



D4.1 GUIDE FOR LEARNING CONTENT AND ASSESSEMENT QUESTIONS WITH MICRO-CREDENTIALS (EN)

DSW
DIGITAL SKILLS WALLET



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1 Introduction

1.1 Overview of the project

The Digital Skills Wallet project aims to develop an eco-system supported by a digital platform for the **Acquisition and Assessment of Digital Competences** with the use of [Micro-credentials \(MCs\)](#) on the 5 [digital competence](#) areas as per the [DigComp Framework](#). The full title of the project is “Acquiring and Assessing Digital Competence using Micro-credentials” and is funded by Erasmus+ funding from the European Commission where 8 partners will collaborate across all work packages over 44 months of the project.

5 Competency Areas of the DigComp Framework



Illustration taken from: p.67 of DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes (Vuorikari et al., 2022)

Central to the project, is the analysis into learning objectives of the descriptors for the 5 competences which will be the building blocks for Micro-credentials. The platform allows educators to contribute with learning content and assessment questions to the platform, where both (content and assessment questions) are linked to Micro-credentials.

The system will:

- assess the quality of the contributions using a peer review methodology, statistics gathered by the system and users' feedback;
- deliver a Micro-credentials Transcript for the assessed competence and a learning path along with suggested short courses that deliver those learning objectives still pending (Micro-credentials not issued) and
- check the user's Digital Skills Wallet, where Micro-credentials already issued are stored and will provide those questions aiming to assess credentials not issued yet.

The main project deliverables are:

1. The Digital Skills Wallet platform;
2. A Guide for developing questions and courses with Micro-credentials;
3. A framework for the development of an eco-system for the Acquisition and Assessment of Digital Competence with the use of Micro-credentials and
4. A large-scale pilot test of the platform.

This deliverable establishes nearly the halfway point of the project.

1.2 Overview of the platform's main features and functions

- The platform is open to the learning community and will be sustained by the learning community.
- Central to the project, is the analysis of the DigComp Framework into learning outcomes (LOs) for the learner in the 5 competency areas, which are the building blocks for Micro-credentials.
- The platform allows contributors to contribute with learning content in the form of videos and contribute assessment questions to the platform, where both (content and assessment questions) are linked to Micro-credentials.
- The system assesses the quality of the contributions using a peer review methodology from other contributors and statistics gathered by the system (views and likes).
- Learners wishing the issuance of Micro-credentials, are able to take a personalised assessment for a digital competence area (1 to 5) in levels they wish to assess (foundation, intermediate, advanced and expert)
- The system delivers a Micro-credentials transcript for the assessed competence and a learning path along with suggested short courses that deliver those LOs still pending (Micro-credentials not issued).
- The learner also has the option to save their progress and the issued MCs in their own Digital Skills Wallet.
- The learner can take the assessment on multiple occasions.
- The Micro-credentials are stackable, meaning that each MC builds on prior knowledge earned from another MC. The learners can print a transcript showcasing Micro-credentials awarded per Competence per Level.

1.3 Dimensions of the DigComp Framework

DigComp is the abbreviation for the European Digital Competence Framework for Citizens. It identifies key elements of digital competence and skill development in 5 areas known as **Competence Areas**. It is a reference Framework that provides information on knowledge, skills and attitudes needed to be digitally competent, embracing a digital future. The framework provides a comprehensive and detailed explanation of what digital competency entails.

There are 5 dimensions within the DigComp Framework.

- ❖ Dimension 1: Competence Area
- ❖ Dimension 2: Competence
- ❖ Dimension 3: Proficiency level
- ❖ Dimension 4: Examples
- ❖ Dimension 5: Use Cases

There are 5 competency areas (Dimension 1) and these are:

1. Information and Data Literacy
2. Communication and Collaboration
3. Digital Content Creation
4. Safety
5. Problem Solving

Within each Competence Area, there is a number of digital competencies (a total of 21) that lead on from and are pertinent to the 5 digital competence areas. The 21 competences are also known as Dimension 2 and are highlighted in the illustration below.

DIMENSION 1	No	DIMENSION 2
COMPETENCE AREA		COMPETENCE
1. INFORMATION AND DATA LITERACY	3	1.1: BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT
		1.2: EVALUATING DATA, INFORMATION AND DIGITAL CONTENT
		1.3: MANAGING DATA, INFORMATION AND DIGITAL CONTENT
2. COMMUNICATION & COLLABORATION	6	2.1: INTERACTING THROUGH DIGITAL TECHNOLOGIES
		2.2: SHARING THROUGH DIGITAL TECHNOLOGIES
		2.3: ENGAGING CITIZENSHIP THROUGH DIGITAL TECHNOLOGIES
		2.4: COLLABORATING THROUGH DIGITAL
		2.5: NETIQUETTE
		2.6: MANAGING DIGITAL IDENTITY
3. DIGITAL CONTENT CREATION	4	3.1: DEVELOPING DIGITAL CONTENT
		3.2: INTEGRATING AND RE-ELABORATING DIGITAL CONTENT
		3.3: COPYRIGHT AND LICENCES
		3.4: PROGRAMMING
4. SAFETY	4	4.1: PROTECTING DEVICES
		4.2: PROTECTING PERSONAL DATA AND PRIVACY
		4.3: PROTECTING HEALTH AND WELL-BEING
		4.4: PROTECTING ENVIRONMENT
5. PROBLEM SOLVING	4	5.1: SOLVING TECHNICAL PROBLEMS
		5.2: IDENTIFYING NEEDS AND TECHNOLOGICAL RESPONSES
		5.3: CREATIVELY USING DIGITAL TECHNOLOGIES
		5.4: IDENTIFYING DIGITAL COMPETENCE GAPS
TOTAL	21	

Illustration adapted from: p.4 of DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes (Vuorikari et al., 2022)

Taken together, Dimension 1 and 2 form the conceptual reference model. Additional Dimensions outline Proficiency levels (Dimension 3) of which there are 8 to help people identify the next area and level of learning. The levels are:

- 1 Foundation (1 & 2)
- 2 Intermediate (3 & 4)
- 3 Advanced (5 & 6)
- 4 Expert (7 & 8)

Below is a description of each of the proficiency levels relating to what the learner should demonstrate when linking to the learning outcomes.

- **At a foundation level** contributors are examining at a basic level with guidance or autonomously and with appropriate guidance learners satisfy the learning outcomes.
- **At an intermediate level** contributors are examining whether the learner can independently solve straightforward problems and can solve well-defined, non-routine problems to satisfy the learning outcomes.
- **At an advanced level** contributors are examining, that as well as guiding others in a complex context learners can satisfy the learning outcomes.
- **At an expert level** learners should be able to demonstrate a highly specialised and advanced level of knowledge linked to the learning outcomes.

Dimension 4 gives examples of “knowledge, skills and attitudes” linked to the proficiency level of the particular competence. Dimension 5 provides “use cases” examples linked to the proficiency level of the particular competence. The latest publication, DigComp 2.2, presents the consolidated framework of all 5 dimensions.

The DigitalSkillsWallet project has carefully incorporated all 5 dimensions when developing the digital platform for the acquisition and assessment of digital competence with the use of Micro-credentials on the 5 digital competence areas as per the DigiComp Framework.

1.4 How DSW can help Educators, Citizens and Employers

1.4.1 For Educators

DSW is an open platform that allows educators in the field of Information Technology to upload content that delivers knowledge and skills for one or more Topics in a Learning Outcome for a Competence within a Competence Area. Therefore, you may wish to create one or more videos which deliver the knowledge and skills for a specific topic and create a pool of questions to assess the learners.

You can then instruct students to view the courses and take a quiz. It is noted that other contributors may have addressed the specific topic with a variety of courses and questions and there is no guarantee that during the assessment, your questions will be presented to learners. Still with your contribution the platform is enriched with new content and remains sustainable. Quality measures (as explained in a later chapter) are in place to ensure the quality of questions and content.

1.4.2 For Employers

Employers may use this platform to test the skills of potential employees during the recruitment process to assess their digital skills. The assessment can take place at the employer's offices through the DSW platform to assure the validity of the results.

1.4.3 For Citizens

Any citizen can start building their digital skills wallet by taking up courses and assessing knowledge to gain Micro-credentials. Upon the acquisition of all the Micro-credentials for a competence for a specific level (i.e. Foundation, Intermediate, Advanced and Expert), the learner can prove his/her proficiency on that Competence

1.5 Purpose of the Guide

The goal of this guide is to primarily provide a positive experience for the contributors. Contributors are defined as educators with a strong IT background who contribute to the Digital Skills Wallet platform in terms of videos and/or assessment questions. Learners are defined as the individuals seeking knowledge.

The guidelines provide for a smooth, productive, effective and informed experience of the platform. The guidelines also help to create a more organised environment for all contributors and discourages misuse, promoting a more respectful online environment.

It will practically give guidelines on the functionalities of the platform, provide recommendations of how to perform a task and give advice on how to proceed in a situation.

2 Getting Started

2.1 Who can be a Contributor?

Contributors should be people who have a strong IT background and wish to contribute to the content of DSW platform by uploading educational materials (videos or SCORM content) and with questions that assess learning outcomes.

2.2 Account Creation and Login for Contributors

2.2.1 Register on DSW as a “contributor”

1. Create an account using your preferred email address – this can be your institution email or personal account eg. Gmail, yahoo etc.
2. Fill up the information required
3. Select the Option for
 - Content Creator if you wish to upload videos
 - Questions Creator if you wish to contribute to the assessment quizzes
4. Create a safe password following the instructions.

Once you have created your own personal account, you will see a list of options on your account dashboard of which you can engage in:

1. Upload video
2. Create quizzes

The following options allow you to organise and categorise your video learning content relevant to the DigComp Framework, linking courses to Learning Outcomes and Topics

2.2.2 Upload Bite Size Courses

What is Bite Size Course: Bite size courses are short videos that cover one or more topics in a specific Learning outcome

When you upload your Bite Size Course (Video or SCORM) you will be asked to select:

- Which Competence Area is addressed
- Which Competence is addressed
- Which Micro-credential is addressed
- Which Learning Outcome is addressed (it is noted that each MC contains LOs for a specific Level)
- Which Topic(s) are addressed

Link to Example of a Bite Size Course HERE on our DSW website:

2.2.3 Create Assessment Questions

The DSW platform comes with an authoring tool that allows contributors to create questions. Different types of questions are supported such as Multiple choice, drag and drop etc

When you create a question, you need to link the Question with

- A [Competence Area](#)
- A [Competence](#)
- A [Micro-credential](#)
- A [Learning Outcome](#) and [Topic](#)

3 Guidelines for learning content and question creation

3.1 Video – Software, Length, File Type and Format

Videos should provide information on one Learning Outcome or one or more Topics.

