MICROCREDENTIALS FOR PROBLEM SOVING COMPETENCE 5.3: CREATIVELY USING DIGITAL TECHNOLOGIES

DSW
DIGITAL SKILLS WALLET

Co-funded by the European Union

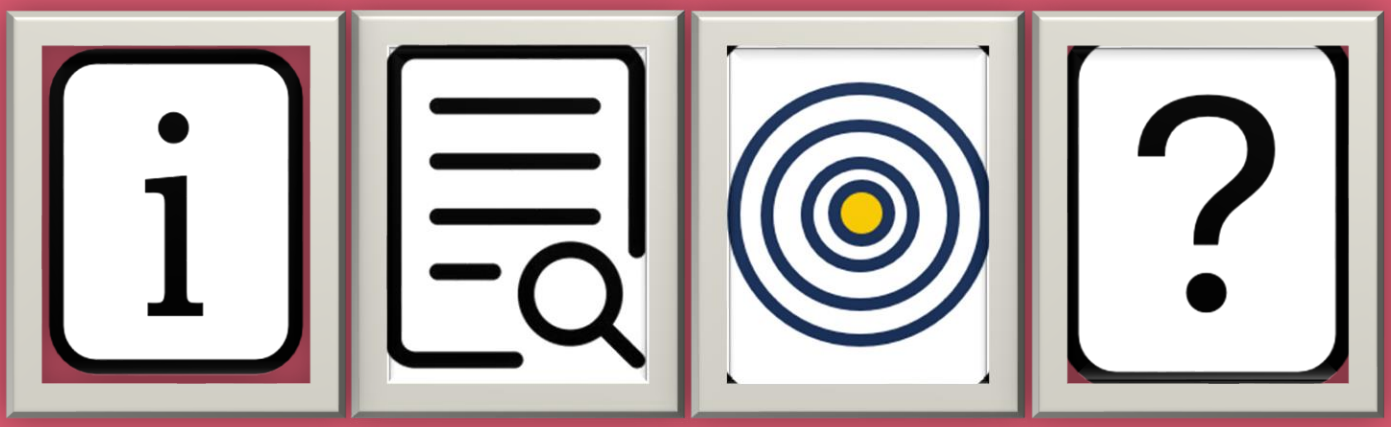
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.


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

Contents

FOUNDATION LEVEL

(Level 1 and Level 2)



Exploring Digital Dynamics (MC 5.3.A.1)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Exploring Digital Dynamics **Code: MC 5.3.A.1**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	1-3 Hours
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 5.3.1 and 5.3.4 and 5.3.6)

Digital Environments

- Foster an attitude of curiosity for understanding how things work in digital environments
- Apply and seek feedback through embracing the creative process and for constructive criticism
- List online courses and tutorials related to cognitive processing, digital technology, and problem-solving

Description

"Fundamentals of Digital Organisation Proficiency" Micro Credential is designed to deepening problem-solving skills through practical experiences, utilise strategies for enhanced organisation and introduce efficient project management with digital tools.

This Micro credential allows the learner to explore a range of practical experiences that foster a deeper understanding of problem-solving in diverse digital scenarios and to engage in hands-on exercises and real-world simulations to apply theoretical knowledge to practical challenges.

Participants will master the use of note-taking apps, task management software, and project management tools to enhance organisational skills and develop strategies to keep thoughts, tasks, and projects systematically organised in the digital realm. They will explore the functionalities of note-taking apps, task management software, and project management tools to boost productivity and learn to leverage these tools to streamline workflows, collaborate effectively, and meet project goals efficiently.

Additionally, learners will develop an adaptable mindset to stay abreast of evolving digital technologies to understand how ongoing learning and staying updated contribute to continued problem-solving efficacy. They will be introduced to teamwork and collaboration through group problem-solving exercises and the digital tools to enhance communication and coordination among team members.

On successful completion of the micro credential, participants will earn "Fundamentals of Electronic Devices and Troubleshooting" and will be presented with the knowledge to sharpen their problem-solving skills and maximise organisational efficiency using digital tools

Questions

Curiosity and Creativity in Digital Environments

1. Why is fostering an attitude of curiosity essential for individuals working in digital environments?
2. How do you apply a creative process when approaching problem-solving in digital environments?
3. How do you encourage an attitude of curiosity and question asking?

