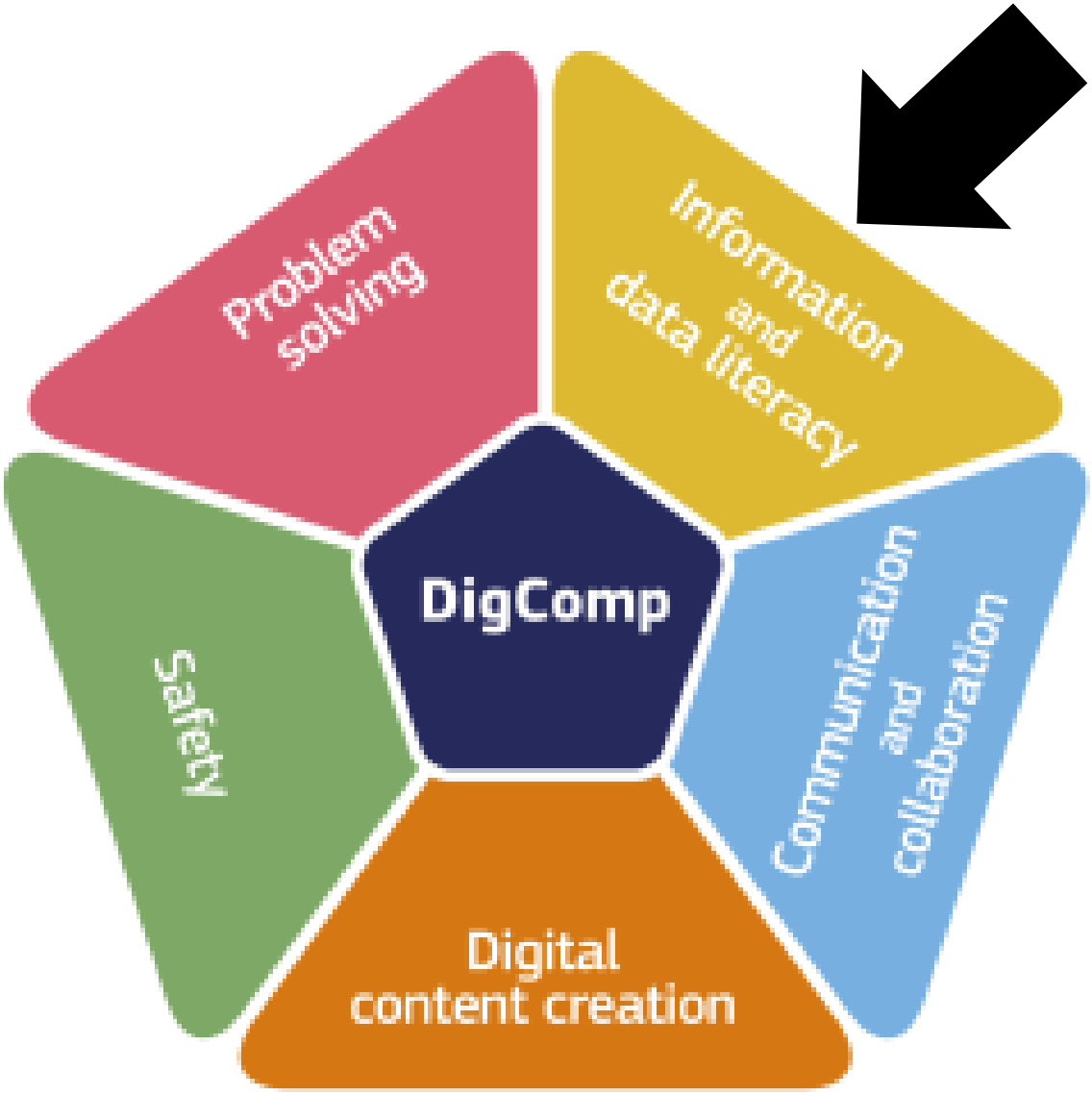
Problem solving
Information and data literacy
DigComp
Safety
Communication and collaboration
Digital content creation

Contents

FOUNDATION LEVEL

(LEVEL 1 AND LEVEL 2)

INTERNET ESSENTIALS – WHAT, HOW AND WHY (MC 1.1.A.1)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Internet Essentials – What, How and Why Code: MC 1.1.A.1
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	Minimum 3 – Maximum 4 hrs
Level of the learning experience leading to the micro-credential	FOUNDATION
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.1, 1.1.2 and 1.1.3)
Digital Ergonomics

- Enlist the different types of digital information sources
- Describe basic functionality of the Internet and the main terminology used
- Describe how the Internet can provide information, services and solutions to problems

Description

"The Internet Essentials – What, How and Why" Micro Credential equips learners with primary knowledge for individuals to understand the various online sources that provide information such as web sites, blogs, portals, social media and multimedia sources.

As it is essential to understand how the Internet works, this course(s) goes one step further to provide the learners with the basic knowledge of the “elements” that work together (web servers, DNS server, IP address) in order to have a working World Wide Web. Moreover, this MC clarifies the terms which are widely used on the Internet such as domain name, URL, IP address, ISP etc.

Finally, participants will gain the knowledge on how the Internet can provide services and solutions such as blogs and forum for getting answers to questions, AI platforms (i.e. ChatGPT), e-learning content, government and banking services and much more.

On successful completion of the micro credential participants will earn " The Internet Essentials – What, How and Why " demonstrating their competency in understanding the world wide web.

Questions

The Internet Essentials – What, How and Why

1. Can you enlist and describe various sources of online information?
2. Can you describe in simple words how the Internet works?
3. What are the main terms used when discussing about the Internet and what do they mean?
4. What kind of services are available online and what problems they can solve?

NAVIGATING THE INTERNET WHILE RECOGNIZING THE RISKS (MC 1.1.A.2)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Navigating the Internet while recognizing the risks Code: MC 1.1.A.2
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	Minimum 4 – Maximum 7 hrs
Level of the learning experience leading to the micro-credential	FOUNDATION
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.4, 1.1.5, 1.1.6, 1.1.7, 1.1.8 and 1.1.9)
Navigating the Internet while recognizing the risks

- Describe at high level the risks of using the Internet
- Describe the strengths and weaknesses of different platforms for finding information for various purposes.
- Exercise critical thinking while browsing online information
- Perform simple navigation on the internet, request, receive and download information
- Recognize the prerequisites for opening downloaded files and the risks
- Distinguish between various types of online content available and possible reasons for free online content

Description

"Navigating the Internet while recognizing the risks" Micro-credential is designed to equip learners with the knowledge of the risks luring while browsing the Internet such as viruses, spyware, adware and identity theft.

The Micro-credential also covers the strengths of online platforms such as speed and accessibility, algorithmic ranking of information as well as the weaknesses such as Quality Control issues and Information Overload. The learner should be able to recognize the positives and negatives of online information and exercise a critical thinking while assessing the information. Not always the information is ranked correctly or the information may be fake. Moreover, this Micro Credential, equips learners with an understanding of the reasons behind free online content therefore accessing this information with caution.

Finally, this micro-credential delivers the skills to perform online browsing, navigating to various online resources and downloading information such as a document, a picture or a movie. It also covers the prerequisites for opening downloaded files and possible risks.

On successful completion of the micro credential participants will earn " Navigating the Internet while recognizing the risks" and will be equipped with the knowledge to navigate safely the internet and download information.

Questions

1. Can you provide examples of the risks while navigating the internet?
2. Can you enlist and explain the strengths and weaknesses of online platforms?
3. Can you browse the Internet?
4. Can you provide or receive information online?
5. What are the prerequisites to open a downloaded file and what are the risks of doing so?