Videos can be created using many software options e.g.

- Screenpal
- Synthesia
- Deepbrain AI
- Runway
- Colossyan
- Second Life
- Whiteboard Animation Maker
- Google slides
- Canva
- iSpring

The DigitalSkillsWallet partnership in the context of this project uses Canva.

The recommended length of each video should be no longer than 5 minutes, preferably maximum 3 minutes.

Supported file formats are MP4 and SCORM

The contributor has 3 options

- Option 1: To upload the file directly on the platform using MP4. File size limits apply
- Option 2: To upload the file directly on the platform using SCORM. File size limits apply
- Option 3: To upload the file on YouTube and copy the link in the DSW platform **(recommended)**

3.2 Types of Questions

3.2.1 Single Choice Questions (SCQs)

These should have 4 answers to choose from, should pose a question and prompt the learner to choose the correct answer. Please note that only one option (1, 2, 3, 4) can be the correct option. Answers will be shuffled and therefore not suitable for sequencing.

Example:

Contributor selects the correct answer/ answers. There can be one answer: Option 1 only, or Option 2 only, or Option3only, or Option 4 only.
Question for the learner:
Option 1
Option 2
Option 3
Option 4

3.2.2 Multiple Choice Questions (MCQs)

These should have 4 answers to choose from, should pose a question and prompt the learner to choose the correct answers (one or more answers maybe correct). Answers will be shuffled and therefore not suitable for sequencing.

Example:

Contributor selects the correct answer/ answers. There can be one or multiple answers: Option 1 only, and/or Option 2 only, and/or Option 3 only, and/or Option 4 only.
Question for the learner:
Option 1
Option 2
Option 3
Option 4

3.2.3 TRUE/FALSE Question (TFQs)

The learner is presented with a statement and the learner has to select whether the statement is TRUE or FALSE. The learner is prompted to choose the correct answer.

Example:

Contributor chooses whether the statement is TRUE or FALSE
Question for the learner:
TRUE
FALSE

3.2.4 Put in the Right Order Question (POQs)

A sequence question requires a showcase of a particular arrangement within the answers. Learners need to arrange 4 answers in the correct order. The learner is prompted to choose the correct sequence and to rearrange the statements from the 1st to 2nd, to 3rd and finally the 4th.

Contributor arranges the statements in the correct order:
Question for the learner:
1st Statement
2nd Statement
3rd Statement
4th Statement

3.2.5 Matching Question (MQs)

These questions are designed to involve pairing a set of statements with a set of responses. There should be 4 statements and 4 corresponding responses. The learner is prompted to pair these and will do this by rearranging the statements and responses to align for the correct answer. The statements and responses will be shuffled.

Example:

Contributors match the following statements with their descriptions/responses:	
Question for the learner:	
Statement 1	Response 1
Statement 2	Response 2
Statement 3	Response 3
Statement 4	Response 4

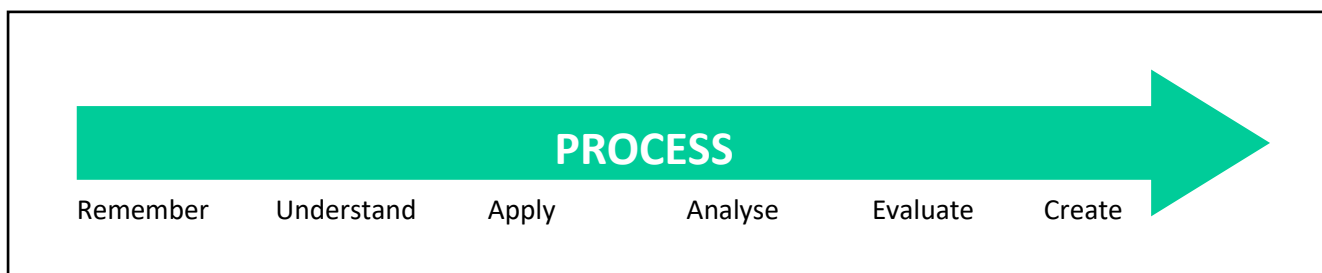
3.3 Format of Questions

This section will provide guidance on how to construct questions for quizzes and types of questions you should pose in relation to your learning materials and videos.

3.4 Posing Questions and Language

We recommend using Blooms Taxonomy in creating questions. The taxonomy provides the process that is used to learn, this is known as the “The Cognitive Process Dimension”, consisting of 6 dimensions, namely; remember, understand, apply, analyse, evaluate and create in that order. The taxonomy also identifies “The Knowledge Dimension” which established the 4 types of knowledge that exists and can be examined, namely; factual, conceptual, procedural, mega-cognitive which are outlined below.

The Cognitive Process Dimensions:



The Knowledge Dimensions are:

1. Factual
2. Conceptual
3. Procedural
4. Meta-Cognitive

The taxonomy exists to provide clarity in the construction of questions leading to better understanding of what is being asked and what is expected from the learner when answering, leading to the correct answer.

Blooms taxonomy is set out in tiers that build on the progress of the previous level in a hierarchical format. “Remember (Knowledge)” is the lowest cognitive level, along with “Understand (Comprehension)” and Apply (Application) requiring little complexity. The taxonomy moves towards more complexity and a higher level of cognition when examining Analyse (Analysis), Evaluate (Synthesis) and “Create (Evaluate)”. The taxonomy also assumes that if the learner is functioning at

the “Apply (Application)” level for example, they have mastered the material at “Remember (Knowledge)” and “Understand (Comprehension)” level. (Forehand, 2010)

An explanation of each of the 6 levels of the taxonomy are outlined below.

- Remember (Knowledge): Retrieving, recognizing, and recalling relevant knowledge from long-term memory.
- Understand (Comprehension): Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.
- Apply (Application): Carrying out or using a procedure through executing or implementing.
- Analyse (Analysis): Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing.
- Evaluate (Synthesis): Making judgments based on criteria and standards through checking and critiquing.
- Create (Evaluate): Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

Adapted from: (Forehand, 2010, p. 3)

Each level contains suitable verbs that can be used to measure comprehension. Using specific action verbs in questions for each level of assessment enables a question to be worded clearly and correctly, providing a knowledge check, allowing the learner to understand what is expected and examining the associated learning outcome to be achieved.

The below table incorporates the Knowledge Dimension and Cognitive Process Dimension with action verbs to help with construction, focus and learning outcomes required.

The Knowledge Dimension	The Cognitive Process Dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual Knowledge	List	Summarize	Classify	Order	Rank	Combine
Conceptual Knowledge	Describe	Interpret	Experiment	Explain	Assess	Plan
Procedural Knowledge	Tabulate	Predict	Calculate	Differentiate	Conclude	Compose
Meta-Cognitive Knowledge	Appropriate Use	Execute	Construct	Achieve	Action	Actualize

(Forehand, 2010, p. 4)

Using the above table, incorporating the action verbs for each knowledge dimension and the cognitive process relating to the story of Little Red Riding Hood, the below are examples that will guide you.

Remember: Describe where Little Red Riding Hood walked in her way to her Grandmother’s house.

Understand: Summarise what the Little Red Riding Hood story was about.

Apply: Construct a theory as to why Little Red Riding Hood thought the wolf was her Grandmother.

Analyze: Differentiate between how Little Red Riding Hood reacted and how you would react in each story event.

Evaluate: Assess whether or not you think this really happened to Little Red Riding Hood.

Create: Compose a song, skit, poem, or rap to convey the Little Red Riding Hood in a new form.

Below is a table taken from (Stanny, 2016, pp. 5 & 6) presenting a more extensive list of action verbs associated with each level of the taxonomy to guide the contributor in creating questions for the learning material.

The Cognitive Process Dimensions					
Knowledge	Understand	Apply	Analyze	Evaluate	Create
arrange	articulate	act	analyze	appraise	arrange
choose	associate	adapt	appraise	argue	assemble
cite	characterize	apply	break	arrange	categorize
copy	cite	back/back up	break down	assess	choose
define	clarify	calculate	calculate	attach	collect
describe	classify	change	categorize	choose	combine
draw	compare	choose	classify	compare	compile
duplicate	contrast	classify	compare	conclude	compose
identify	convert	complete	conclude	contrast	construct
indicate	defend	compute	contrast	core	create
label	demonstrate	construct	correlate	counsel	design
list	describe	demonstrate	criticize	create	develop
locate	differentiate	develop	debate	criticize	devise
match	discuss	discover	deduce	critique	estimate
memorize	distinguish	dramatize	detect	decide	evaluate
name	estimate	employ	diagnose	defend	explain
order	explain	experiment	diagram	describe	facilitate
outline	express	explain	differentiate	design	formulate
quote	extend	generalize	discover	determine	generalize
read	extrapolate	identify	discriminate	discriminate	generate
recall	generalize	illustrate	dissect	estimate	hypothesize
recite	give	implement	distinguish	evaluate	improve
recognize	give examples	interpret	divide	explain	integrate
record	identify	interview	evaluate	grade	invent
relate	illustrate	manipulate	examine	invent	make

repeat	indicate	modify	experiment	judge	manage
reproduce	infer	operate	figure	manage	modify
review	interpolate	organize	group	mediate	organize
select	interpret	paint	identify	prepare	originate
state	locate	practice	illustrate	probe	plan
tabulate	match	predict	infer	rate	predict
tell	observe	prepare	inspect	rearrange	prepare
underline	organize	produce	inventory	reconcile	produce
write	paraphrase	relate	investigate	release	propose
	predict	schedule	order	rewrite	rate
	recognize	select	organize	select	rearrange
	relate	show	outline	set up	reconstruct
	report	simulate	point out	supervise	relate
	represent	sketch	predict	synthesize	reorganise
	restate	solve	prioritize	test	revise
	review	translate	question	value	rewrite
	rewrite	use	relate	verify	role-play
	select	utilize	select	weigh	set-up
	summarize	write	separate		specify
	tell		solve		summarize
	translate		subdivide		synthesize
			survey		tell/tell why
			test		write

3.5 Learner's view

3.5.1 When Learning Content appears on the DSW platform?

Learning content (courses) will appear on the platform after peer review takes place from two other contributors.

3.5.2 How Micro-credentials are awarded?

The Learner can take up an assessment which consists of 20 questions covering all the Learning Outcomes. The learner should achieve a score of 80% in order to be awarded with the MicroCredential.