Feedback in Digital Environments

4. Why is seeking feedback an important step in the creative process?
5. How should you handle constructive criticism?
6. How would you suggest feedback might be?
    - Evaluated
    - Assessed

- Delivered
- Collected
- Communicated
-

Courses and Tutorials in digital Environments

7. Can you name two online courses related to cognitive processing in digital environments?
8. Provide the names of tutorials or courses that you believe are valuable for enhancing problem-solving skills in the realm of digital technology.
9. Why is growing skills in problem solving ability important?

Fundamentals of Digital Organisation Proficiency (MC 5.3.A.2)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Fundamentals of Digital Organisation Proficiency **Code: MC 5.3.A.2**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	1-3 Hours
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 5.3.2 and 5.3.3)

Digital Organisation

- Identify what techniques can enhance knowledge of problem solving in digital environments
- Identify ways to stay organised using digital tools

Description

"Fundamentals of Digital Organisation Proficiency" Micro Credential is designed to deepening problem-solving skills through practical experiences, utilise strategies for enhanced organisation and introduce efficient project management with digital tools.

This Micro credential allows the learner to explore a range of practical experiences that foster a deeper understanding of problem-solving in diverse digital scenarios and to engage in hands-on exercises and real-world simulations to apply theoretical knowledge to practical challenges.

Participants will master the use of note-taking apps, task management software, and project management tools to enhance organisational skills and develop strategies to keep thoughts, tasks, and projects systematically organised in the digital realm. They will explore the functionalities of note-taking apps, task management software, and project management tools to boost productivity and learn to leverage these tools to streamline workflows, collaborate effectively, and meet project goals efficiently.

Additionally, learners will develop an adaptable mindset to stay abreast of evolving digital technologies to understand how ongoing learning and staying updated contribute to continued problem-solving efficacy. They will be introduced to teamwork and collaboration through group problem-solving exercises and the digital tools to enhance communication and coordination among team members.

On successful completion of the micro credential, participants will earn "Fundamentals of Electronic Devices and Troubleshooting" and will be presented with the knowledge to sharpen their problem-solving skills and maximise organisational efficiency using digital tools.

Questions

Digital Organisation and Problem Solving

1. How would you approach identifying practical experiences that could significantly enhance problem-solving skills in a digital context?
2. Why is it important to use digital tools like note-taking apps, task management software?
3. Why is it important to use project management tools in the context of staying organised in a professional setting?
4. Can you name two functionalities of note-taking apps that contribute to enhanced productivity?
5. In what ways do project management tools facilitate collaboration and coordination?
6. How can project management tools benefit team-based problem-solving scenarios?
7. What other methods or tools can you identify as practical experiences that can deepen your understanding and problem-solving skills?
8. Suggest a scenario where project management software may come in useful for projects outside of an organisational context.

Digital Collaboration and Knowledge Management (MC 5.3.A.3)

Basic Information

Identification of the learner	Any Citizen
Title of the micro-credential	Digital Collaboration and Knowledge Management **Code: MC 5.3.A.3**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	1-3 Hours
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 5.3.5, 5.3.7 and 5.3.10)

Digital Collaboration

- Identify the ways in which you can communicate and collaborate on projects

Digital Knowledge Management

- Identify what project management tools can be utilised either individually or collectively
- Identify what knowledge needs to be managed and distinguish between digital tools that help to create and protect knowledge and the innovate processes and resulting products

Description

"Digital Collaboration and Knowledge Management" is a Micro credential designed to present participants with the confidence to optimise communication, collaboration, and knowledge management in the digital realm.

The Micro credential will show the learner diverse ways to communicate and collaborate on projects within digital environments and how to develop strategies for fostering effective teamwork and communication. Learners will explore collaborative problem-solving approaches in the context of project communication and knowledge management and enhance communication and teamwork skills to collectively address challenges and generate innovative solutions.

The curriculum will lay out a spectrum of project management tools available for individual and collective use and how to select and implement project management tools that align with project goals and team dynamics. It will also identify the types of knowledge that are crucial for project success and ongoing innovation and share some digital tools designed for creating, safeguarding, and sharing knowledge and the innovative processes that result in new products and solutions.

Additionally, the learner will gain experience with digital tools that facilitate knowledge creation and protection and understand the role of these tools in preserving intellectual capital and fostering a culture of innovation.

On successful completion of the micro credential participants will earn "Digital Collaboration and Knowledge Management" and possess the skills in project communication, collaboration, and knowledge management.

Questions

Explaining the Impact of Digital Problems

1. What challenges may arise when communicating and collaborating on a digital project?
2. How would you approach identifying effective ways to communicate and collaborate on a digital project?

Project Management

3. What factors would you consider when selecting project management tools for a specific project?
4. Can you name two project management tools and explain how they contribute to individual or collective project success?
5. How would you apply your knowledge of communication and collaboration strategies in a real-world project scenario?