Understanding and Using Search Engines (MC 1.1.A.3)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Understanding and using Search Engines Code: MC 1.1.A.3
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	Minimum 3 – Maximum 5 hrs
Level of the learning experience leading to the micro-credential	FOUNDATION
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.10, 1.1.11. 1.1.12 and 1.1.3)
Navigating the Internet while recognizing the risks

- Describe in simple terms how Search Engines operate
- Distinguish between organic and non-organic (paid) search results in Google
- Recognize that many factors influence the order of the search results
- Identify key words for efficient search on the Internet, and phrase them into a query and define SIMPLE search strategies to get the best results

Description

" Understanding and using Search Engines" Micro Credential is designed to equip learners with the knowledge on the processes performed by search engines to deliver results. Additionally, this MC covers the differences between organic and non-organic search results and equips the learners with the knowledge to be able to distinguish between them.

Moreover, this MC emphasizes on the factors that influence the order of the search results, equipping the learners to view results with a critical eye, knowing that these may not be presented in the right order (in terms of relevance).

Finally, this Micro Credential equips learners with the skills to perform simple searches using any search engine.

On successful completion of the micro credential participants will earn the MC "Understanding and using Search Engines" and will be equipped with the knowledge and skills to use a search engine effectively.

Questions

1. Can you describe how search engines work?
2. Can you explain in simple words how ranking is performed by search engines? What factors influence the order?
3. What are organic and non-organic search results? How can you distinguish between them?
4. Can you perform a simple search using a search engine by identifying and using keywords?

Information In Social Media (MC 1.1.A.4)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Information In Social Media Code: MC 1.1.A.4
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	Minimum 3 – Maximum 5 hrs
Level of the learning experience leading to the micro-credential	FOUNDATION
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.14, 1.1.15, 1.1.16, 1.1.17 and 1.1.18)
Information in Social Media

- Be aware how content is created in Social Media platforms
- Be aware of the risks of misinformation on social media and the understand the responsibility of creating and sharing false content and disinformation
- Adopt a responsible attitude towards creating and sharing content and the responsibility of disinformation
- Develop digital literacy skills for effective use of social media tools to find information
- Describe the use of hashtags in SM and how they contribute in searches and trending

Description

"Information in Social Media" micro-credential demonstrates an understanding how information is created in social media (Facebook, Instagram, YouTube, Tik Tok and other platforms) and the potential issues when using the Social Media such as fake news, hoaxes and rumours and disinformation campaigns.

This micro-credential demonstrates that learners are equipped with the necessary skills to create, share, like and subscribe to content as well as finding information via different channels. It demonstrates that learners understand how to search for information with different methods including hashtags.

On successful completion participants will earn the MC " Information in Social Media" demonstrating that learners are equipped with the knowledge and skills to create and share responsibly content on social media as well as to find information, critically assessing the validity of it.

Questions

1. Can you provide examples on how to perform searches in the popular Social Media Platforms?
2. Can you create and share content on Social Media platforms?
3. Can you find information in Social Media with the use of various methods?
4. Do you understand the implications and the implications of sharing false content?
5. What are the hashtags?

Finding Information on Devices (MC 1.1.A.5)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Finding Information on Devices Code: MC 1.1.A.5
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	Minimum 3 – Maximum 5 hrs
Level of the learning experience leading to the micro-credential	FOUNDATION
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.19, 1.1.20, 1.1.21 and 1.1.22)
Finding Information on Devices

- Enlist different data storage devices (hard disk, USB etc), describe how data is organized on a hard disk
- Perform simple searches on a Personal Computer
- Enlist various locations of data storage on a mobile device
- Perform a simple search on a mobile device

Description

"Finding Information on Devices" micro-Credential demonstrates that learners understand the various storage devices used for personal computers and how data is/can be organized on these devices (the folder structure). The acquisition of this MC also proves that the learner is able to perform simple searches in order to find files using part of the filename.

Additionally, it demonstrates basic understanding on where and how data is stored on mobile devices as well as storage locations. The organization of files on mobile devices differs from the way files are organized on a PC since each app may use its own folder (such as Whats app or viber) and the learner is able to locate theses files on the mobile device.

The micro-credential " Finding information on Devices" demonstrates the understanding of the learner to locate and search for files on PCs and mobile devices

Questions

1. Can you enlist possible devices for data storage on a PC?
2. Can you explain how data is organized in a structured way on a device?
3. Can you perform a simple search to locate a file on a hard disk?
4. Can you provide examples of data storage on mobile devices?
5. How data is organized on mobile devices? How can you locate files on these devices?

INTERMEDIATE LEVEL

(LEVEL 3 AND LEVEL 4)

Advanced Browsing and Searching the Internet (CODE 1.1.B.1)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Advanced Browsing and Searching the Internet Code: MC 1.1.B.1
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	4-8 hrs
Level of the learning experience leading to the micro-credential	INTERMEDIATE
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.23, 1.1.24, 1.1.25, 1.1.26, 1.1.27, 1.1.28 and 1.1.29)
Advanced Browsing and Searching the Internet

- Browse and Search the Internet using a variety of explorers and search engines
- Apply DIFFERENT search strategies to get the best results
- Develop effective search methods for personal and professional purposes
- Describe how Search Engines operate and the various factors affecting the results provided
- Enlist the methods employed by online content providers to achieve higher ranking in organic results
- Enlist the main reasons that searches may differ from user to user
- Recognize how search results may not always give the correct information.

Description

This micro-credential demonstrates the capacity of the learner to navigate the internet by using a variety of Internet explorers such as Microsoft Edge, Google Chrome, Safari and Opera. This MC demonstrates that the learner can easily find his/her way around any explorer and use it to navigate as well as to perform basic functions such as view history of browsed pages, add or view bookmarks and downloads. Additionally, it demonstrates familiarity of the learner with a number of search engines such as Google, Bing and Yahoo, in a way that he/she can find files, videos, pictures using simple search techniques.

Additionally, the acquisition of this MC demonstrates that the learners can apply a variety of search techniques (i.e. using different search engines, quotation marks, remove unhelpful words) in order to get the best results. While searching/browsing the internet, the volume of the results can be overwhelming and therefore this MC also demonstrates that the learner can develop strategies to filter/narrow down the results (using Bookmarks, Add to Favorites/Basket, Navigating content quickly by opening new tabs etc).

This MC also proves that the learner has a solid understanding on how search engines work (are Crawling, Indexing, Ranking, Search Query Processing and Improving) and how the results provided while searching are influenced by a number of factors (SEO of pages, number of visitors, incoming links and domain authority can affect the ranking of a page). Moreover, this MC demonstrates that the learner recognizes the main factors that may affect the results of a search (i.e. Location or search engine used).

Finally, this MC demonstrates an understanding of how non-legitimate methods can be employed such as SEO Poisoning that may affect the results of a search.

Questions

1. Can you provide a list of 3-4 different Internet Explorers?
2. Are you able to use a variety of Internet explorers and use basic functions (adding bookmarks, finding downloads or viewing History)?
3. Can you enlist and use a variety of Search Engines to perform simple searches?
4. Can you describe how Search Engines operate and the various factors affecting the results provided
5. Can you Enlist the methods employed by online content providers to achieve higher ranking in organic results
6. Do you know the main reasons that searches may differ from user to user?