It is noted that for the DSW platform to assess a MicroCredential, there should be a **minimum of 100** Questions covering all Learning outcomes of a competence

In the context of DSW project, the partnership undertook the development of 600 Questions for Competence Area 1. The rest of the Competence areas will be populated with Questions over time from contributors in the community.

4 Contributor Experience

We encourage everyone to contribute high-quality, original, informative videos that empower others to expand their digital knowledge. To ensure a positive learning environment for all, please adhere to the following advice and guidelines.

4.1 Content, Quality and Originality

In this section you will find some advice on how to make your content original, relevant, engaging and of quality.

Know your audience: the first step to creating original and quality videos is to know who you are making them for. You need to understand their needs, preferences, interests, and expectations. Specify the skill level your video targets (Foundation, Intermediate, Advanced, Expert). Questions associated with the video need to reflect the skill level of either foundation, intermediate, advanced and expert.

Clarity: Present information in a clear, concise and easy-to-understand way.

Proficiency Level: Be mindful of the level of knowledge you are creating for the audience and be conscious with the level of expertise you as a contributor can contribute to each knowledge level from foundation to expert.

Originality: Stay updated on current trends and challenges and incorporate them into their content when relevant and do not copy/ plagiarise others material. Upload only original content you created or have permission to use.

Quality: Choose a good video editing program, keep your editing simple, prioritise clear and concise information, consider using appropriate images and to match images with the text that is being spoken.

Engaging: Use appropriate and quality visuals, interactive and storytelling elements to keep viewers engaged, ask reflective questions at the end of each video or refer the learner to more relevant materials on the topic

Accuracy: Ensure your videos are factually accurate and up-to-date. If referencing external sources, cite them properly.

Accessible: Add captions/transcripts to improve accessibility for viewers.

Spam/Advertising: Do not post spam or promotional content unrelated to digital skills, your own personal business or activities.

Promote discussion/reflection: End your videos with questions to encourage viewers to interact, reflect and share their knowledge.

Relevant: Create specific, appropriate, practical and concise material that hold their interest. Videos should be relevant to digital skills learning outcomes and align with the platform's focus and not contain any inappropriate content. Connect the learning material with the correct learning outcome within each competence area. These competence areas are listed on our website [HERE](#) and should be integrated into video content and assessments.

Our team actively monitors content. Videos that violate these guidelines may be removed. Repeated violations may result in account suspension.

4.2 Copyright and Permissions of Contributors

Please only upload content you own the rights to or have permission to use. Refer to EU and national regulations and obtain proper permissions for using copyrighted music, images, or videos in your content from third parties.

According to the EU, when you create an original literary, scientific and artistic work, such as poems, articles, films, songs or sculptures, you are protected by copyright. Nobody apart from you has the right to make the work public or reproduce it.

In EU countries, copyright protects your intellectual property until 70 years after your death or 70 years after the death of the last surviving author in the case of a work of joint authorship.

Outside of the EU, in any country which signed the Berne Convention, the duration of copyright protection can vary but it lasts until at least 50 years after the author's death.

Copyright protection grants you the following exclusive rights:

- 1 economic rights – guaranteeing you have control over your work and remuneration for its use through selling or licensing
- 2 moral rights – usually protecting your rights to claim authorship (right of attribution) and to refuse a modification of your work (right of integrity)

If you create literary, scientific and artistic work, you automatically have copyright protection, which starts from the moment you create your work, so you don't need to go through any formal application process.

However, you may need to advise other people that you are the author of that work. You can attach a copyright notice to your work – such as the "all rights reserved" text, or the © symbol – together with the year the work was created.

You can also register your copyright via a dedicated service provider, which can be useful to prove the existence of your work at a certain point in time. (*Copyright in the EU*, 2024)

Please also note YouTube policies and guidelines on Creators content [HERE](#)

5 Quality Assurance

To ensure the quality of learning content and the clarity and correctness of questions, the DSW platform applies the following review technique:

For Learning Content

1. Each contributor needs to review and evaluate an equal number of courses every time he/she uploads content. In the same way some other contributor will evaluate your content and questions
2. Upon receiving 2 positive evaluations, your content will go live.

The DSW platform allows learners to like (and report) a course and keeps number of views. This is a good indicator for ranking the courses in the platform.

For Questions

To ensure the credibility of the MCs awarded, the validation of the questions, at the moment, is undertaken by the DSW partnership.

It is noted that a learner may flag/report a course or a question if is considered to be erroneous or misleading and the administrators of the platform have the capacity to remove such content from the platform.

6 Micro-~~credentials~~credentials Explained

The Micro-credential code below act as a guide for linking learning material in the form of videos to learning outcomes. For example, if a video has been created on basic information on social media the learning outcome of the video will be linked to Micro-Credential code eg. (M.C 1.1.A.4)

For example, the MicroCredential code **(M.C 1.1.A.4)** represents:

- **M.C:** MicroCredential
- **1.1:** Competence (1.1 Browsing, searching and filtering data, information and digital content)
- **A:** Level (Foundation)
- **4:** Learning Outcome (Information in social media)

To decipher the Micro-credential code, you can view the competence area [infographics](#) or within the Annex in this document these is a brief summary.

Competence Areas: There are 5 Competence Areas as Outlined below:

- 1. Information & Data Literacy**
- 2. Communication & Collaboration**
- 3. Digital Content Creation**
- 4. Safety**
- 5. Problem Solving**

Competence: There is a total of 21 competencies from the 5 competence areas ranging from 1.1 to 5.4 as outlined below:

1. Information & Data Literacy

- 1.1 Browsing, searching and filtering data, information and digital content
- 1.2 Evaluating data, information and digital content
- 1.3 Managing data, information and digital content

2. Communication & Collaboration

- 2.1 Interacting through digital technologies
- 2.2 Sharing through digital technologies
- 2.3 Engaging in citizenship through digital technologies
- 2.4 Collaborating through digital technologies
- 2.5 Netiquette
- 2.6 Managing digital identity

3. Digital Content Creation

- 3.1 Developing digital content
- 3.2 Integrating and re-elaborating digital content
- 3.3 Copyright and licenses
- 3.4 Programming

4. Safety

- 4.1 Protecting devices
- 4.2 Protecting personal data and privacy
- 4.3 Protecting health and well-being
- 4.4 Protecting the environment

5. Problem Solving

- 5.1 Solving technical problems
- 5.2 Identifying needs and technological responses
- 5.3 Creatively using digital technologies
- 5.4 Identifying digital competence gaps

Levels:

Range from A-D:

- Level A: Foundation
- Level B: Intermediate
- Level C: Advanced
- Level D: Expert

The Competences and the number of Micro-credentials for each competence are outlined in the table below:

DIMENSION 2	DIMENSION 3				
COMPETENCE	FOUNDATION	INTERMEDIATE	ADVANCED	EXPERT	TOTAL
	No of MCs	No of MCs	No of MCs	No of MCs	MCs
1.1: BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT	5	5	5	2	17
1.2: EVALUATING DATA, INFORMATION AND DIGITAL CONTENT	5	7	6	2	20
1.3: MANAGING DATA, INFORMATION AND DIGITAL CONTENT	4	7	4	4	19
2.1: INTERACTING THROUGH DIGITAL TECHNOLOGIES	5	6	5	7	23
2.2: SHARING THROUGH DIGITAL TECHNOLOGIES	5	5	5	5	20
2.3: ENGAGING CITIZENSHIP THROUGH DIGITAL TECHNOLOGIES	6	5	6	8	25
2.4: COLLABORATING THROUGH DIGITAL	5	5	5	5	20
2.5: NETIQUETTE	5	5	5	5	20
2.6: MANAGING DIGITAL IDENTITY	4	7	5	4	20
3.1: DEVELOPING DIGITAL CONTENT	11	12	11	9	43
3.2: INTEGRATING AND RE-ELABORATING DIGITAL CONTENT	12	11	11	11	45
3.3: COPYRIGHT AND LICENCES	4	6	4	6	20
3.4: PROGRAMMING	5	8	10	3	26
4.1: PROTECTING DEVICES	8	9	8	9	34
4.2: PROTECTING PERSONAL DATA AND PRIVACY	10	8	8	9	35
4.3: PROTECTING HEALTH AND WELL-BEING	6	6	4	4	20
4.4: PROTECTING ENVIRONMENT	4	4	4	4	16
5.1: SOLVING TECHNICAL PROBLEMS	4	8	8	6	26
5.2: IDENTIFYING NEEDS AND TECHNOLOGICAL RESPONSES	3	9	8	6	26
5.3: CREATIVELY USING DIGITAL TECHNOLOGIES	4	8	8	8	28
5.4: IDENTIFYING DIGITAL COMPETENCE GAPS	4	8	8	8	28
TOTAL	119	149	138	125	531

Learning outcomes:

Each micro-credential covers a set of learning outcomes. The number of learning outcomes in each of the 21 competencies varies.

The graphic below illustrates the number of learning outcomes in the micro-credentials covering competence **1.1: BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT**

MICRO-CREDENTIALS FOR COMPETENCE 1.1: BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT AND NUMBER OF LEARNING OUTCOMES	
LEVEL: FOUNDATION	Number of LOs
Internet Essentials – WHAT, HOW AND WHY (MC 1.1.A.1)	3
Navigating the Internet while recognizing the risks (MC 1.1.A.2)	6
Understanding and Using Search Engines (MC 1.1.A.3)	4
Information In Social Media (MC 1.1.A.4)	5
Finding Information on Devices (MC 1.1.A.5)	4
TOTAL	22
INTERMEDIATE	Number of LOs
Advanced Browsing and Searching the Internet (MC 1.1.B.1)	7
Downloading and opening a variety of file types (MC 1.1.B.2)	2
Internet and Privacy (MC 1.1.B.3)	2
Searching on Devices using Metadata (MC 1.1.B.4)	2
Sorting and Filtering Data, Digital Content and Information (MC 1.1.B.5)	3
TOTAL	16
ADVANCED	Number of LOs
Evaluating Sources for Information and Advanced Search Techniques (MC 1.1.C.1)	3
Strategies for Finding and classifying information effectively (MC 1.1.C.2)	3
In depth knowledge of how various factors influence search results, Social Media activity streams and content (MC 1.1.C.3)	1
AI technology used in Search Engines and Social Media Platforms (MC 1.1.C.4)	3
Use tools and services to enhance Privacy and User Rights Online (MC 1.1.C.5)	3
TOTAL	13
EXPERT	Number of LOs
Combine Advanced Search Techniques to find and filter information (MC 1.1.D.1)	3
Use advanced filtering techniques with a set of combined criteria to filter structured data (MC 1.1.D.2)	1
Filtering Data using a Query Language (MC 1.1.D.3)	1
Acknowledging limitations of technologies for people with impairments and know the possibilities for improvements (MC 1.1.D.4)	1
TOTAL	6
TOTAL	57



7 Annex

Below are the detailed tables of each of the 21 competence areas and their 531 related learning outcomes/micro credentials at each of the 4 proficiency levels.