6. In conjunction with a project management too, what other tool could you use to compliment it and in what way might you use it?

Knowledge Management

7. Why is it crucial to identify the types of knowledge that need to be managed in a project?
8. Provide an example of a digital tool that facilitates knowledge creation and explain how it contributes to the innovation process in a project.
9. In a collaborative project, how might you distinguish between knowledge that needs to be protected and knowledge that can be openly shared to drive innovation?
10. Can you name a digital tool specifically designed for protecting intellectual property or sensitive project information?

Exploring Alternatives and Automation for Efficiency (MC 5.3.A.4)

Basic Information

Identification of the learner	Any Citizen
Title of the micro-credential	Exploring Alternatives and Automation for Efficiency **Code: MC 5.3.A.4**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	1-3 Hours
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 5.3.5, 5.3.7 and 5.3.10)

Alternatives in Digital Environments

- Consider alternative options to website building and list options

Automation in Digital Environments

- Review automated software to create more efficiencies

Description

"Exploring Alternatives and Automation for Efficiency" is a Micro credential designed to present individuals to broaden their perspective on website creation, guiding them through alternative options and demonstrating the power of automated software to streamline workflow.

The Micro credential explores innovative alternatives to traditional website building, considering diverse platforms and tools and the advantages and limitations of each alternative, empowering you to make informed choices based on project requirements.

Content will cover elements of innovative automated software solutions that revolutionise the website creation process and will highlight how automation can enhance efficiency, reduce manual tasks, and contribute to a more seamless web development experience

Additionally, participants will develop research skills to identify the root causes of digital problems and find effective solutions while being able to differentiate between product and service offerings in the digital realm and understand their implications for problem-solving while exploring strategies for assessing whether a digital challenge requires a product-based solution or a service-oriented approach.

On successful completion of the micro credential participants will earn "Exploring Alternatives and Automation for Efficiency" and will emerge with a comprehensive understanding of alternative options to website building and the transformative power of automated software.

Questions

Alternative Options to Website Building

1. Can you name at least two alternative options available to traditional website building?
2. Briefly explain their key features.
3. Why might someone choose an alternative option over traditional website building?
4. What are the potential advantages?

Efficiency through Automation

5. Provide an example of automated software commonly used in web development to streamline tasks and increase efficiency.
6. What other places can automation be used?
7. How does the use of automated software contribute to creating more efficient workflows in web development?
8. What would you consider when investing in automation?

INTERMEDIATE LEVEL

(Level 3 and Level 4)

Tool and Technology Selection and Testing (MC 5.3.B.1)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Tool and Technology Selection and Testing **Code: 5.3.B.1**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	2-4 Hours
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 5.3.21 and 5.3.29)

Digital Tools

- Understand at a basic level the choice of tools and technologies will depend on your specific industry, objectives, and the nature of your projects

Testing

- Generate and test your hypotheses in the digital environment. Evaluate the effectiveness of each solution and gather data to support your findings.

Description

"Tool and Technology Selection and Testing" is a micro credential designed for individuals to empower participants with a foundational understanding of the choice of tools and technologies. This Micro credential is designed to empower participants with the essential knowledge to make informed choices tailored to their industry, objectives, and project dynamics.

The Micro credential allows the learner to develop the skills to formulate hypotheses relevant to your projects within the digital environment and to explore techniques for hypothesis testing, ensuring that your assumptions are grounded in practicality and feasibility. It allows the learner to navigate the complexities of the digital environment to assess the suitability of various solutions and the criteria for evaluating the effectiveness of tools and technologies in achieving project goals.

Content will embrace a data-centric approach to project management. Explore methods for gathering, analysing, and interpreting data to support your findings and can enhance decision-making and project outcomes.

On successful completion of the micro credential participants will earn "Tool and Technology Selection and Testing" and will possess the skills and knowledge needed to strategically select and utilise tools and technologies, generate and test hypotheses, and leverage data for informed decision-making in the digital realm of project management.

Questions

Tool and Technology Testing

1. Why is it important to consider the specific industry when choosing tools and technologies for a project?
2. Can you suggest different technological tools that would be recommended for what industries as standard and why?
3. How does the nature of a project influence the selection of tools and technologies?
4. Can you provide an example of a project objective that would significantly impact the choice of tools in a digital environment?
5. How can hypothesis testing contribute to the success of a project?
6. Why is it essential to gather data to support your findings when testing hypotheses in a digital project?
7. Can you identify a scenario where the choice of tools and technologies might need to be adapted based on initial hypothesis testing results?
8. From whom would you gather data from in an organisation when testing a hypothesis about a new tool or technology to be integrated?