7. How non legitimate methods can influence the results? Can you name a few and how these may work?

Downloading and opening a variety of file types (CODE 1.1.B.2)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Downloading and opening a variety of file types Code: MC 1.1.B.2
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	4 hrs
Level of the learning experience leading to the micro-credential	INTERMEDIATE
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.30 and 1.1.31)
Downloading and opening a variety of file types

- Be aware of various file types and how these can be downloaded and opened(read)
- Download, open and organize files from online sources

Description

The acquisition of this micro-credential demonstrates that the learner is aware that different file types exist and that each file type requires specific software in order to open it. Learners demonstrate knowledge of the basic file types(i.e. .docx, xlsx, pptx, pdf, .zip) and are aware of the type of software that must be installed in order to open these file types. This MC also demonstrates the capacity of the learners to download these files and open them by acquiring the relevant software.

Moreover, learners demonstrate a critical approach when they encounter a file type not known to them and can employ various ways in order to find a method/software in order to open it.

Additionally, learners demonstrate the capacity to organize downloaded content in a logical way in order to be able to locate it easily on a device.

Questions

1. What a file type means and what does it indicate?
2. Can you enlist 5 main file types and the relevant software needed in order to open them?
3. How can you access downloaded content and how can you organize it in a structure manner in order to locate it with ease in the future?
4. What do you do if you cannot open a downloaded file?

Internet and Privacy (CODE 1.1.B.3)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Internet and Privacy Code: MC 1.1.B.3
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	3-4 hrs
Level of the learning experience leading to the micro-credential	INTERMEDIATE
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.32, 1.1.33)

Internet and Privacy

- Describe how Internet searches and browsing leave traces on the device with the use of Cookies and History
- Enlist and apply methods and tools to avoid or delete cookies and History

Description

The acquisition of this MC demonstrates that the learner is aware how every search and internet browsing leaves traces on the device such as cookies and history. This exposes user's privacy and influences what the user will see while browsing the internet and Social Media platforms. This MC demonstrates that the user is able to apply methods and tools to protect his/her privacy for example by deleting cookies and History or by using special tabs (i.e. Incognito tab in Google Chrome) in order to avoid the cookies.

Questions

1. Can you describe how Internet searches and browsing leave traces on the device?
2. Can you explain in simple words what are the cookies and History in a browser?
3. Do you know how to delete cookies or clear your browsing history?
4. What kind of methods you could use in order to protect your privacy?

Searching on Devices using Metadata (CODE 1.1.B.4)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Searching on Devices using metadata Code: MC 1.1.B.4
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	3-4 hrs
Level of the learning experience leading to the micro-credential	INTERMEDIATE
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.34 and 1.1.35)
Searching on Devices using metadata

- Describe what is metadata and how it can be used for searching digital content
- Organise files based on metadata information and perform advanced file search on a PC using metadata

Description

The acquisition of this MC demonstrates that the learner has knowledge of the data properties (metadata). Metadata refers to data that provides information about other data. In other words, it's data about data. Metadata describes various aspects of a piece of information, helping users, systems, and applications understand and manage that information. Metadata can take many forms, depending on the context in which it is used. Here are some common examples:

- Document Metadata: In the context of documents, metadata might include information such as the author, creation date, last modified date, file size, and document type.
- Digital Media Metadata: For photos, videos, and audio files, metadata can include details like the date and time the media was created, the camera settings used, and geolocation information.
- Web Metadata: On the web, metadata is often embedded in HTML documents and includes information such as the title of a webpage, its author, keywords, and a description of the content.
- Database Metadata: In databases, metadata describes the structure of the database, including the names and types of tables, the relationships between tables, and constraints.
- Geospatial Metadata: For geographic information systems (GIS), metadata might include details about the coordinate system, spatial extent, and other information related to geographical data.
- Software Metadata: In software development, metadata can include information about code, such as comments, version history, and dependencies.

Metadata plays a crucial role in organizing, discovering, and managing information. It helps users find and understand data, supports data integrity, and facilitates efficient data management. Additionally, metadata is often used to enhance the interoperability of different systems and tools, allowing them to work together seamlessly.
Therefore, this MC demonstrates the capacity of the learner to organize and search digital content based on metadata

Questions

1. What is metadata?
2. How metadata help in organising and finding digital content?
3. Can you provide some examples of metadata information?
4. Can you organise files on a PC based on date modified or by size?
5. Can you search for digital content on a PC using metadata?

Sorting and Filtering Data, Digital Content and Information (CODE 1.1.B.5)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Sorting and Filtering Data, Digital Content and Information Code: MC 1.1.B.5
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	8 hrs
Level of the learning experience leading to the micro-credential	INTERMEDIATE
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.36, 1.1.37 and 1.1.38)
Sorting and Filtering Data, **Digital Content and Information**

- Describe the use of filtering and sorting and how these can serve various purposes.
- Perform simple filtering and sorting of data in a table in a spreadsheet
- Perform simple filtering and sorting of emails in an email application

Description

Filtering data, digital content, and information involves the process of selectively allowing or restricting access to specific elements based on predefined criteria. This can be applied to various types of digital content and information, and it's done for a variety of purposes, including:
Internet Content Filtering:

- Purpose: Filtering internet content helps control access to websites and online material.
- Implementation: Employed by organizations, schools, and homes to block inappropriate or distracting content, enforce compliance with policies, or ensure internet safety.

Email Filtering:

- Purpose: Filtering emails helps manage and prioritize incoming messages.
- Implementation: Involves sorting emails based on criteria such as sender, subject, and content. It's used to identify and filter out spam, as well as organize messages efficiently.

Data Filtering in Databases and Spreadsheets:

- Purpose: Filtering data in databases and spreadsheets assists in analysing and presenting specific subsets of information.
- Implementation: Users can set criteria to display only the rows of data that meet certain conditions, making it easier to focus on relevant information.

Network Traffic Filtering:

- Purpose: Filtering network traffic helps manage the flow of data within a computer network.
- Implementation: Firewalls use filtering rules to allow or block data packets based on factors such as source, destination, protocol, or content, enhancing network security.

Search Engine Filtering:

- Purpose: Search engine algorithms filter and rank search results to provide users with the most relevant information.
- Implementation: Factors such as keywords, relevance, authority, and user preferences are considered to filter and present search results.

Content Filtering on Social Media and Websites:

- Purpose: Content filtering on social media and websites helps control the type of content users can access.
- Implementation: Social media platforms and websites use algorithms to filter content based on user preferences, community guidelines, or legal requirements.

File and Application Filtering:

- Purpose: Filtering files and applications helps manage and control access to specific software or file types.
- Implementation: Access control lists (ACLs) or software settings can be used to filter and restrict access to certain files or applications.

Filtering is a crucial aspect of digital content and information management, serving purposes such as enhancing security, improving user experience, and ensuring compliance with regulations and policies. It allows individuals

and organizations to tailor their digital environments to meet specific needs and objectives.

Learners who acquired this MC are aware of how these 2 functions can assist in numerous occasions to locate information but also assist systems to restrict access or control the type of content users can access. Moreover, it demonstrates that learners are able to perform basic filtering and sorting of emails in an email application or a spreadsheet.

Questions

1. Can you describe the various purposes were sorting and filtering is used?
2. How content filtering works on Social Media and the Internet?
3. Can you perform email sorting in an email application such as outlook or Gmail?
4. Can you perform sorting and filtering in a spreadsheet application such as excel or google sheets?

ADVANCED LEVEL
(LEVEL 5 AND LEVEL 6)

Evaluating Sources for Information and Advanced Search Techniques (MC 1.1.C.1)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Evaluating Sources for Information and Advanced Search Techniques Code: MC 1.1.C.1
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	4-5 hrs
Level of the learning experience leading to the micro-credential	ADVANCED
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.39, 1.1.40 and 1.1.41)

- Assess information needs and choose the best source to find information
- Apply ADVANED SEARCH to get the best results
- Consider the possible outcome before clicking a link.