7.1 Competency Area 1.1 Infographic

COMPETENCE AREA 1: INFORMATION AND DATA LITERACY					
COMPETENCE 1.1: BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT - NUMBER OF MCs: 19					
EXPERT	Combine Advanced Search Techniques to find and filter information (MC 1.1.D.1)	Use advanced filtering techniques with a set of combined criteria to filter structured data (MC 1.1.D.2)	Filtering Data using a Query Language (MC 1.1.D.3)	Acknowledging limitations of technologies for people with impairments and know the possibilities for improvements (MC 1.1.D.4)	
ADVANCED	Evaluating Sources for Information and Advanced Search Techniques (MC 1.1.C.1)	Strategies for Finding and classifying information effectively (MC 1.1.C.2)	In depth knowledge of how various factors influence search results, Social Media activity streams and content (MC 1.1.C.3)	AI technology used in Search Engines and Social Media Platforms (MC 1.1.C.4)	Use tools and services to enhance Privacy and User Rights Online (MC 1.1.C.5)
INTERMEDIATE	Advanced Browsing and Searching the Internet (CODE 1.1.B.1)	Downloading and opening a variety of file types (CODE 1.1.B.2)	Internet and Privacy (CODE 1.1.B.3)	Searching on Devices using Metadata (CODE 1.1.B.4)	Sorting and Filtering Data, Digital Content and Information (CODE 1.1.B.5)
FOUNDATIONAL	INTERNET ESSENTIALS – WHAT, HOW AND WHY (MC 1.1.A.1)	Navigating the Internet while recognizing the risks (MC 1.1.A.2)	Understanding and Using Search Engines (MC 1.1.A.3)	Information In Social Media (MC 1.1.A.4)	Finding Information on Devices (MC 1.1.A.5)

7.2 Competency Area 1.2 Infographic

COMPETENCE AREA 1: INFORMATION AND DATA LITERACY							
COMPETENCE 1.2: EVALUATING DATA, INFORMATION AND DIGITAL CONTENT - NUMBER OF MCs: 21							
EXPERT	Create solutions to complex problems with limited definition that are related to analysing and evaluating credible and reliable sources of information (MC 1.2.D.1)	Create Solutions to solve complex problems that are related to analysing and evaluating credible and reliable sources of structured data (MC 1.2.D.2)	Contributing to a positive and informed online community Code: MC 1.2.D.3				
ADVANCED	Combine Fact-Checking Techniques to Verify, Analyse and Critically Evaluate Search Results (MC 1.2.C.1)	Analyse and critically evaluate social media activity streams (MC 1.2.C.2)	Filter Bubbles in AI (MC 1.2.C.3)	Evaluating Structured Data with Pivot Tables (MC 1.2.C.4)	Evaluating Structured Data from multiple flat files with Power Pivot (MC 1.2.C.5)	Evaluating Structured Data from multiple flat files with Business Intelligence tools (MC 1.2.C.6)	
INTERMEDIATE	Verifying credibility of online Content with Fact-Checking Websites, tools and extensions (CODE 1.2.B.1)	Investigating the Credibility of Online Content (MC 1.2.B.2)	Analysing and Evaluating the Credibility of Online Content (MC 1.2.B.3)	Ethical Practices in Using and Disseminating Online Content (MC 1.2.B.4)	Legal Issues to Social Media Use (MC 1.2.B.5)	Tools available for Data analysis (MC 1.2.B.6)	Visualise data to draw conclusions using a spreadsheet software (MC 1.2.B.7)
FOUNDATION	Misinformation and Disinformation: WHAT, HOW AND WHY (MC 1.2.A.1)	Credibility of Online Sources – Elements that support/not support online sources credibility (MC 1.2.A.2)	Credibility of Online Content – Viewing with a Critical Eye (MC 1.2.A.3)	Misinformation, Disinformation and Bias in AI generated content (MC 1.2.A.4)	Information verification with fact-checking websites, tools and extensions (MC 1.2.A.5)		

7.3 Competency Area 1.3 Infographic

COMPETENCE AREA 1: INFORMATION AND DATA LITERACY							
COMPETENCE 1.3: MANAGING DATA, INFORMATION AND DIGITAL CONTENT - NUMBER OF MCs: 19							
EXPERT	Data processing using DAX functions (MC 1.3.D.1)	Introduction to Data Mining (MC 1.3.D.2)	Data mining with RStudio (MC 1.3.D.3)	Using SPSS for Statistical Analysis (MC 1.3.D.4)			
ADVANCED	Visualizing Structured Data from a local or online database with Business Intelligence Tools (MC 1.3.C.1)	Visualizing Structured Data from a local or online Sources such as RSS or Google Analytics with Business Intelligence Tools (MC 1.3.C.2)	Data transformation and visualization in a spreadsheet software (MC 1.3.C.3)	Processing Data – Cleaning and Normalizing data with BI tools (MC 1.3.C.4)			
INTERMEDIATE	Access and Configure information collected while working on various platforms (MC 1.3.B.1)	Using online applications and apps and accessing stored data (MC 1.3.B.2)	Use Data Collection online applications and apps (MC 1.3.B.3)	Basic statistical procedures for data representation with visuals(MC 1.3.B.4)	Interacting with dynamic data visualization (MC 1.3.B.5)	Selecting and using the appropriate storage (MC 1.3.B.6)	Cloud storage: Synchronization and synchronizing on a local storage (MC 1.3.B.7)
FOUNDATION	Digitization and Data Collection Processes – WHAT, HOW AND WHY (MC 1.3.A.1)	Save Preferences and Results while working online or in an app(MC 1.3.A.2)	Data Collected While Working online (MC 1.3.A.3)	Local, Cloud and Network Storage – Pros and Cons (MC 1.3.A.4)			

7.4 Competency Area 2.1 Infographic

COMPETENCE AREA 2: COMMUNICATION AND COLLABORATION							
COMPETENCE 2.1: INTERACTING THROUGH DIGITAL TECHNOLOGIES - NUMBER OF MCs: 23							
EXPERT	Asynchronous communication tools for file sharing, scheduling, project management, mind mapping and notes taking (MC 2.1.C.1)	Artificial Intelligence Tools (MC 2.1.D.2)	Communicating with an AI conversational Agent (MC 2.1.D.3)	Interacting and providing feedback to AI (MC 2.1.D.4)	Using Virtual Assistant Tools (MC 2.1.D.5)	Using Chat Bots (MC 2.1.D.6)	Mindset for AI (MC 2.1.D.7)
ADVANCED	Asynchronous communication tools for file sharing, scheduling, project management, mind mapping and notes taking (MC 2.1.C.1)	Communication Tools: File Sharing (MC 2.1.C.2)	Communication Tools: Scheduling Meetings and Events (MC 2.1.C.3)	Communication Tools: Project Management (MC 2.1.C.4)	Digital Tools: Identifying key factors for comparison and evaluation of different digital tools (MC 2.1.C.5)		
INTERMEDIATE	Selection of appropriate digital communication tools (MC 2.1.B.1)	Composing and Sending Emails using Advanced Features (MC 2.1.B.2)	Scheduling meetings and events (MC 2.1.B.3)	Using Videoconferencing (MC 2.1.B.4)	Social Media Manipulative Behaviour (MC 2.1.B.5)	Content Development (MC 2.1.B.6)	
FOUNDATION	Digital Communication tools (MC 2.1.A.1)	Social Media: Advantages, Disadvantages and Funding (MC 2.1.A.2)	Communicating through messaging tools (MC 2.1.A.3)	Composing and Sending Emails using Basic Features (MC 2.1.A.4)	Composing a Simple Social Media Post (MC 2.1.A.5)		

7.5 Competency Area 2.2 Infographic

COMPETENCE AREA 2: COMMUNICATION AND COLLABORATION					
COMPETENCE 2.2: SHARING THROUGH DIGITAL TECHNOLOGIES - NUMBER OF MCs: 20					
EXPERT	TACKLING COMPLEXITY IN DIGITAL SHARING (MC 2.2.D.1)	SHAPING PROFESSIONAL SHARING WITH EXPERTISE (MC 2.2.D.2)	SHARING EXPERTISE ONLINE (MC 2.2.D.3)	RESPONSIBLE DIGITAL RESOURCE SHARING (MC 2.2.D.4)	PRIORITIZING SOURCE CREDIBILITY IN SHARED INFORMATION (MC 2.2.D.5)
ADVANCED	ROUTINE AND NON-ROUTINE DATA SHARING (MC 2.2.C.1)	INTEGRATING ROUTINE AND NON-ROUTINE DIGITAL TOOLS (MC 2.2.C.2)	INSPIRING OTHERS TO SHARE KNOWLEDGE (MC 2.2.C.3)	CHOOSING THE RIGHT DIGITAL TOOLS FOR INFORMATION SHARING (MC 2.2.C.4)	A DYNAMIC APPROACH TO INFORMATION SHARING (MC 2.2.C.5)
INTERMEDIATE	NAVIGATING DIS/MISINFORMATION & TECH FOR DATA SHARING (MC 2.2.B.1)	INTERMEDIARY ROLE IN DIGITAL INFORMATION SHARING (MC 2.2.B.2)	NAVIGATING DIGITAL REFERENCING (MC 2.2.B.3)	BEYOND ROUTINE TECHNOLOGIES (MC 2.2.B.4)	THE ROLE OF PUBLIC DATA IN AI TRAINING (MC 2.2.B.5)
FOUNDATION	UNDERSTANDING ONLINE TECHNOLOGIES (MC 2.2.A.1)	NAVIGATING PUBLIC AND PRIVATE ONLINE SHARING (MC 2.2.A.2)	DIGITAL CONTENT GOVERNANCE (MC 2.2.A.3)	DIGITAL CONTENT GOVERNANCE (MC 2.2.A.4)	DATA CREATOR ACKNOWLEDGMENT AND SOURCE REVEAL (MC 2.2.A.5)