Digital Proficiency in Document and Workflow Management (MC 5.3.B.2)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Digital Proficiency in Document and Workflow Management **Code: 5.3.B.2**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	2-4 Hours
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 5.3.22, 5.3.23 and 5.3.25)

Digital Proficiency

- Awareness of document management and knowledge sharing capability platforms
- Identify process mapping and workflow automation
- Find data analytics and business intelligence tools specific to needs

Description

"Digital Proficiency in Document and Workflow Management" is a micro credential designed to raise participants' awareness of document management platforms, instil the ability to identify process mapping and workflow automation, and empower them to find data analytics and business intelligence tools tailored to specific needs.

The Micro credential encourages the learner to gain awareness of document management platforms and knowledge-sharing capabilities and explore strategies for efficient document organisation, retrieval, and collaboration. Understand the role of knowledge-sharing platforms in fostering collaborative work environments.

Content will cover an introduction to the criteria for developing skills in identifying and mapping business processes, to investigative the concept of workflow automation and its application in streamlining tasks and to identify opportunities for automation to enhance operational efficiency.

Additionally, participants can navigate the landscape of data analytics tools and business intelligence platforms and the specific needs of your organisation or personal projects to tailor tool selection for interpreting data and making informed decisions using analytics tools.

On successful completion of the micro credential participants will earn "Digital Proficiency in Document and Workflow Management" and will be proficient in document management, workflow automation, and business intelligence, validating their digital ability.

Questions

Document Management and Knowledge Sharing

1. Name one document management platform commonly used for collaborative work and knowledge sharing.
2. How can effective document management enhance team collaboration in a professional setting?

Process Mapping and Workflow Automation

3. What is the primary purpose of process mapping, and how does it contribute to improving workflow efficiency?
4. Provide an example of a task or process that could benefit from workflow automation.

Data Analytics and Business Intelligence Tools

5. Question: Mention one popular data analytics tool used for extracting insights from large datasets.
6. Question: Why is it important to choose a business intelligence tool that aligns with the specific needs and goals of an organisation?

Application of Knowledge

7. Question: How would you explain the concept of process mapping to someone unfamiliar with it, using a simple example?
8. Question: If a company needs to analyse customer behaviour on its website, what type of data analytics tool might be suitable, and why?

Prototyping Technologies from Concept to Reality (MC 5.3.B.3)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Prototyping Technologies from Concept to Reality **Code: 5.3.B.3**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	2-4 Hours
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 5.3.24 and 5.3.26)

Prototyping

- Identify technologies that can help with designing and prototyping
- Research tools and technologies that allow you to create physical prototypes for product testing and refinement

Description

"Prototyping Technologies from Concept to Reality" is a micro credential designed to provide participants with the skills to identify innovative technologies for designing and prototyping. From virtual prototypes to physical models, participants will explore research tools and technologies that facilitate the creation of physical prototypes for thorough testing and refinement.

The Micro credential allows the learner to explore a spectrum of technologies available for designing and prototyping, to understand the strengths and applications of virtual prototyping tools for visualising concepts and to identify the most suitable technologies based on project requirements.

Content will look at research methodologies for discovering tools that enable the creation of physical prototypes, the intersection of digital and physical prototyping to optimise the design and testing phases and the significance of choosing the right tools for effective product testing and refinement.

On successful completion of the micro credential participants will earn "Prototyping Technologies from Concept to Reality" and become skilful and knowledgeable in a range of technologies suitable for designing and prototyping. Gain proficiency in virtual prototyping tools for visualising and refining concepts. Research and select tools for creating physical prototypes to undergo rigorous testing and understand the iterative process of prototyping for continuous refinement and improvement.

Questions

Design and Prototyping Technologies

1. What software tools are commonly used for digital product design and prototyping?
2. Can you explain the role of Computer-Aided Design (CAD) in the design process?
3. How do prototyping tools like Figma or Adobe XD facilitate the design and iteration process?

Research Tools for Product Development

4. What are some common research tools used in the early stages of product development?
5. How can user personas and journey maps contribute to the design and prototyping process?
6. Explain the significance of usability testing in refining product designs.

Physical Prototyping Technologies

7. What technologies are involved in creating physical prototypes for product testing?
8. How do 3D printing technologies contribute to the prototyping phase?
9. Can you discuss the role of CNC machining in creating physical prototypes?