Description

Evaluating potential sources of information (i.e. the wider internet, knowledge bases, social media etc) and choose the best to find answers is an essential skill to effectively find the right and correct information. Knowing where to search for example the google academia or Microsoft knowledge base is an essential skill in today's social and work life.

Additionally, evaluating the credibility and reliability of sources is crucial when seeking information online. For example, checking the Authorship, examining the publication source and publication date, considering the purpose of the source, examining the domain and URL, or even checking the editorial standards can lead to correct and credible information.

The acquisition of this MC demonstrates that the learner has the skills to perform effective searches using a broad range of sources while at the same time demonstrates the necessary skills and critical thinking to check and evaluate the credibility of the source and to develop a systematic approach to evaluating the reliability and credibility of sources, that deliver accurate and trustworthy information online.

Additionally, this MC demonstrates that the learner can use advanced search techniques, for example search with exact phrase, language, region, date last updated to get better search results.

Finally, this MC proves that the user is aware of "click baits" and exercises critical thinking before clicking on a link that could potentially compromise the security or expose the learner to inappropriate content.

Questions

1. Provided with a case scenario of information needed, can you suggest possible sources that can deliver credible and trustworthy information?
2. What criteria should you consider in order to evaluate an information source and its credibility?
3. Can you apply advanced search techniques?
4. Given a case scenario where specific information is needed, can you develop a strategy to locate possible sources, search these sources and evaluate the information provided?
5. Do you know what is a click bait?

Strategies for Finding and classifying information effectively (MC 1.1.C.2)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Strategies for Finding and classifying information effectively Code: MC 1.1.C.2
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	7 hrs
Level of the learning experience leading to the micro-credential	ADVANCED
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.42, 1.1.43 and 1.1.44)

- Employ methods to quickly navigate search results and identify the most useful ones
- Intentionally avoid distractions and aim to avoid information overload when accessing and navigating information, data and content
- Classify information validity by employing a methodology to handle infodemic

Description

There are a variety of strategies to navigate through vast amount of information such as the use of separate tabs in an internet explorer, diagonal review of the information and closing or keeping the tab open if it presents with valuable information.

Additionally, avoiding distractions and navigating through the vast amount of information on the internet, especially during times of information overload or infodemics, can be challenging. Strategies can be applied in order to effectively browse the internet and locate the right information such as setting specific goals, using productivity tools and good time management. To manage infodemic learners can employ a strategy for filtering information and deciding the validity of the information.

Adopting a method or using tools to classify information (i.e. prioritization, folders, tags, bookmarks, or note-taking apps etc) can also help to navigate through information quickly.

This MC demonstrates the ability of the learner to exercises effective browsing techniques, by narrowing down and classifying the valid information and effectively creating a single pool of resources that could potentially provide the answers the learner is searching.

Questions

1. Can you demonstrate methods to quickly navigate a pool of potential resource information and narrow down the possible results?
2. What kind of tools you could use to classify information?
3. How can you avoid distractions while searching for information?
4. Develop as search strategy that demonstrates your capacity to locate the right information using tools and techniques.

In depth knowledge of how various factors influence search results, Social Media activity streams and content (MC 1.1.C.3)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	In depth knowledge of how various factors influence search results, Social Media activity streams and content Code: MC 1.1.C.3
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	6 hrs
Level of the learning experience leading to the micro-credential	ADVANCED
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LO 1.1.C.45)

- Describe how different factors influence search results, social media activity streams and content recommendations on the internet

Description

Several factors influence search results, social media activity streams, and content recommendations on the internet. The algorithms employed by search engines, social media platforms, and content recommendation systems are designed to deliver personalized and relevant content to users. There are some key factors that play a role such as Relevance and Keywords, User Engagement, User Behaviour and History, Quality and Authority of Sources, Ad Algorithms to name a few.

For example, in reference to Relevance and Keywords, search engines consider the relevance of a webpage to the user's query. Keywords, title tags, meta descriptions, and overall content quality impact search rankings. On Social Media, the Algorithms analyse the content of posts, captions, and hashtags to determine relevance to user interests and as far as Content Recommendations are concerned, Keyword relevance and content topics influence the recommendations provided by content recommendation systems.

In regards to User Engagement, Search Results delivered take into account the click-through rate (CTR) of search results which influences their ranking. Pages that receive more clicks are considered more relevant.

On social media, the engagement level (likes, comments, shares) of posts affects their visibility in users' feeds and Content Recommendations systems use user engagement with recommended content (clicks, views) helps refine and personalize future recommendations.

The acquisition of this MC demonstrates that the user understands these factors and therefore they can navigate and optimize their online experiences by managing privacy settings, providing feedback, and being aware of how algorithms impact the information they see.

Questions

1. Can you describe 5 factors that influence the search results you get when you use a search engine?
2. Can you describe 3 factors that influence the Social Media activity streams?
3. In which platforms you get content recommendations and why you get these recommendations?
4. Is the recommendation always the same regardless of the user using the platform? Why or why not?

AI technology used in Search Engines and Social Media Platforms (MC 1.1.C.4)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	AI technology used in Search Engines and Social Media Platforms Code: MC 1.1.C.4
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	3 hrs
Level of the learning experience leading to the micro-credential	ADVANCED
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.46, 1.1.47 and 1.1.48)

- Describe in simple terms what is AI and how it is used by various search engines and applications
- Be aware that AI algorithms may not be easily understood by users and are often used to generate personalized responses
- Weighs the benefits and disadvantages of using AI-driven search engines (e.g. while they might help users find the desired information, they may compromise privacy and personal data, or subject the user to commercial interests). (AI)

Description

Artificial Intelligence (AI) is a technology used in various systems such as search engines, chatbots, image and speech recognition etc.

AI refers to computer systems or programs that are designed to perform tasks that typically require human intelligence. AI systems can learn from data, adapt to new information, and make decisions or predictions. It's a broad field that includes various technologies like machine learning, natural language processing, and computer vision.

By acquiring this MC the learner demonstrates that is aware how AI is used in search engines and apps and how AI algorithms influence results and are adapted to the individual user (referred to as “personalization”). The learners should also be aware that AI algorithms work in ways that are usually not visible or easily understood by users - referred to as “black box.

Questions

1. Can you provide examples of apps where AI technology is used?
2. How AI is used by search engines? How does it influence the results?
3. Is it possible to trace back why certain results are provided?
4. Can you explain how AI may be used in Social Media platforms?
5. What are the advantages and disadvantages of AI technology when used by SM platforms and search engines?

Use tools and services to enhance Privacy and User Rights Online (MC 1.1.C.5)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Use tools and services to enhance Privacy and User Rights Online Code: MC 1.1.C.5
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	7 hrs
Level of the learning experience leading to the micro-credential	ADVANCED
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. LOs 1.1.49, 1.1.50 and 1.1.51)

- Enlist and describe the functionality of tools and services designed to protect search privacy and other rights of users
- Use tools designed to protect search privacy
- Values tools designed to protect search privacy and other rights of users

Description

Several tools and services are designed to enhance search privacy and protect users from tracking and profiling such as DuckDuckGo, StartPage, Searx, Privacy-focused Browser Extensions such as uBlock Origin and HTTPS Everywhere.

With the acquisition of this MC the learner demonstrates knowledge of these tools and skills to download, install and use tools them. Moreover, by adopting a range of tools that enhance privacy and user rights proves an in depth understanding that the risks while working online are real and steps are taken to mitigate the risks.