7.6 Competency Area 2.3 Infographic

COMPETENCE AREA 2: COMMUNICATION AND COLLABORATION COMPETENCE 2.3: ENGAGING CITIZENSHIP THROUGH DIGITAL TECHNOLOGIES - NUMBER OF MCs: 25								
EXPERT	Addressing Complex Problems Related to Engaging in Citizenship (MC 2.3.D.1)	Strategy to contribute in engagement in citizenship through digital technologies (MC 2.3.D.2)	Accessible Government Services (MC 2.3.D.3)	E-Government Transparency (MC 2.3.D.4)	Guiding others in engaging in citizenship (MC 2.3.D.5)	Security through strong passwords and 2 factor authentication (MC 2.3.D.6)	Encourage the use of online digital services (MC 2.3.D.7)	Proposing new ideas related to citizenship through digital technologies (MC 2.3.D.8)
ADVANCED	Understanding the needs of others for different digital services (MC 2.3.C.1)	Developing a survey and analysing its results (MC 2.3.C.2)	Using Public and Private Digital Services to participate on local, regional, national, European and International level (MC 2.3.C.3)	Creating an online petition (MC 2.3.C.4)	Using Public and Private Digital Services (MC 2.3.C.5)	Using Public and Private Digital Services for Empowerment and Participation in Society (MC 2.3.C.6)		
INTERMEDIATE	Secure Electronic Identification (MC 2.3.B.1)	Select Public and Private Digital Services to participate on local, regional, national, European and International level (MC 2.3.B.2)	Select Online Petitions and Activism Platforms (MC 2.3.B.3)	Technologies to empower oneself and to participate in the society (MC 2.3.B.4)	Democracy and digital democracy (MC 2.3.B.5)			
FOUNDATION	Public and Private Digital Services (MC 2.3.A.1)	Citizen engagement through digital technologies (MC 2.3.A.2)	Public and Private Digital Services: Participating on local, regional, national, European and International level (MC 2.3.A.3)	Online Petitions and Activism Platforms (MC 2.3.A.4)	Digital tools and platforms to participate in society and empower an individual (MC 2.3.A.5)	Traditional and new form of media (MC 2.3.A.6)		

7.7 Competency Area 2.4 Infographic

COMPETENCE AREA 2: COMUNICATION AND COLLABORATION COMPETENCE 2.4: COLLABORATING THROUGH DIGITAL TECHNOLOGIES - NUMBER OF MCs: 20					
EXPERT	DIGITAL TOOL SELECTION FOR COLLABORATIVE PROCESSES (MC 2.4.D.1)	CO-CREATION AND CO-CONSTRUCTION IN DIGITAL COLLABORATION (MC 2.4.D.2)	INNOVATIVE THINKING AND PROCESS PROPOSALS IN THE FIELD (MC 2.4.D.3)	BUILDING TRUST IN CO-CONSTRUCTION OF RESOURCES AND KNOWLEDGE (MC 2.4.D.4)	BALANCING COLLABORATION AND ACCESSIBILITY WITH DIGITAL TOOLS (MC 2.4.D.5)
ADVANCED	RECOGNIZING TOOLS FOR EFFECTIVE COLLABORATION (MC 2.4.C.1)	SKILLS FOR EFFECTIVE WIKI PARTICIPATION (MC 2.4.C.2)	BALANCING SOCIAL SKILLS AND DIGITAL TOOLS FOR SUCCESS (MC 2.4.C.3)	SELECTING DIGITAL TOOLS FOR CO-CREATION IN REMOTE COLLABORATION (MC 2.4.C.4)	ADAPTING TO DIGITAL CO-CREATION CHALLENGES (MC 2.4.C.5)
INTERMEDIATE	ENHANCING COLLABORATION IN DEFINED PROCESSES (MC 2.4.B.1)	TASK PLANNING WITH ROUTINE DIGITAL TOOLS IN COLLABORATION (MC 2.4.B.2)	CHOOSING THE RIGHT DIGITAL TOOLS (CODE 2.4.B.3)	UNDERSTANDING NON-ROUTINE COLLABORATIVE TOOLS (MC 2.4.B.4)	USING NON-ROUTINE TOOLS ACROSS DEVICES (MC 2.4.B.5)
FOUNDATION	EFFICIENT USE OF DIGITAL TOOLS ACROSS MULTIPLE DEVICES (MC 2.4.A.1)	NAVIGATING PUBLIC AND PRIVATE COLLABORATION (MC 2.4.A.2)	COLLABORATIVE JOB COORDINATION WITH DIGITAL TOOLS (MC 2.4.A.3)	MAXIMIZING REMOTE COLLABORATION WITH DIGITAL TOOLS AND TECHNOLOGIES (MC 2.4.A.4)	UNLOCKING PRIVACY CONTROLS IN DIGITAL COLLABORATION (MC 2.4.A.5)

7.8 Competency Area 2.5 Infographic

COMPETENCE AREA 2: COMUNICATION AND COLLABORATION					
COMPETENCE 2.5: NETIQUETTE - NUMBER OF MCs: 20					
EXPERT	SOLUTIONS FOR COMPLEX ETIQUETTE CHALLENGES (MC 2.5.D.1)	INTEGRATING KNOWLEDGE INTO DIGITAL ETIQUETTE (MC 2.5.D.2)	PROPOSING FRESH IDEAS AND PROCESSES (MC 2.5.D.3)	ESTABLISHING SHARED RULES IN ONLINE COMMUNITIES (MC 2.5.D.4)	ENHANCING EMPATHY IN COMMUNICATION (MC 2.5.D.5)
ADVANCED	ADAPTING BEHAVIOR IN DIGITAL ENVIRONMENTS (MC 2.5.C.1)	PROTECTING AND PRESERVING CULTURAL DIVERSITY IN THE DIGITAL ERA (MC 2.5.C.2)	APPLYING BEHAVIORAL FLEXIBILITY IN THE DIGITAL WORLD (MC 2.5.C.3)	ENSURING ACCESSIBILITY AND INCLUSIVITY IN ONLINE INTERACTIONS (MC 2.5.C.4)	SOLUTIONS FOR COMPLEX ETIQUETTE CHALLENGES (MC 2.5.D.1)
INTERMEDIATE	NAVIGATING NON-VERBAL COMMUNICATION IN DIGITAL ENVIRONMENTS (MC 2.5.B.1)	CROSS-CULTURAL PUNCTUATION IN DIGITAL COMMUNICATION (MC 2.5.B.2)	SKILLED AT TAILORED COMMUNICATION STRATEGIES (MC 2.5.B.3)	UNDERSTANDING CULTURAL AND GENERATIONAL ASPECTS IN DIGITAL SPACES (MC 2.5.B.4)	CULTURAL AND GENERATIONAL DIVERSITY DISCOURSE IN DIGITAL SPACES (MC 2.5.B.5)
FOUNDATION	NAVIGATING BEHAVIORAL NORMS IN THE DIGITAL AGE (MC 2.5.A.1)	CULTURAL AND GENERATIONAL DIVERSITY IN DIGITAL ENVIRONMENTS (MC 2.5.A.2)	ADAPTING COMMUNICATION MODES FOR MULTIPLE DEVICES (MC 2.5.A.3)	RECOGNIZING DIGITAL MISBEHAVIOR'S LONG-TERM IMPACT (MC 2.5.A.4)	STOPPING UNWANTED MESSAGES WITH EASE (MC 2.5.A.5)

7.9 Competency Area 2.6 Infographic

COMPETENCE AREA 2: COMMUNICATION AND COLLABORATION							
COMPETENCE 2.6: MANAGING DIGITAL IDENTITY - NUMBER OF MCs: 20							
EXPERT	Addressing complex problems related to digital identity and protecting one's own reputation online (MC 2.6.D.1)	Guiding others in managing one or multiple identities and protecting one's own reputation online (MC 2.6.D.2)	Searching a name in online environments and modifying user configurations (MC 2.6.D.3)	Propose new ideas related to managing a digital identity and protecting one's reputation online (MC 2.6.D.4)			
ADVANCED	Consistent digital identity (MC 2.6.C.1)	Modifying metadata (MC 2.6.C.2)	Managing multiple digital identities (MC 2.6.C.3)	Control, manage or delete data collected by online systems (MC 2.6.C.4)	Applying different strategies to protect one's reputation online (MC 2.6.C.5)		
INTERMEDIATE	Routine Digital Identities (MC 2.6.B.1)	Building a positive online identity (MC 2.6.B.2)	Understanding and manipulating the data you produce online (MC 2.6.B.3)	Creating and managing profiles for personal or professional purposes (MC 2.6.B.4)	Strategies to protect one's reputation online (MC 2.6.B.5)	Metadata in shared pictures (MC 2.6.B.6)	Managing multiple digital identities: Benefits and Risks (MC 2.6.B.7)
FOUNDATION	Defining Digital Identity (MC 2.6.A.1)	Digital Identity: Benefits and Risks (MC 2.6.A.2)	Online Reputation (MC 2.6.A.3)	Producing Data Online (MC 2.6.A.4)			