Iterative Prototyping Process

10. Describe the importance of an iterative prototyping process in product development.

Continuous Improvement in Problem Solving (MC 5.3.B.4)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Continuous Improvement in Problem Solving **Code: 5.3.B.4**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	2-4 Hours
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 5.3.27, 5.3.28 and 5.3.30)

Continuous Improvement

- Reflect on the problem-solving process to identify lessons learned and areas for improvement
- Document problem-solving process, including the steps taken and outcomes
- Be vigilant in stay engaged in the monitoring process and be open to refining the solution based on feedback and new information

Description

"Continuous Improvement in Problem Solving" is a micro credential that investigates exploration of the problem-solving process, developing a keen understanding of the importance of reflection, documentation, and vigilance in achieving effective solutions. The curriculum is designed to reward individuals with the skills necessary to not only address challenges but also to continually refine and enhance solutions based on feedback and evolving information.

The Micro credential allows the learner to explore the significance of reflection in the problem-solving journey, to critically assess past problem-solving experiences and identify lessons learned and areas for improvement through reflective practices. They will explore the role of feedback in the improvement of solutions, to analyse and interpret feedback to drive refinements and embrace adaptability.

Content will give the participant the necessary knowledge to understand the value of systematic documentation in problem-solving using various methods and practice creating comprehensive records that capture the steps taken and outcomes achieved.

Additionally, the curriculum will cover the significance of emphasising the importance of ongoing monitoring in the problem-solving continuum and to develop strategies to stay engaged in the monitoring process so that one can cultivate openness to refining solutions based on feedback and emerging information.

On successful completion of the micro credential participants will earn "Continuous Improvement in Problem Solving" and will understand standard device settings, the ability to make personalised adjustments, and the skills to document and troubleshoot common technological challenges.

Questions

Reflect on the Problem-Solving Process

1. Can you describe a specific problem-solving experience you have had recently?
2. What lessons did you learn from that experience?
3. How do you personally approach reflecting on your problem-solving process?
4. Are there specific aspects you focus on when evaluating your actions?

Document Problem-Solving Process

5. Why is it important to document the steps taken during a problem-solving process?

6. Can you provide an example of a situation where documentation of the problem-solving process proved valuable in achieving a solution?

Be Vigilant in Staying Engaged in the Monitoring Process

7. How do you ensure that you stay actively engaged in monitoring a situation even after implementing a solution?
8. What challenges can arise if constant monitoring of solution finding for routine conceptual problems is not consistent?

Knowledge Creation and Innovation Strategies (MC 5.3.B.5)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Knowledge Creation and Innovation Strategies **Code: 5.3.B.5**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	2-4 Hours
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 5.3.31, 5.3.37 and 5.3.38)

Strategic Knowledge Creation and Innovation

- Know how to define objectives for creating knowledge and driving innovation
- Document what is meant by the problem for creating knowledge, innovate processes and products
- Detect possible solutions for creating knowledge, innovate processes and products

Description

"Knowledge Creation and Innovation Strategies" is a micro credential to present participants with the essential skills to define objectives, document problems, and detect solutions, laying the groundwork for knowledge creation and driving innovation.

The Micro credential shows participants how to articulate clear and actionable objectives for knowledge creation and innovation initiatives and to explore methodologies to align objectives with organisational goals and foster a culture of continuous improvement.

Content will cover the significance of clearly defining problems as the first step in knowledge creation and innovation and in documenting problem statements to provide a foundation for effective problem-solving processes.

Additionally, the Micro credential investigates the systematic approaches to detect potential solutions for knowledge creation, innovative processes, and product development while encouraging the participant to engage in practical exercises to enhance your ability to identify and evaluate viable solutions in various contexts.

On successful completion of the micro credential participants will earn "Knowledge Creation and Innovation Strategies" and will possess the knowledge and insights to define clear objectives, document problem statements, and detect solutions for knowledge creation, innovative processes, and product development.

Questions

Defining Objectives for Knowledge Creation and Innovation

1. Why is it important to have clear and well-defined objectives when embarking on initiatives for knowledge creation and driving innovation?
2. Can you provide an example of a situation where the lack of defined objectives would hinder the success of a knowledge creation or innovation project?

Documenting Problem Statements

3. Explain the significance of documenting problem statements in the context of creating knowledge, innovating processes, and developing products.
4. Identify a situation where effectively documenting a problem statement might lead to successful knowledge creation or innovation.

Detecting Possible Solutions

5. How do systematic approaches contribute to detecting possible solutions in the realms of knowledge creation, innovative processes, and product development?
6. Can you describe a specific instance where the detection of a solution would positively impact the outcome of a project focused on knowledge creation or innovation?