Questions

1. Enlist 5 tools or services that enhance search privacy and protect users from tracking and profiling
2. Can you describe the use of DuckDuckGo?
3. What is Searx and UBlock?
4. What are the benefits of using HTTPS Everywhere?
5. Can you install a variety of tools /services to enhance your privacy?

EXPERT LEVEL

(LEVEL 7 AND LEVEL 8)

Combine Advanced Search Techniques to find and filter information (MC 1.1.D.1)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Combine Advanced Search Techniques to find and filter information Code: MC 1.1.D.1
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	3-5 hrs
Level of the learning experience leading to the micro-credential	EXPERT
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. Los 1.1.52, 1.1.53, 1.1.54)

52. Employ and combine advance search techniques to find and evaluate information
53. Inclined to ask critical questions in order to evaluate the quality of online information, and concerned about purposes behind spreading and amplifying disinformation.
54. Willing to fact-check a piece of information and assess its accuracy, reliability and authority, while preferring primary sources over secondary sources of information where possible

Description

The acquisition of this MC demonstrates the capacity of the learner to perform advanced searching in Search Engines such as

- Using Search Operators: Quotation Marks (" "): Use quotes to search for an exact phrase. For example, "climate change effects".
- Minus Sign (-): Exclude specific terms from your search. For example, "climate change effects -politics" to exclude political discussions.
- Site Operator (site:): Limit results to a specific website or domain. For example, "site:nytimes.com climate change".
- Related Operator (related:): Find sites related to a specified site. For example, "related:nytimes.com".
- Wildcard Operator (*): Use an asterisk to represent unknown words or phrases. For example, "artificial * technology".

Moreover, the learner demonstrates the capacity to utilise filters such as

- Date Range: Filter results by a specific date or range to find the most recent information.
- File Type: Specify the type of file you're looking for, such as PDFs or Word documents.
- Usage Rights: Find content that is available for reuse, modification, or commercial use.

Finally, the user demonstrates the capacity to assess the credibility of information by evaluating:

- Source Credibility: Assess the credibility of the source. Is it a reputable organization, institution, or individual?
- Bias Detection: Consider potential biases in the information presented. Is the information objective, or does it have a particular agenda?
- Cross-Verification: Verify information from multiple reliable sources to ensure accuracy and reliability.
- Currency: Check the publication date to ensure the information is up-to-date and relevant to your needs.
- Peer Review: Look for information that has been peer-reviewed, particularly in academic or scientific contexts, to ensure quality and reliability.

Questions

1. Can you enlist and describe the usage of various operators such as *, -, : while searching the internet?
2. Can you perform a search in File Explorer by using date range and file type?
3. Can you perform a search in Google to find content available for reuse?
4. Given a scenario and a list of search results, can you evaluate the results by providing reasons why or not they can be considered credible?

Use advanced filtering techniques with a set of combined criteria to filter structured data (MC 1.1.D.2)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Use advanced filtering techniques with a set of combined criteria to filter structured data Code: MC 1.1.D.2
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: **101087628**
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	8 hrs
Level of the learning experience leading to the micro-credential	EXPERT
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. Los 1.1.55)

55. Use advanced filtering techniques with a set of combined criteria to filter structured data

Description

The acquisition of this MC demonstrates the capacity of the learner to employ advanced filtering techniques with a set of combined criteria to filter structured data. The strategy could include

1. The definition of Criteria: For example, if working with a dataset of job listings, the criteria might include job title, location, salary range, required skills, and experience level.
2. Choosing the Right Tool or Software: Depending on the size and format of the structured data, the use of a spreadsheet software like Microsoft Excel or Google Sheets, or more advanced data analysis tools like Pivot Tables, PowerPivot, PowerBI or Tableut.
3. Apply Filters Sequentially: Apply filters to your data sequentially, starting with the most important criteria.
4. Combine Criteria Using Logical Operators:Use logical operators (AND, OR, NOT) to combine multiple criteria. For example, in the case of filtering job listings, use the "AND" operator to filter for job titles that include "data scientist" AND "senior," indicating a senior-level data scientist position.
5. Utilize Range Filters for Numerical Data: If filtering numerical data, such as salary range or years of experience, use range filters to narrow down results.
6. Consider Text Matching and Regular Expressions: Be able to filter based on text patterns or specific keywords, consider using text matching techniques or regular expressions. This can be particularly useful for filtering unstructured text data or fields with varying formats.
7. Review and Refine Results: After applying filters, review the resulting dataset to ensure it meets the criteria.
8. Document Your Process: Document the filtering process, including the criteria used and any transformations applied to the data. This documentation will help ensure transparency and reproducibility of your analysis.

The learner also demonstrates the capacity to apply functions or other techniques (i.e. in Excel or PowerPivot and PowerBI) to organize data needed prior to filtering.

Questions

1. Provided a structured set of data can you filter and present the data using a software like google sheets or Excel using a combination or operators?
2. Can you create a pivot table to filter a list by product and year?
3. Can you use PowerBI to showcase sales by department and Quarter in a matrix table?
4. Can you analyze data drown from online sources (i.e. Google Analytics) using a tool such as PowerBI?

Filtering Data using a Query Language (MC 1.1.D.3)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Filtering Data using a Query Language Code: MC 1.1.D.3
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	8 hrs
Level of the learning experience leading to the micro-credential	EXPERT
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. Los 1.1.56)

56. Use a Query Language to perform advanced filtering and sorting in a relational database

Description

The acquisition of this MC demonstrates the capacity of the learner to in writing complex SQL queries using advanced filtering and sorting techniques. Specifically, the learners demonstrate the capacity to

- Write Simple SELECT Statements
- Eliminate Duplicates with DISTINCT
- Use Column and Table Aliases
- Write Simple CASE Expressions
- Querying with Inner Joins
- Querying with Outer Joins
- Querying with Cross Joins and Self Joins
- Grouping and Aggregating Data

It also demonstrates a deep understanding of relational database concepts such as tables, relationships, keys, and indexes, and how these concepts relate to query performance.

Questions

1. Provided a structured set of data can you filter data using SELECT statements?
2. Provided a structured set of data can you eliminate duplicates using DISTINCT statement?
3. In a relational database can you write simple CASE expressions?
4. In a relational database can you extract and present data using Inner, Outer and Cross Joins?
5. Can you group and aggregate data using the GROUP BY Clause and aggregate Functions?