7.10 Competency Area 3.1 Infographic

COMPETENCE AREA 3: DIGITAL CONTENT CREATION

COMPETENCE 3.1: DEVELOPMENT OF DIGITAL CONTENT - NUMBER OF MCs: 43

EXPERT	High-Level Styling and Customization of Digital Text - 1 (MC 3.1.D.1)	High-Level Styling and Customization of Digital Text - 2 (MC 3.1.D.2)	Mastery in Digital Image and Graphic Design - 1 (MC 3.1.D.3)	Mastery in Digital Image and Graphic Design - 2 (MC 3.1.D.4)	Mastery in Digital Image and Graphic Design - 3 (MC 3.1.D.5)	Mastery of Digital Video Production - 1 (MC 3.1.D.6)	Mastery of Digital Video Production - 2 (MC 3.1.D.7)	Mastery of Digital Video Production - 3 (MC 3.1.D.8)	Mastery of Digital Video Production - 4 (MC 3.1.D.9)			
ADVANCED	Advanced Text Handling - 1 (MC 3.1.C.1)	Advanced Text Handling - 2 (MC 3.1.C.2)	Advanced Handling of Digital Image and Graphics - 1 (MC 3.1.C.3)	Advanced Handling of Digital Image and Graphics - 2 (MC 3.1.C.4)	Advanced Handling of Digital Image and Graphics - 3 (MC 3.1.C.5)	Advanced Handling of Digital Image and Graphics - 4 (MC 3.1.C.6)	Advanced Handling of Digital Image and Graphics - 5 (MC 3.1.C.7)	Advanced Techniques in Digital Video Production - 1 (MC 3.1.C.8)	Advanced Techniques in Digital Video Production - 2 (MC 3.1.C.9)	Advanced Techniques in Digital Video Production - 3 (MC 3.1.C.10)	Advanced Techniques in Digital Video Production - 4 (MC 3.1.C.11)	
INTERMEDIATE	Digital Documents Design and Layout - 1 (MC 3.1.B.1)	Digital Documents Design and Layout - 2 (MC 3.1.B.2)	Digital Documents Design and Layout - 3 (MC 3.1.B.3)	Digital Visuals Manipulation and Composition - 1 (MC 3.1.B.4)	Digital Visuals Manipulation and Composition - 2 (MC 3.1.B.5)	Digital Visuals Manipulation and Composition - 3 (MC 3.1.B.6)	Digital Visuals Manipulation and Composition - 4 (MC 3.1.B.7)	Digital Visuals Manipulation and Composition - 1 (MC 3.1.B.8)	Digital Video Editing and Refining - 1 (MC 3.1.B.9)	Digital Video Editing and Refining - 2 (MC 3.1.B.10)	Digital Video Editing and Refining - 3 (MC 3.1.B.11)	Digital Video Editing and Refining - 4 (MC 3.1.B.12)
FOUNDATION	Basic Text Documents Creation and Formatting - 1 (MC 3.1.A.1)	Basic Text Documents Creation and Formatting - 2 (MC 3.1.A.2)	Basic Text Documents Creation and Formatting - 3 (MC 3.1.A.3)	Image Editing and Graphic Design Foundations - 1 (MC 3.1.A.4)	Image Editing and Graphic Design Foundations - 2 (MC 3.1.A.5)	Image Editing and Graphic Design Foundations - 3 (MC 3.1.A.6)	Image Editing and Graphic Design Foundations - 4 (MC 3.1.A.7)	Basics of Digital Video Content Creation - 1 (MC 3.1.A.8)	Basics of Digital Video Content Creation - 2 (MC 3.1.A.9)	Basics of Digital Video Content Creation - 3 (MC 3.1.A.10)	Basics of Digital Video Content Creation - 4 (MC 3.1.A.11)	

7.11 Competency Area 3.2 Infographic

COMPETENCE AREA 3: DIGITAL CONTENT CREATION

COMPETENCE 3.2: INTEGRATING AND RE-ELABORATING DIGITAL CONTENT - NUMBER OF MCs: 45

EXPERT	Mastering Web Development and Integration - 1 (MC 3.2.D.1)	Mastering Web Development and Integration - 2 (MC 3.2.D.2)	Mastering Web Development and Integration - 3 (MC 3.2.D.3)	Mastering Web Development and Integration - 4 (MC 3.2.D.4)	Mastering Social Media Content Integration - 1 (MC 3.2.D.5)	Mastering Social Media Content Integration - 2 (MC 3.2.D.6)	Mastering Social Media Content Integration - 3 (MC 3.2.D.7)	Mastering Social Media Content Integration - 4 (MC 3.2.D.8)	Mastering Social Media Content Integration - 5 (MC 3.2.D.9)	Advanced Database Schema Evolution (MC 3.2.D.10)	Global Database Systems (MC 3.2.D.11)	
ADVANCED	Advanced Web Design and Integration - 2 (MC 3.2.C.1)	Advanced Web Design and Integration - 2 (MC 3.2.C.2)	Advanced Web Design and Integration - 3 (MC 3.2.C.3)	Advanced Web Design and Integration - 4 (MC 3.2.C.4)	Advanced Social Media Content Elaboration - 1 (MC 3.2.C.5)	Advanced Social Media Content Elaboration - 2 (MC 3.2.C.6)	Advanced Social Media Content Elaboration - 3 (MC 3.2.C.7)	Advanced Social Media Content Elaboration - 4 (MC 3.2.C.8)	Database Internals and Optimization (MC 3.2.C.9)	Distributed Database Systems (MC 3.2.C.10)	Advanced Security Measures and Compliance (MC 3.2.C.11)	
INTERMEDIATE	Web Content Design and Layout - 1 (MC 3.2.B.1)	Web Content Design and Layout - 2 (MC 3.2.B.2)	Web Content Design and Layout - 3 (MC 3.2.B.3)	Web Content Design and Layout - 4 (MC 3.2.B.4)	Optimizing Content for Social Media Engagement - 1 (MC 3.2.B.5)	Optimizing Content for Social Media Engagement - 2 (MC 3.2.B.6)	Optimizing Content for Social Media Engagement - 3 (MC 3.2.B.7)	Optimizing Content for Social Media Engagement - 4 (MC 3.2.B.8)	Query Optimization and Tuning - 1 (MC 3.2.B.9)	Optimizing Database Design (MC 3.2.B.10)	Data Protection (MC 3.2.B.11)	
FOUNDATION	Basics of Web Content Elaboration - 1 (MC 3.2.A.1)	Basics of Web Content Elaboration - 2 (MC 3.2.A.2)	Basics of Web Content Elaboration - 3 (MC 3.2.A.3)	Basics of Web Content Elaboration - 4 (MC 3.2.A.4)	Basics of Social Media Content Elaboration - 1 (MC 3.2.A.5)	Basics of Social Media Content Elaboration - 2 (MC 3.2.A.6)	Basics of Social Media Content Elaboration - 3 (MC 3.2.A.7)	Basics of Social Media Content Elaboration - 4 (MC 3.2.A.8)	Relational Database Concepts and RDBMS Platforms - 1 (MC 3.2.A.9)	Basics of Data Modelling (MC 3.2.A.10)	SQL Fundamentals - 1 (MC 3.2.A.11)	SQL Fundamentals - 2 (MC 3.2.A.12)

7.12 Competency Area 3.3 Infographic

COMPETENCE AREA 3: DIGITAL CONTENT CREATION						
COMPETENCE 3.3: COPYRIGHT AND LICENCES - NUMBER OF MCs : 20						
EXPERT	Expertise and copyright strategies (MC 3.3.D.1)	Expertise and copyright strategies (MC 3.3.D.2)	Precedencies in copyright (MC 3.3.D.3)	Digital forensics (MC 3.3.D.4)	Global copyright advocacy (MC 3.3.D.5)	Copyright leadership (MC 3.3.D.6)
ADVANCED	Copyright registration (MC 3.3.C.1)	Global copyright expertise (MC 3.3.C.2)	Copyright-related actions (MC 3.3.C.3)	Copyright-related advocacy (MC 3.3.C.4)		
INTERMEDIATE	Implications of copyright laws (MC 3.3.B.1)	International copyright (MC 3.3.B.2)	Rights and risk management (MC 3.3.B.3)	Content attribution and ethical consideration (MC 3.3.B.4)	License compliance (MC 3.3.B.5)	Handling disputes (MC 3.3.B.6)
FOUNDATION	Copyright laws (MC 3.3.A.1)	Types of licenses (MC 3.3.A.2)	Intellectual property (MC 3.3.A.3)	Attribution and compliance with copyright and licensing (MC 3.3.A.4)		

7.13 Competency Area 3.4 Infographic

COMPETENCE AREA 3: DIGITAL CONTENT CREATION

COMPETENCE 3.4: PROGRAMMING - NUMBER OF MCs: 26

EXPERT	Design solution for complex problem (MC 3.4.D.1)	Project management (MC 3.4.D.2)	Leadership. Creativity (MC 3.4.D.3)							
ADVANCED	Methods/functions (MC 3.4.C.1)	Input/output (I/O) operations (MC 3.4.C.2)	Libraries and modules (MC 3.4.C.3)	Programming paradigms (MC 3.4.C.4)	Imperative and Object-Oriented Programming (MC 3.4.C.5)	Logic and Functional Programming (MC 3.4.C.6)	Concurrent programming (MC 3.4.C.7)	Testing and debugging (MC 3.4.C.8)	Compiled vs. interpreted programming languages (MC 3.4.C.9)	Markup languages (MC 3.4.C.10)
INTERMEDIATE	Specifications/functionalities of an application (MC 3.4.B.1)	Choose a programming language corresponding to target platform (MC 3.4.B.2)	Choose an IDE corresponding to programming language (MC 3.4.B.3)	Programming language syntax (MC 3.4.B.4)	Data types (MC 3.4.B.5)	Variables and operators (MC 3.4.B.6)	Control flow statements (MC 3.4.B.7)	Run source file (MC 3.4.B.8)		
FOUNDATION	Programming languages – types and classification (MC 3.4.A.1)	IDE - Integrated Development Environment (MC 3.4.A.2)	Choose and install an IDE (MC 3.4.A.3)	Programming documentation (MC 3.4.A.4)	Application domains (MC 3.4.A.5)					

7.14 Competency Area 4.1 Infographic

COMPETENCE AREA 4: SAFETY									
COMPETENCE 4.1: PROTECTING DEVICES - NUMBER OF MCs: 34									
EXPERT	Cybersecurity Risk Management and Staff Awareness (MC 4.1.D.1)	Data-Centric Cybersecurity and Redundant Data Management (MC 4.1.D.2)	Cybersecurity Leadership and Culture Development (MC 4.1.D.3)	Secure Data Management and Cyber Awareness (MC 4.1.D.4)	Advanced Cybersecurity and Ethical Hacking (MC 4.1.D.5)	Mastering Cybersecurity - Secure Passwords and Access Management (MC 4.1.D.6)	Cybersecurity Awareness and Account Management (MC 4.1.D.7)	Cybersecurity Management - Endpoint Protection and Data Retention (MC 4.1.D.8)	Browser Optimization and Security Management (MC 4.1.D.9)
ADVANCED	Personal Device Security and Best Practices (MC 4.1.C.1)	Password Security and Best Practices (MC 4.1.C.2)	Secure Device Management and Data Efficiency (MC 4.1.C.3)	Digital Safety and Secure Data Handling (MC 4.1.C.4)	Device Security and Data Protection (MC 4.1.C.5)	Comprehensive Security Training and Implementation (MC 4.1.C.6)	Cybersecurity Awareness and Device Protection (MC 4.1.C.7)	Advanced Security Practices for Personal Devices and Systems (MC 4.1.C.8)	
INTERMEDIATE	Cybersecurity Best Practices (MC 4.1.B.1)	Device Loss Management and Data Protection (MC 4.1.B.2)	Online Privacy and Application Security (MC 4.1.B.3)	Secure Digital Behavior and Physical Device Security (MC 4.1.B.4)	Digital Threats Awareness and Password Management (MC 4.1.B.5)	Device Security and Software Maintenance (MC 4.1.B.6)	Device Security Management and Privacy Preservation (MC 4.1.B.7)	Remote Working Security and Digital Archiving Security (MC 4.1.B.8)	Portable Device Security and Safe App Downloading (MC 4.1.B.9)
FOUNDATION	Essentials of Digital Security (MC 4.1.A.1)	Basic Cybersecurity and Personal Safety Awareness (MC 4.1.A.2)	Digital Security and Privacy Essentials (MC 4.1.A.3)	Digital Privacy and Cybersecurity Management (MC 4.1.A.4)	Principles of Secure Device Use and Digital Collaboration (MC 4.1.A.5)	Online Privacy and Child Safety in the Digital World (MC 4.1.A.6)	Digital Behavior and Device Security (MC 4.1.A.7)	Secure Device Management and Data Protection (MC 4.1.A.8)	