Continuous Improvement in Digital Tools and Technologies (MC 5.3.B.6)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Continuous Improvement in Digital Tools and Technologies **Code: 5.3.B.6**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	2-4 Hours
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 5.3.32 and 5.3.40)

Continuous Improvement

- Evaluate existing tools and processes to understand what is working and what needs improvement
- Be active in staying updated with new technologies and tools in the digital environment

Description

"Continuous Improvement in Digital Tools and Technologies" is a micro credential to empower individuals with the skills to confidently assess, enhance, and stay abreast of the ever-evolving digital landscape. This Micro credential provides a comprehensive approach to evaluating existing tools and processes while fostering an active mindset for staying updated with emerging technologies.

The Micro credential demonstrates to the participant, the importance of critically evaluating the effectiveness of current digital tools and processes for identifying areas of improvement and implementing strategic enhancements for increased efficiency.

Content will cover how to cultivate a proactive approach to staying updated with new technologies and tools in the digital environment and the strategies for continuous learning, keeping pace with industry trends, and integrating emerging technologies into existing workflows.

Additionally, the Micro credential investigates the practical skills needed in collaborative approaches to assessing and improving digital tools and technologies within a team setting while enhancing communication and teamwork skills to collectively identify areas for improvement and implement effective solutions.

On successful completion of the micro credential participants will earn "Continuous Improvement in Digital Tools and Technologies" and will possess the skills to assess and enhance existing digital tools and processes. Additionally, they will have developed an active learning mindset, enabling them to stay updated with emerging technologies and tools.

Questions

Evaluating Existing Tools and Processes

1. How do you approach the evaluation of existing digital tools and processes to determine their effectiveness?
2. Can you provide an example of a situation where evaluating existing tools would lead to the identification of areas for improvement, and what changes were implemented?
3. How would you cultivate a culture of openness to change are part of the process when using digital technologies?

Staying Updated with New Technologies

4. Why is it important to stay active in seeking updates with new technologies and tools in the digital environment?
5. Identify a strategy or resource to use to stay informed about emerging technologies, and how has it positively impacted your work or projects?
6. How would you encourage a culture of sharing insights and experiences to enhance collective problem-solving abilities?

Real-world Application

7. In a practical scenario, how would you apply the skills learned in evaluating existing tools to enhance a digital process within your organisation?
8. Can you identify a situation when staying updated with new technologies would play a crucial role in a successful project or task?

Integrated Solutions and Security Protocols in Digital Innovation (MC 5.3.B.7)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Integrated Solutions and Security Protocols in Digital Innovation **Code: 5.3.B.7**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	2-4 Hours
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 5.3.33 and 5.3.36)

Solutions and Security Protocols

- Know there are options for system integrations for creating knowledge, innovate processes and products
- Identify security features of the tools for creating knowledge, innovate processes and products

Description

"Integrated Solutions and Security Protocols in Digital Innovation" is a micro credential to present participants with the knowledge of diverse system integrations and security considerations for knowledge creation, process innovation, and product development.

The Micro credential demonstrates options for system integrations by exploring a spectrum of options in the context of knowledge creation, innovative processes, and product development and insights into how strategic integrations can enhance efficiency and contribute to a seamless digital workflow.

Content will cover security features identification through demonstrating the ability to identify and assess security features within digital tools relevant to knowledge creation, process innovation, and product development and understand the importance of security in safeguarding sensitive data and intellectual property.

Additionally, the Micro credential addresses best practices for implementing security protocols within digital tools and how to create a secure digital environment by understanding encryption, access controls, and other key security features.

On successful completion of the micro credential participants will earn "Integrated Solutions and Security Protocols in Digital Innovation" and will possess the skills to strategically implement system integrations for enhanced digital workflows and be well-versed in identifying and implementing security features to ensure the confidentiality and integrity of their digital projects.

Questions

Options for System Integrations

1. How would you explain the significance of system integrations in the context of creating knowledge, innovating processes, and developing products?
2. Provide an example of a situation where strategic system integrations would positively the efficiency of a digital workflow.
3. Discuss any challenges

Knowledge of System Integration

1. Can you name two types of system integrations commonly used in digital environments for knowledge creation, process innovation, or product development?
2. How do strategic integrations contribute to a seamless and efficient digital workflow, and why is this important in today's digital landscape?
3. Discuss the benefits.

Identifying Security Features

4. Why is it crucial to identify and assess security features within digital tools when involved in knowledge creation, process innovation, or product development?
5. Provide examples of security features commonly found in digital tools and explain how they contribute to safeguarding sensitive data and intellectual property.
6. What are the advantages?