Acknowledging limitations of technologies for people with impairments and know the possibilities for improvements (MC 1.1.D.4)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Acknowledging limitations of technologies for people with impairments and know the possibilities for improvements Code: MC 1.1.D.4
Country(ies)/Region(s) of the issuer	ITALY, CYPRUS, GREECE, ROMANIA, IRELAND http://dsw.projectsgallery.eu
Awarding body(ies)	DSW Consortium Project Number: 101087628
Date of issuing	Nov 2023
Notional workload needed to achieve the learning outcomes	8 hrs
Level of the learning experience leading to the micro-credential	INTERMEDIATE
Type of assessment	Automatically marked Questions Number of Questions: 16 – 20 Passing Score: 75%
Form of participation in the learning activity	Online Asynchronous
Type of quality assurance used to underpin the micro-credential	Peer Review

Learning Outcomes

Learning Outcomes (ref. Los 1.1.57)

57. Concerned that much online information and content may not be accessible to people with a disability, for example to users who rely on screen reader technologies to read aloud the content of a web page. (DA)

Description

There are several technologies available to support individuals with impairments in working online, facilitating accessibility and ensuring equal opportunities in the digital workplace. Some examples are :

- Screen Reader Software: Screen readers like JAWS (Job Access With Speech), NVDA (NonVisual Desktop Access), and VoiceOver (for Apple devices) enable individuals with visual impairments to access and navigate digital content, including documents, emails, and webpages.
- Screen Magnification Software: Tools such as ZoomText and Magnifier in Windows allow users with low vision to enlarge on-screen content, making it easier to read and interact with digital interfaces.
- Speech Recognition Software: Speech-to-text technology like Dragon NaturallySpeaking and Windows Speech Recognition enables individuals with mobility impairments to dictate text, control computer functions, and navigate software using voice commands.
- Accessible Collaboration Platforms: Online collaboration tools like Microsoft Teams, Slack, and Google Workspace offer accessibility features such as screen reader support, keyboard shortcuts, and customizable interfaces, allowing users with impairments to participate fully in remote teamwork.
- Captioning and Transcription Services: Platforms like Otter.ai and Rev provide real-time captioning and transcription services for virtual meetings, webinars, and video conferences, ensuring accessibility for individuals with hearing impairments.
- Accessible Document Formats: Creating documents in accessible formats, such as HTML, PDF with proper tagging, and Word documents with semantic structure, ensures compatibility with assistive technologies and improves accessibility for individuals with disabilities.
- Remote Assistive Technology Training: Online training programs and resources, including webinars, tutorials, and virtual workshops, offer guidance and support for individuals with impairments in using assistive technologies effectively in remote work settings.
- Customizable User Interfaces: Software applications and operating systems that allow users to customize interface settings, such as font size, color contrast, and keyboard shortcuts, accommodate individual preferences and accessibility needs.
- Remote Technical Support Services: Dedicated technical support services for assistive technology users provide troubleshooting assistance, software customization, and guidance on optimizing accessibility features for remote work environments.
- Telework Accommodation Tools: Employers can provide telework accommodation tools and resources, such as ergonomic equipment, adjustable desks, and assistive technology stipends, to support employees with impairments in setting up accessible home workspaces.

By leveraging these technologies and practices, individuals with impairments can effectively participate in online work, contribute to remote teams, and access employment opportunities in the digital age.

The acquisition of this MC demonstrates that the learner acknowledges that there are technologies to facilitate working online for people with impairments, can describe the variety of options that could be implemented to accommodate online working and promotes the use of these technologies in the work

environment.

Questions

1. Can you enlist technologies that facilitate working online for people with impairments?
2. Can you describe technologies to accommodate working online for people with poor eyesight?
3. Can you describe technologies to accommodate working online for people with hearing problems?
4. What technologies would you suggest in your working environment to facilitate working online for people with musculoskeletal diseases

APPENDIX I: LEARNING OUTCOMES FOR COMPETENCE 1.1 BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT

DSW
DIGITAL SKILLS WALLET

Co-funded by the European Union

COMPETENCE AREA 1: INFORMATION AND DATA LITERACY		
COMPETENCE 1.1: BROWSING, SEARCHING ANF FILTERING DATA		
1	At basic level and with guidance, I can:	• identify my information needs, find data, information and content through a simple search in digital environments, • find how to access these data, information and content and navigate between them, • identify simple personal search strategies.
2	At basic level and with autonomy and appropriate guidance where needed, I can:	• identify my information needs, find data, information and content through a simple search in digital environments, • find how to access these data, information and content and navigate between them. • identify simple personal search strategies.
3	On my own and solving straightforward problems, I can:	• explain my information needs, • perform well-defined and routine searches to find data, information and content in digital environments, • explain how to access them and navigate between them, • explain well-defined and routine personal search strategies.
4	Independently, according to my own needs, and solving well-defined and non-routine problems, I can:	• illustrate information needs, • organise the searches of data, information and content in digital environments, • describe how to access these data, information and content, and navigate between them, • organise personal search strategies.
5	As well as guiding others, I can:	• respond to information needs, • apply searches to obtain data, information and content in digital environments, • show how to access these data, information and content and navigate between them. • propose personal search strategies
6	At advanced level, according to my own needs and those of	• assess information needs, • adapt my searching strategy to find the most appropriate data, information and content in

	others, and in complex contexts, I can:	digital environments, • explain how to access these most appropriate data, information and content and navigate among them, • vary personal search strategies.
7	At highly specialised level, I can:	• create solutions to complex problems with limited definition that are related to browsing, searching and filtering of data, information and digital content, • integrate my knowledge to contribute to professional practice and knowledge and guide others in browsing, searching and filtering of data, information and digital content,
8	At the most advanced and specialised level, I can:	• • create solutions to solve complex problems with many interacting factors that are related to browsing, searching and filtering data, information and digital content. • propose new ideas and processes to the field.

INTRODUCTION:

Information and data literacy refer to the skills and competencies required to effectively find, evaluate, interpret, manage, and use information and data. These literacies are essential in today's digital age, where an enormous amount of information and data is readily available.

Information literacy involves the ability to identify information needs, locate relevant sources, and critically evaluate the credibility, accuracy, and reliability of the information. It encompasses the skills necessary to navigate through various information resources such as libraries, databases, and the internet. Information literacy also includes the capability to effectively organize, synthesize, and communicate information in a meaningful way.

Data literacy, on the other hand, focuses specifically on the ability to understand, interpret, and analyze data. It involves the skills to work with data sets, identify trends and patterns, draw insights, and make informed decisions based on data. Data literacy is closely tied to data visualization, statistical analysis, and data-driven problem-solving.

Both information and data literacy are crucial in numerous contexts, including academic research, professional work, and everyday life. These literacies empower individuals to navigate the vast amount of information available, critically assess its quality, and make informed judgments and decisions. With the rapid growth of technology and the increasing reliance on data-driven approaches, information and data literacy have become indispensable skills for individuals across various disciplines and industries.

To develop information and data literacy, several knowledge areas and skills serve as prerequisites. These include:

1. **Understanding of Information Sources:** Familiarity with different types of information sources such as books, scholarly articles, websites, databases, and online repositories. Understanding how to access and navigate these sources is essential.
2. **Information Seeking Strategies**: Knowledge of effective strategies for locating information, including formulating search queries, using search engines and databases, and employing advanced search techniques to retrieve relevant and reliable information.
3. **Critical Evaluation**: The ability to critically evaluate the credibility, accuracy, and reliability of information sources. This involves assessing the authority, objectivity, currency, and relevance of the information to determine its trustworthiness.
4. **Information Organization and Management**: Skills in organizing, categorizing, and managing information effectively. This includes techniques for note-taking, citation management, file organization, and information storage and retrieval.
5. **Ethical Use of Information**: Understanding and adhering to ethical principles related to information use, such as avoiding plagiarism, respecting copyright and intellectual property rights, and properly citing and referencing sources.
6. **Data Literacy Fundamentals**: A basic understanding of data concepts, including data types, variables, and basic statistical measures. This foundation enables individuals to interpret and analyze data effectively.
7. **Data Visualization**: Proficiency in visualizing data through charts, graphs, and other visual representations to facilitate understanding and communicate insights effectively.
8. **Data Analysis and Interpretation**: Skills in analyzing and interpreting data using statistical techniques and tools. This includes understanding statistical measures, correlation, regression analysis, and data modeling.
9. **Problem-Solving with Data**: The ability to identify problems or questions that can be addressed using data analysis, and to apply data-driven approaches to solve real-world problems and make informed decisions.
10. **Information and Data Security**: Awareness of the importance of information and data security, including best practices for protecting personal and sensitive information, understanding privacy policies, and recognizing potential security risks.