7.15 Competency Area 4.2 Infographic

COMPETENCE AREA 4: SAFETY										
COMPETENCE 4.2: PROTECTING PERSONAL DATA AND PRIVACY - NUMBER OF MCs: 35										
EXPERT	Cybersecurity Risk Management and Staff Awareness (MC 4.2.D.1)	Data-Centric Cybersecurity and Redundant Data Management (MC 4.2.D.2)	Cybersecurity Leadership and Culture Development (MC 4.2.D.3)	Secure Data Management and Cyber Awareness (MC 4.2.D.4)	Advanced Cybersecurity and Ethical Hacking (MC 4.2.D.5)	Mastering Cybersecurity - Secure Passwords and Access Management (MC 4.2.D.6)	Cybersecurity Awareness and Account Management (MC 4.2.D.7)	Cybersecurity Management - Endpoint Protection and Data Retention (MC 4.2.D.8)	Browser Optimization and Security Management (MC 4.1.D.9)	
ADVANCED	Personal Device Security and Best Practices (MC 4.2.C.1)	Password Security and Best Practices (MC 4.2.C.2)	Secure Device Management and Data Efficiency (MC 4.2.C.3)	Digital Safety and Secure Data Handling (MC 4.2.C.4)	Device Security and Data Protection (MC 4.2.C.5)	Comprehensive Security Training and Implementation (MC 4.2.C.6)	Cybersecurity Awareness and Device Protection (MC 4.2.C.7)	Advanced Security Practices for Personal Devices and Systems (MC 4.2.C.8)		
INTERMEDIATE	Cybersecurity Consciousness and Privacy Protection (MC 4.2.B.1)	Digital Citizenship and Online Security Proficiency (MC 4.2.B.2)	Cybersecurity Best Practices and Online Behavior Assessment (MC 4.2.B.3)	Comprehensive Digital Privacy, Child Safety, and Secure Browsing Proficiency (MC 4.2.B.4)	Advanced Digital Security and Encryption Proficiency (MC 4.2.B.5)	Advanced Personal Data Protection and Privacy Analysis (MC 4.2.B.6)	Advanced Personal Data Security and Privacy (MC 4.2.B.7)	Digital Privacy Management & Secure Online Interaction (MC 4.2.B.8)		
FOUNDATION	Comprehensive Understanding of Digital Safety and Security of Transactions (MC 4.2.A.1)	Proficient Knowledge in Personal Data Safety and Risk Assessment (MC 4.2.A.2)	Mastery in Antivirus Application and Personal Privacy Setting Customization (MC 4.2.A.3)	Expertise in Password Management and Smartphone Security Features Usage (MC 4.2.A.4)	Proficiency in Password Maintenance and Understanding Public Wi-Fi Network Security (MC 4.2.A.5)	Mastery in Digital Content Etiquette and Personal Data Security (MC 4.2.A.6)	Expertise in Digital Privacy Management and Secure E-commerce Practices (MC 4.2.A.7)	Secure Data Exchange and Online Transaction Practices (MC 4.2.A.8)	Understanding Web Browsers and User Data Protection (MC 4.2.A.9)	Digital Safety and Privacy Literacy (MC 4.2.A.10)

7.16 Competency Area 4.3 Infographic

COMPETENCE AREA 4: SAFETY						
COMPETENCE 4.3: PROTECTING HEALTH AND WELL-BEING - NUMBER OF MCs: 20						
EXPERT	Digital Health Management and Interaction Awareness (MC 4.3.D.1)	Digital Interaction and Well-being Mastery (MC 4.3.D.2)	Digital Content Dynamics and Wellness Communication (MC 4.3.D.3)	Inclusive Digital Typography and Content Accessibility (MC 4.3.D.4)		
ADVANCED	Digital Well-being and Responsible Online Engagement (MC 4.3.C.1)	Digital Well-being and Influencer Impact Analysis (MC 4.3.C.2)	Global Digital Well-being and Communication Excellence (MC 4.3.C.3)	Digital Influence and Mindful Technology Engagement (MC 4.3.C.4)		
INTERMEDIATE	Digital Discipline and Academic Productivity (MC 4.3.B.1)	Digital Health and Well-being: Regulatory and Practical Perspectives (MC 4.3.B.2)	Digital Well-being and Online Engagement (MC 4.3.B.3)	Sustainable Digital Practices and Well-being (MC 4.3.B.4)	Digital Harmony and Eco-Conscious Practices (MC 4.3.B.5)	Cyberbullying Awareness and Digital Well-being Integration (MC 4.3.B.6)
FOUNDATION	Optimizing Workplace Health: Strategies for Posture, Blue Light Management, and Active Breaks (MC 4.3.A.1)	Digital Citizenship: Creating Safer Online Spaces (MC 4.3.A.2)	Digital Harmony: Crafting a Healthier Life with Technology (MC 4.3.A.3)	Smart Tech Habits: Comfort and Safety in the Digital Age (MC 4.3.A.4)	Digital Well-being and Mindfulness (MC 4.3.A.5)	Digital Citizenship and Mindful Technology Use (MC 4.3.A.6)

7.17 Competency Area 4.4 Infographic

COMPETENCE AREA 4: SAFETY				
COMPETENCE 4.4: PROTECTING ENVIRONMENT - Number of MCs: 16				
EXPERT	Eco-Tech Integration in Industries (MC 4.4.D.1)	Eco-Innovation in Digital Technologies (MC 4.4.D.2)	Digital Green Leadership (MC 4.4.D.3)	Digital Ethics and Eco-Conscious Innovations (MC 4.4.D.4)
ADVANCED	Digital Green Advocacy and Policy (MC 4.4.C.1)	Eco-Digital Futures: Strategies and Insights (MC 4.4.C.2)	Eco-Digital Awareness and Action (MC 4.4.C.3)	The "Sustainable Tech Synergies (MC 4.4.C.4)
INTERMEDIATE	Digital Ecology and Sustainable Practices (MC 4.4.B.1)	Eco-Innovative Digital Strategies (MC 4.4.B.2)	Digital Environmental Stewardship (MC 4.4.B.3)	Green Digital Innovation (MC 4.4.B.4)
FOUNDATION	Eco-Conscious Digital Practices (MC 4.4.A.1)	Sustainable Digital Stewardship (MC 4.4.A.2)	Eco-Digital Footprint Management (MC 4.4.A.3)	Eco-Smart Digital Practices (MC 4.4.A.4)

7.18 Competency Area 5.1 Infographic

COMPETENCE AREA 5: PROBLEM SOLVING								
COMPETENCE 5.1: SOLVING TECHNICAL PROBLEMS - NUMBER OF MCs: 26								
EXPERT	Strategic Asset Management and Policy Review in IT Governance (MC 5.1.D.1)	Strategic IT Training and Resource Allocation Leadership (MC 5.1.D.2)	Advanced IT Performance Optimisation and Troubleshooting Strategies (MC 5.1.D.3)	Holistic Employee Training and Continuous Improvement Strategies (MC 5.1.D.4)	Advanced PC Hardware Upgrades and Optimisation (MC 5.1.D.5)	Advanced IT Infrastructure Management and Optimisation (MC 5.1.D.6)		
ADVANCED	Advanced Troubleshooting and System Configuration (MC 5.1.C.1)	Software and Hardware Optimisation Strategies (MC 5.1.C.2)	System Maintenance and Performance Optimisation Essentials (MC 5.1.C.3)	Technical Troubleshooting and Problem-Solving Mastery (MC 5.1.C.4)	Device Optimisation and Information Management (MC 5.1.C.5)	Software and Hardware Management for Organisational Efficiency (MC 5.1.C.6)	Strategic Problem Solving and Asset Protection (MC 5.1.C.7)	Strategic Administration and Decision-Making in IT Management (MC 5.1.C.8)
INTERMEDIATE	Essential Troubleshooting for Optimal Performance (MC 5.1.B.1)	Proactive Troubleshooting for Digital Devices (MC 5.1.B.2)	Technical Exploration and Troubleshooting Documentation (MC 5.1.B.3)	Essentials of Interconnected Systems (MC 5.1.B.4)	Essential Digital Wellness and Performance (MC 5.1.B.5)	Digital Hygiene and Optimisation Essentials (MC 5.1.B.6)	Device Troubleshooting and Performance Optimisation (MC 5.1.B.7)	Proactive Troubleshooting and Documentation (MC 5.1.B.8)
FOUNDATION	Essentials of Computer Systems (MC 5.1.A.1)	Basic Device Performance (MC 5.1.A.2)	Device Settings and Trouble Shooting Essentials (MC 5.1.A.3)	Vigilance and Problem Solving Essentials (MC 5.1.A.4)				

7.19 Competency Area 5.2 Infographic

COMPETENCE AREA 5: PROBLEM SOLVING									
COMPETENCE 5.2: IDENTIFYING NEEDS AND TECHNOLOGICAL RESPONSES - NUMBER OF MCs: 26									
EXPERT	Accessibility Management and Policy Optimisation (MC 5.2.D.1)	Strategic IT Training and Problem Resolution (MC 5.2.D.2)	Advanced Configuration and Template Design for Performance Optimisation (MC 5.2.D.3)	Cultivating a Company-Wide Problem-Solving Culture (MC 5.2.D.4)	Comprehensive Onboarding and Digital Proficiency Training (MC 5.2.D.5)	Accessibility Tools Selection and Software Integration Mastery (MC 5.2.D.6)			
ADVANCED	Mastering E-Commerce Landscapes: Navigating B2B, B2C, and C2C Dynamics (MC 5.2.C.1)	Digital and Physical Environment Optimisation: A User-Centric Approach (MC 5.2.C.2)	Data Exploration, Cost-Effective Prototyping, and Software Decision-Making (MC 5.2.C.3)	Management of Standards, Technical Environments, and Problem-Solving Guidance (MC 5.2.C.4)	Inclusive Digital Environments and Technology Evaluation (MC 5.2.C.5)	Strategic Tool Utilisation for Workload Management (MC 5.2.C.6)	Maximising Usability Across Departments (MC 5.2.C.7)	Mastering Problem Solving and Decision-Making: The Point of Contact Approach (MC 5.2.C.8)	
INTERMEDIATE	Proactive Attitudes Towards Digital Environments (MC 5.2.B.1)	Proactive Troubleshooting for Optimal Performance (MC 5.2.B.2)	Strategic Tech Integration (MC 5.2.B.3)	Digital Productivity (MC 5.2.B.4)	Essential Digital Wellness and Performance (MC 5.2.B.5)	Essentials for Digital Rights and Security (MC 5.2.B.6)	Navigating Algorithms, Advertisements, and Device Settings (MC 5.2.B.7)	Tools, Automation, and AI for Support (MC 5.2.B.8)	Strategic Documentation and Proactive Decision-Making (MC 5.2.B.9)
FOUNDATION	Essentials of Computer Systems (MC 5.2.A.1)	Fundamentals of Electronic Devices and Troubleshooting (MC 5.2.A.2)	Digital Literacy Problem Shooting (MC 5.2.A.3)						