Collaborative Decision-Making

7. In a team setting, how might you collaboratively decide on the most effective system integrations and security measures for a given digital project?
8. How can effective communication and teamwork enhance the identification and implementation of security features in a collaborative digital innovation environment?

Strategic Planning and Futureproofing in Digital Innovation (MC 5.3.B.8)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Strategic Planning and Futureproofing in Digital Innovation **Code: 5.3.B.8**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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	2-4 Hours
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 5.3.34, 5.3.35 and 5.3.39)

Planning and Futureproofing

- Be vigilant of futureproofing tools for creating knowledge, innovate processes and products
- Be aware of the cost of each tool and what it includes/ excludes
- Take and active approach planning and strategy development

Description

"Strategic Planning and Futureproofing in Digital Innovation" is a micro credential to empower participants with the skills to navigate the ever-evolving digital landscape by being vigilant in futureproofing tools for knowledge creation, innovating processes, and developing products. Participants will also gain insights into cost considerations and learn to take an active approach to planning and strategy development in the dynamic realm of digital innovation.

The Micro credential will explore the ability to anticipate and strategically futureproof digital tools for sustainable knowledge creation, process innovation, and product development and explore case studies and practical exercises to apply futureproofing strategies in a rapidly changing digital environment.

Content will place emphasis on gaining awareness of the costs associated with digital tools, understanding both inclusions and exclusions and how to assess the value proposition of each tool and make informed decisions aligned with budget constraints and project requirements.

Additionally, learners will take an active and strategic approach to planning within the digital innovation landscape and develop skills in crafting comprehensive strategies that align with organisational goals and drive successful outcomes. They will engage in hands-on activities that mirror real-world scenarios to futureproof digital tools for specific projects and apply strategic planning and active development approaches to address challenges and foster innovation.

On successful completion of the micro credential participants will earn "Strategic Planning and Futureproofing in Digital Innovation" and will possess the skills to strategically futureproof digital tools, assess tool costs effectively, and actively contribute to planning and strategy development.

Questions

Vigilance in Futureproofing Tools

1. How would you define the concept of futureproofing tools in the context of digital knowledge creation, process innovation, and product development?
2. Can you provide an example of a situation where not futureproofing a tool would have a negative impact on a digital project?
3. Outline the steps to research whether digital tools can accommodate future growth and evolving requirements?

Awareness of Tool Costs

4. Why is it important to be aware of both the costs and inclusions/exclusions of digital tools in the context of knowledge creation and product development?
5. Can you share an example where understanding the cost structure of a tool may influence the decision-making process in a digital project?

6. Give an example of 5 tools and the costs associates with

Active Approach to Planning and Strategy Development

7. What does it mean to take an active approach to planning and strategy development in the context of digital innovation?
8. How can an active approach to planning contribute to the success of a digital project, and what key elements should be considered in this process?

ADVANCED LEVEL

(Level 5 and Level 6)

Strategic Innovation and Collaborative Problem Solving (MC 5.3.C.1)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Strategic Innovation and Collaborative Problem Solving **Code: MC 5.3.C.1**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.41, 5.3.47 and 5.3.48)

Innovation and collaboration

- Outline the objectives for creating knowledge and driving innovation specific to your needs
- Engage others in critical thinking, brainstorming, design thinking and creative tasks
- Implement a strategy for engaging people in the creative process to resolve different conceptual problems

Description

"Strategic Innovation and Collaborative Problem Solving" is a micro credential designed to empower participants with the skills to outline specific objectives for creating knowledge and driving innovation tailored to their unique needs. This Micro credential goes beyond theory, fostering an interactive learning environment where participants engage others in critical thinking, brainstorming, design thinking, and creative tasks. Participants will learn to implement effective strategies for engaging people in the creative process, resolving a diverse range of conceptual problems.

The Micro credential ensures that participants will learn how to articulate clear and customised objectives for knowledge creation and innovation aligned with your organisational needs and to develop strategies to ensure that objectives are tailored to specific projects, driving meaningful and impactful outcomes.

Content will explore the skills to facilitate critical thinking and engage diverse perspectives in the ideation process and the techniques for effective brainstorming, harnessing the collective intelligence of teams to generate innovative ideas.

Additionally, participants will understand the principles of design thinking and its application in problem-solving and innovation and participate in creative tasks that foster a culture of innovation, allowing you to think beyond traditional boundaries and explore new possibilities, all the while developing the strategies to engage people in the creative process, resolving different conceptual problems and gain insights into collaborative decision-making and effective communication to ensure successful implementation of creative solutions.