Developing these knowledge areas and skills through formal education, training programs, and practical experience can enhance an individual's information and data literacy, enabling them to navigate the vast information landscape and leverage data effectively.

FOUNDATION LEVEL

COMPETENCE AREA: INFORMATION AND DATA LITERACY			
COMPETENCE 1.1: BROWSING, SEARCHING AND FILETRING DATA, INFORMATION AND DIGITAL CONTENT			
FOUNDATION			
Learning Outcome	Level	K – S - A	Example
INTERNET & SOCIAL MEDIA			
1. Enlist the different types of digital information sources	L1-L2	K	Enlist the different types of digital information sources such as websites, articles, blogs, social media, and multimedia content.
2. Describe basic functionality of the Internet and the main terminology used	L1 – L2	K	Describe in simple words how Internet operates. Enlist and describe the terms and their usage (such a url, domain, web server, IP address, ISP, DNS)
3. Describe how the Internet can provide information, services and solutions to problems	L1 – L2	K	The internet serves as a vast and dynamic resource, offering information, services, and solutions to a wide range of problems as it offers access to information, problem-solving communities, e-learning course etc.
4. Describe at high level the risks of using the Internet	L1 – L2	K	Describe possible risks such as Identity theft, Viruses, etc

5. Describe the strengths and weaknesses of different platforms for finding information for various purposes.	L1 – L2	K	Strengths of online platforms include speed and accessibility, algorithmic ranking of information etc. Weaknesses include Quality Control issues and Information Overload etc.
6. Exercise critical thinking while browsing online information	L1 – L2	S	Ranking of information and information itself should always be viewed with a critical eye. Not always the information is ranked correctly or information may be fake.
7. Perform simple navigation in the internet, request, receive and download information	L1 – L2	S	Visit a page, use of hyperlinks and download media such as files and multimedia
8. Recognize the prerequisites for opening downloaded files and the risks	L1 – L2	S	Recognize the main file types and requirements for opening such files on the computer and possible risks.
9. Distinguish between various types of online content available and possible reasons for free online content	L1 – L2	K	Online content may be open to the public, sign in is required or at a fee. Learners must be aware that there is a variety of reasons why certain content is available for free on the internet such as: Advertising Revenue, Content Marketing and Open Access and Open Source Initiatives
10. Describe in simple terms how Search Engines operate	L1 – L2	K	Search engines are complex systems designed to retrieve and present information from the vast expanse of the internet (such as Crawling, Indexing, Processing, Ranking, Retrieving, Displaying and Feedback and Iteration)

11. Distinguish between organic and non-organic (paid) search results in Google	L1 – L2	K	Distinguish in the search results which links are paid and which links are organic.
12. Recognize that many factors influence the order of the search results	L1 – L2	K	Be aware that search results are influenced by many factors such as SEO, location, device used, and third-party cookies and may be erroneously influenced by methods such as SEO poisoning
13. Identify key words for efficient search on the Internet, and phrase them into a query and define SIMPLE search strategies to get the best results	L1 – L2	S	Knowing how to phrase a query is of outmost importance. Identifying key phrases and writing queries is an important skill while searching the internet.
14. Be aware how content is created in Social Media platforms	L1 – L2	K	How SM work and how content is created in SM. How Social media can serve in finding information
15. Be aware of the risks of misinformation on social media	L1 – L2	K	Users should be aware of potential issues when using the Social Media such as fake news, hoaxes and rumors and disinformation campaigns.
16. Adopt a responsible attitude towards creating and sharing content and the responsibility of disinformation	L1 – L2	A	Users should be aware of potential issues when using the Social Media such as fake news, hoaxes and rumors and disinformation campaigns.

17. Develop digital literacy skills for effective use of social media tools to find information	L1 – L2	S	Describe the main functions performed in SM (post, like, share, subscribe) and how the information can be browsed and searched. Perform simple searches to find people and information in SM
18. Describe the use of hashtags in SM and how they contribute in searches and trending	L3-L4	K	Describe the use of hashtags in SM and how they contribute in searches and trending.
DEVICES			
19. Enlist different data storage devices (hard disk, USB etc), describe how data is organized on a storage device	L1-L2	K	Is aware of possible storage devices (i.e. Hard Disk on a PC, internal storage on a mobile phone, or dedicated storage of an app) and how data is organized and stored. For example, on a PC we have hard disk organized in folders and within folders we have files. Folders and Files have properties such as size, date created and date modified, author etc
20. Perform simple searches on a Personal Computer	L1-L2	S	Be able to perform a simple file search on the hard drive or any other storage media
21. Enlist various locations of data storage on a mobile devise	L1-L2	K	On a mobile phone, files are typically stored in different locations depending on the operating system (OS) and the type of file. Some common storage locations on mobile devices are Internal Storage, App-specific Storage, External Storage or SD Card, Media Storage, Downloads Folder:
22. Describe how data is organized on mobile devises and the way it is organized	L1-L2	S	Data on mobile devices can be located in various folders depending on the app used

INTERMEDIATE LEVEL

COMPETENCE AREA: INFORMATION AND DATA LITERACY			
COMPETENCE: BROWSING, SEARCHING AND FILETRING DATA, INFORMATION AND DIGITAL CONTENT			
INTERMEDIATE			
On my own and solving straightforward problems, I can: • explain my information needs, • perform well-defined and routine searches to find data, information and content in digital environments, • explain how to access them and navigate between them, • explain well-defined and routine personal search strategies. Independently, according to my own needs, and solving well-defined and non-routine problems, I can: • illustrate information needs, • organise the searches of data, information and content in digital environments, • describe how to access these data, information and content, and navigate between them, • organise personal search strategies.			
Learning Outcome	Level	K – S - A	Explanation
INTERNET AND SOCIAL MEDIA			

23. Browse and Search the Internet using a variety of explorers and search engines and use basic functions	L3 – L4	S	Use a variety of Internet Explorers and search engines to find information and use basic functions such as History, downloads and Bookmarks.
24. Apply DIFFERENT search strategies to get the best results	L3-L4	S	Search using different search engines, quotation marks, remove unhelpful words
25. Develop effective search methods for personal and professional purposes	L3-L4	S	For example, using Bookmarks, Add to Favorites/Basket, Navigating content quickly
26. Describe how Search Engines operate and desrive the various factors affecting the results provided	L3 – L4	K	Search engines are complex systems that index and retrieve information from the web to deliver relevant search results to users. A simplified explanation of how search engines work is important so as the learners can better evaluate the results. The basic functions performed by Search engines are Crawling, Indexing, Ranking, Search Query Processing and Improving.
27. Enlist the methods employed by online content providers to achieve higher ranking in organic results	L3-L4	K	SEO of pages, number of visitors, incoming links and domain authority can affect the ranking of a page.
28. Enlist the main reasons that searches may differ from user to user	L3-L4	K	Location or search engine used may affect the results of a search. There is no need the user to understand the mechanism, just to be aware that these may affect the results.