7.20 Competency Area 5.3 Infographic

COMPETENCE AREA 5: PROBLEM SOLVING								
COMPETENCE 5.3: CREATIVELY USING DIGITAL TECHNOLOGY - NUMBER OF MCs: 28								
EXPERT	Modelling and Advanced Analytics in Digital Problem-Solving (MC 5.3.D.1)	Digital Tools Training and Decision-Making Mastery (MC 5.3.D.2)	Digital Tools Management and Personalisation (MC 5.3.D.3)	Strategic Problem-Solving Leadership in Digital Environments (MC 5.3.D.4)	Design Thinking and Collaborative Learning Strategies (MC 5.3.D.5)	Rapid Prototyping and Blockchain Integration Strategies (MC 5.3.D.6)	Innovations in Digital Transformation: AI, IoT, and RPA Integration (MC 5.3.D.7)	Digital Prediction Tools, Cloud Collaboration, and Innovative Thinking (MC 5.3.D.8)
ADVANCED	Strategic Innovation and Collaborative Problem Solving (MC 5.3.C.1)	Strategic Technology Utilisation and Advocacy (MC 5.3.C.2)	Intellectual Property Security and Data Analysis Mastery (MC 5.3.C.3)	Collaborative Problem-Solving in Digital Environments (MC 5.3.C.4)	Digital Proficiency for Knowledge Creation and Innovation (MC 5.3.C.5)	Strategic Tool Selection for Optimal Performance (MC 5.3.C.6)	Risks, Compliance, and Financial Implications in Digital Environments (MC 5.3.C.7)	Agile Problem Resolution in Digital Environments (MC 5.3.C.8)
INTERMEDIATE	Tool and Technology Selection and Testing (MC 5.3.B.1)	Digital Proficiency in Document and Workflow Management (MC 5.3.B.2)	Prototyping Technologies from Concept to Reality (MC 5.3.B.3)	Continuous Improvement in Problem Solving (MC 5.3.B.4)	Knowledge Creation and Innovation Strategies (MC 5.3.B.5)	Continuous Improvement in Digital Tools and Technologies (MC 5.3.B.6)	Integrated Solutions and Security Protocols in Digital Innovation (MC 5.3.B.7)	Strategic Planning and Futureproofing in Digital Innovation (MC 5.3.B.8)
FOUNDATION	Exploring Digital Dynamics (MC 5.3.A.1)	Fundamentals of Digital Organisation Proficiency (MC 5.3.A.2)	Digital Collaboration and Knowledge Management (MC 5.3.A.3)	Exploring Alternatives and Automation for Efficiency (MC 5.3.A.4)				

7.21 Competency Area 5.4 Infographic

COMPETENCE AREA 5: PROBLEM SOLVING								
COMPETENCE 5.4: IDENTIFYING DIGITAL COMPETENCE GAPS - NUMBER OF MCs 28								
EXPERT	Cultivating Growth Mindset and Lifelong Learning (MC 5.4.D.1)	Competency-Based Learning and Digital Tool Analysis (MC 5.4.D.2)	Dynamic Training Policy Management and Progress Monitoring (MC 5.4.D.3)	Financial Empowerment for Continuous Learning in the Digital Era (MC 5.4.D.4)	Digital Competence Enhancement through In-House Workshops and Expert Insights (MC 5.4.D.5)	Navigating Digital Competency Gaps: A Holistic Exploration (MC 5.4.D.6)	Strategic Workforce Management for Knowledge Advantage (MC 5.4.D.7)	Human Capital Investment and Cross-Platform Innovation (MC 5.4.D.8)
ADVANCED	Empowering Growth in Digital Environments (MC 5.4.C.1)	Adaptive Learning Leadership: Tailoring Development for Success (MC 5.4.C.2)	Collaborative Leadership in the Digital Era: Mentoring and Community Engagement (MC 5.4.C.3)	Data-Driven Excellence: Research, Analysis, and Competency Development in Digital Environments (MC 5.4.C.4)	Strategic Digital Competence Development: A Holistic Approach (MC 5.4.C.5)	Navigating Knowledge Expansion and Personalised Development (MC 5.4.C.6)	Digital Skills Mastery: Assess, Adapt, and Propel (MC 5.4.C.7)	Empowering Individual Growth (MC 5.4.C.8)
INTERMEDIATE	Strategic Skill Enhancement: Linking Learning to Action (MC 5.4.B.1)	Strategic Certification Assessment: Aligning Professional Growth with Organisational Goals (MC 5.4.B.2)	Dynamic Digital Proficiency: Navigating Trends, Feedback and Project Management Tools (MC 5.4.B.3)	Skill Showcase: Leveraging Internal Best Practices for Professional Development (MC 5.4.B.4)	Strategic Digital Competence Planning: Defining Clear Objectives and Goals (MC 5.4.B.5)	Strategic Professional Development: Navigating Guidance, Opportunities, and Collaboration (MC 5.4.B.6)	Strategic Learning Needs Assessment and Goal Evaluation (MC 5.4.B.7)	Customised Learning Facilitation: Tailoring Experiences and Empowering Competency Building (MC 5.4.B.8)
FOUNDATION	Digital Literacy and Collaborative Learning (MC 5.4.A.1)	Digital Skills Evaluation and Strategic Upskilling (MC 5.4.A.2)	Digital Fluency and Professional Development (MC 5.4.A.3)	Strategic Learning Pathways: Navigating Online Education (MC 5.4.A.4)				

8 Glossary of Terms

Bite Size: Bite size courses are short videos that cover one or more topics in a specific learning outcome

MicroCredential: “A micro-credential is the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes have been assessed against transparent and clearly defined standards. Courses leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural or labour market needs. Micro-credentials are owned by the learner, can be shared and are portable. They may be standalone or combined into larger credentials. They are underpinned by quality assurance following agreed standards in the relevant sector or area of activity”. (European Commission, 2021). A MicroCredential in the practical context of the DigitalSkillsWallet platform comprises of areas of specific learning within each competence to be examined at 4 levels (foundation, intermediate, advanced and expert) according to the DigComp Framework. The number of MicroCredential changes for each competence and competence area so best to check the table to assess which area your bite size course is providing information on. You can then attribute the learning to that MicroCredential and it will guide your content.

Digital Competence: “digital competence involves the “confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It is defined as a combination of knowledge, skills and attitudes.” (European Commission, 2018)

DigComp: The DigComp Framework identifies the key components of digital competence in 5 areas (Dimension 1). Information and data literacy, Communication and collaboration, Digital content creation, Safety, Problem solving (Vuorikari et al., 2022)

Competence Area: “A cluster of related Knowledge and Skill statements that correlates with one’s capability to perform Tasks in a particular domain. Competency Areas can help learners discover areas of interest, inform career planning and development, identify gaps for knowledge and skills development, and provide a means of assessing or demonstrating a learner’s capabilities in the domain” (Wetzel, 2023, p. 3). For the purpose of this project and the DigComp, the Competence Area is the first dimension of which there are 5 areas. 1. Information and Data Literacy, 2. Communication and Collaboration, 3. Digital Content Creation, 4. Safety, 5. Problem Solving

Competence: In the context of this project and the DigComp, a competence is a subset of the Competence Area of which 21 exist.

Learner: In this document the learner is the recipient of the learning material.

Contributor: In this document the contributor is the provider of the learning material, namely an educator.

Learning Outcome: “A learning outcome is a statement of what a learner is expected to know, understand and be able to do at the end of a period of learning. (European Commission, 2017) Learning

outcomes are linked to the relevant level and since they should generally be assessable they should be written in terms of how the learning is represented” (Moon & Moon, 2004, p. 12). A learning outcome in the practical context of the DigitalSkillsWallet platform comprises of the specific and particular learning that can be demonstrated as a result of assessing the MicroCredential. Eg. there could be 3 learning outcomes for 1 MicroCredential. When examining for MicroCredential “finding information on devices” **MC 1.1.A.5**, the learning outcomes are:

- 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

Topic: A Learning Outcome can contain one or more Topics making it easier for the contributors to focus on a specific topic relevant to their expertise.

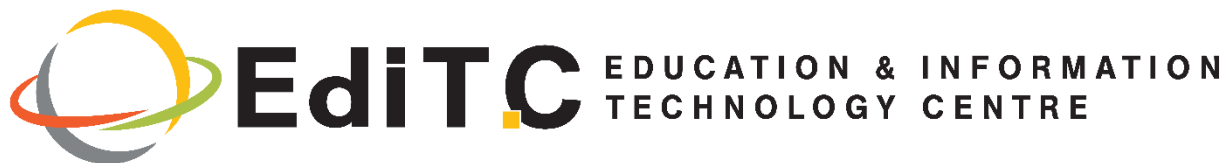
Competence Level: In the context of the DigComp Framework there are 4 competency levels. These levels are Foundation, Intermediate, Advanced and Expert.

- **At a foundation level** contributors are examining at a basic level with guidance or autonomously and with appropriate guidance learners satisfy the learning outcomes.
- **At an intermediate level** contributors are examining whether the learner can independently solve straightforward problems and can solve well-defined, non-routine problems to satisfy the learning outcomes.
- **At an advanced level** contributors are examining, that as well as guiding others in a complex context learners can satisfy the learning outcomes.
- **At an expert level** learners should be able to demonstrate a highly specialised and advanced level of knowledge linked to the learning outcomes.

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