29. Recognize how search results may not always give the correct information.	L3-L4	K	Additionally, non-legitimate methods can be employed such as SEO Poisoning can affect the results.
30. Be aware of various file types and how these can be downloaded and opened(read)	L3 – L4	K	This LO aims to teach the learners of the various files types and how these can be downloaded and opened(read)
31. Download, open and organize files from online sources	L3 – L4	S	This LO aims to provide the learners with the skills to open and organize files from online sources
32. Describe how Internet searches and browsing leave traces on the device with the use of Cookies and History	L3-L4	K	Incognito tab and Inprivate Window have some benefits when performing a search. Your school, Internet Service Provider, or any parental tracking software may be able to see your activity.
33. Enlist and apply methods and tools to avoid or delete cookies and History	L3-L4	K-S	Internet explorers offer the functionality for Private Browsing as well as the option to delete cookies and history of browsed content and search results
Devices			
34. Describe what is metadata and how it can be used	L3-L4	K	Metadata refers to data that provides information about other data. In other words, it's data about data. Metadata describes various aspects of a piece of information, helping users, systems, and applications understand and manage that information.

for searching digital content			Metadata plays a crucial role in organizing, discovering, and managing information.
35. Organise files based on metadata information and perform advanced file search on a PC using metadata	L3-L4	S	View and organize files by metadata information such as date modified, file size etc. Search for files by using metadata .e. find a file using the Windows Explorer modified in the last 10 days
DATA			
36. Describe the use of filtering and sorting and how these can serve various purposes	L3-L4	K	Filtering data, digital content, and information involves the process of selectively allowing or restricting access to specific elements based on predefined criteria. This can be applied to various types of digital content and information, and it's done for a variety of purposes
37. Perform simple filtering and sorting of data in a table in a spreadsheet	L3-L4	S	Filtering and sorting data are essential operations in organizing and analyzing information within datasets, databases, spreadsheets, or any structured collection of data. Sorting functionality is commonly available in spreadsheet software, database management systems, and data analysis tools. Most platforms allow users to sort data based on one or multiple columns.
38. Perform simple filtering and sorting of emails in an email application	L3-L4	S	Filtering and sorting can be applied in numerous situations. Filtering and sorting emails is an example of how these functions can help to locate emails.

ADVANCED LEVEL

COMPETENCE AREA 1: INFORMATION AND DATA LITERACY			
COMPETENCE 1.1: BROWSING, SEARCHING AND FILETRING DATA, INFORMATION AND DIGITAL CONTENT			
ADVANCED			
As well as guiding others, I can: • respond to information needs, • apply searches to obtain data, information and content in digital environments, • show how to access these data, information and content and navigate between them. • propose personal search strategies. At advanced level, according to my own needs and those of others, and in complex contexts, I can: • assess information needs, • adapt my searching strategy to find the most appropriate data, information and content in digital environments, • explain how to access these most appropriate data, information and content and navigate among them, • vary personal search strategies.			
Learning Outcome	Level	K – S - A	Explanation
ONLINE			
INTERNET AND SOCIAL MEDIA			

39. Assess information needs and choose the best source to find information	L5-L6	S	Evaluate potential sources of information (i.e. the wider internet, knowledge bases, Social Media etc) and choose the best to find answers.
40. Apply ADVANED SEARCH to get the best results	L5-L6	S	Use Advanced search to search with exact phrase, language, region, date last updated to get better search results
41. Consider the possible outcome before clicking a link.	L5-L6	S	Some links (e.g. compelling titles) could be “clickbait” that takes the user to sponsored or unwanted content (e.g. pornography).
42. Employ methods to quickly navigate search results and identify the most useful ones	L5-L6	S	Use of opening separate tabs, diagonal review of the information and closing or keeping the tab open if it presents with valuable information.
43. Intentionally avoid distractions and aims to avoid information overload when accessing and navigating information, data and content	L5-L6	A	Avoiding distractions and navigating through the vast amount of information on the internet, especially during times of information overload or infodemics, can be challenging. Strategies can be applied in order to effectively browse the internet and locate the right information such as setting specific goals, using productivity tools and good time management.
44. Classify information validity by employing a methodology to handle infodemic	L5-L6	S	During the COVID 19 pandemic people were in parallel struggling with *infodemic*. Learners can employ a strategy for filtering information and deciding the validity of the information.
45. Describe how different factors influence search results, social media activity streams and content	L5-L6	K	These factors include the search terms used, the context (e.g. geographical location), the device (e.g. laptop or mobile phone), local regulations (which sometimes dictate what can or cannot be shown), the behaviour of ther users (e.g. trending searches or recommendations) and the user’s past online behaviour across the internet.

recommendations on the internet			
46. Describe in simple terms what is AI and how it is used by various search engines and applications	L5-L6	K	Artificial Intelligence (AI) refers to computer systems or programs that are designed to perform tasks that typically require human intelligence. AI systems can learn from data, adapt to new information, and make decisions or predictions. It's a broad field that includes various technologies like machine learning, natural language processing, and computer vision.
47. Be aware that AI algorithms may not be easily understood by users and are often used to generate personalized responses	L5-L6	K	Users should be aware that AI algorithms' results are adapted to the individual user referred to as "personalization" . The learners should also be aware that AI algorithms work in ways that are usually not visible or easily understood by users - referred to as "black box. The "black box" decision-making as it may be impossible to trace back how and why an algorithm makes specific suggestions or predictions
48. Weighs the benefits and disadvantages of using AI-driven search engines	L5-L6	A	AI technology, while might help users find the desired information, it may compromise privacy and personal data, or subject the user to commercial interests.
49. Enlist and describe the functionality of tools and services designed to protect search privacy and other rights of users	L5-L6	K	Several tools and services are designed to enhance search privacy and protect users from tracking and profiling such as DuckDuckGo, StartPage, Searx, Privacy-focused Browser Extensions such as uBlock Origin and HTTPS Everywhere
50. Use tools designed to protect search privacy	L5-L6	S	Download, install and use tools and browser extensions such as DuckDuckGo, StartPage, uBlock and HTTPS Everywhere

51. Values tools designed to protect search privacy and other rights of users	L5-L6	A	Adopting a range of tools that enhance privacy and user rights proves an in depth understanding that the risks while working online are real and steps are taken to mitigate the risks.

EXPERT LEVEL

COMPETENCE AREA: INFORMATION AND DATA LITERACY			
COMPETENCE 1.1: BROWSING, SEARCHING AND FILETRING DATA, INFORMATION AND DIGITAL CONTENT			
EXPERT			
At highly specialised level, I can: • create solutions to complex problems with limited definition that are related to analysing and evaluating credible and reliable sources of data, information and content in digital environments. • integrate my knowledge to contribute to professional practices and knowledge and to guide others in the analysis and evaluation of the credibility and reliability of data, information and digital content and their sources. At the most advanced and specialised level, I can: • create solutions to solve complex problems with many interacting factors that are related to analysing and evaluating credible and reliable sources of data, information and content in digital environments. • propose new ideas and processes to the field.			
Learning Outcome	Level	K – S - A	Explanation
ONLINE			
52. Employ and combine advance search	L7-L8	S	Use advanced search techniques such as the use of Boolean Operators (AND, OR, NOT) to combine or exclude specific terms, Wildcards (*) for Partial

techniques to find and evaluate information			Matches, Site Search, File Type Search (i.e. filetype:pdf climate change report) Numeric Range Search, Synonym Search, Search by URL to name a few
53. Inclined to ask critical questions in order to evaluate the quality of online information, and concerned about purposes behind spreading and amplifying disinformation.	L7-L8	A	
54. Willing to fact-check a piece of information and assess its accuracy, reliability and authority, while preferring primary sources over secondary sources of information where possible	L7-L8	A	
55. Use advanced filtering techniques with a set of combined criteria to filter structured data	L7-L8	S	

56. Use a Query Language to perform advanced filtering and sorting in a relational database	L7-L8	S	
57. Concerned that much online information and content may not be accessible to people with a disability, for example to users who rely on screen reader technologies to read aloud the content of a web page. (DA)	L7-L8	A	

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