On successful completion of the micro credential participants will earn "Strategic Innovation and Collaborative Problem Solving" and will possess the skills to outline objectives tailored to their organisational needs, foster collaboration through critical thinking and design thinking, and implement effective strategies for creative problem-solving.

Questions

Setting Objectives for Knowledge Creation and Innovation

1. How would you approach outlining objectives for creating knowledge and driving innovation that are specific to the unique needs of your organisation or project?
2. Can you provide an example of a situation where well-defined objectives would positively influence the outcome of a knowledge creation or innovation initiative?
3. When is the best time to set objectives?
4. How will their progress and impact be measured?

Engaging Others in Critical Thinking and Brainstorming

5. Describe a method you would use to engage others in critical thinking during a collaborative problem-solving session.
6. How might you encourage diverse perspectives and ideas through effective brainstorming techniques in a team setting?
7. How do you decide on a narrow or wide focus and the form the brain storming would take?
8. Suggest some brainstorming techniques.

Implementing a Strategy for Creative Problem Solving

9. What factors would you consider when developing a strategy to engage people in the creative process for resolving different conceptual problems?
10. Share a situation where the successful implementation of a creative problem-solving strategy would lead to innovative solutions within a project or team.

Strategic Technology Utilisation and Advocacy (MC 5.3.C.2)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Strategic Technology Utilisation and Advocacy **Code: MC 5.3.C.2**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.42, 5.3.43 and 5.3.45)

Technological Utilisation

- Use the tools and systems to better understand what the most suitable solution for the problem or opportunity is
- Apply the most appropriate options for integrations
- Be mindful of changes in technology to better suit your needs

Technological Advocacy

- Advocate for the cost benefit of certain tools to create efficiencies

Description

"Strategic Technology Utilisation and Advocacy" is a micro credential to provide participants with the knowledge to effectively leverage tools and systems for problem-solving, make informed decisions about integrations, stay attuned to technological advancements, and advocate for cost-effective solutions.

The Micro credential ensures that participants learn how to use tools and systems to gain a deep understanding of problems and opportunities and develop proficiency in leveraging technology to analyse and assess situations for the most suitable solutions.

Content will explore an array of tools designed to acquire the skills to make informed decisions about integrations, selecting options that align with organisational goals and enhance efficiency and explore real-world case studies to understand the impact of strategic integration decisions on workflow and productivity.

Additionally, participants will learn to stay mindful of changes in technology, learning how to adapt and incorporate advancements to better suit organisational needs and to develop a proactive approach to technology awareness, ensuring readiness for evolving digital landscapes.

Participants will also understand the principles of cost-benefit analysis in the context of selecting and implementing tools and to advocate for the cost benefit of certain tools to create efficiencies and drive organisational success.

On successful completion of the micro credential participants will earn "Strategic Technology Utilisation and Advocacy" and will possess the skills to strategically use tools and systems, make informed decisions about integrations, adapt to technological changes, and advocate for cost-effective solutions.

Questions

Effective Tool and System Utilisation

1. How do you determine the most suitable solution for a given problem or opportunity using tools and systems?
2. Can you provide an example of a situation where strategic tool utilisation would positively impact the outcome of a project?

Informed Decision-Making for Integrations

3. What factors do you consider when selecting the most appropriate options for integrations in a digital environment?
4. Share a situation where a well-informed decision about integrations would improve workflow or efficiency within a project.
5. How do you document suggestions?

Adaptation to Changes in Technology

6. How do you stay mindful of changes in technology, and what steps do you take to adapt to emerging trends or advancements?
7. Can you share a situation where being mindful of technological changes would lead to improved outcomes within your work or projects?
8. How would you suggest managing the change?

Advocacy for Cost-Benefit Analysis

9. In what ways can you advocate for the cost benefit of certain tools to create efficiencies within your organisation?
10. Provide an instance where conducting a cost-benefit analysis can influence the decision to implement a particular tool, resulting in enhanced efficiencies.

Intellectual Property Security and Data Analysis Mastery (MC 5.3.C.3)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Intellectual Property Security and Data Analysis Mastery **Code: MC 5.3.C.3**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.46 and 5.3.49)

Security and Data Analysis

- Administer security to protect your intellectual property
- Apply research and data analysis techniques

Description

"Intellectual Property Security and Data Analysis Mastery" is a micro credential to empower participants with the skills to administer robust security measures for protecting intellectual property and harness research and data analysis techniques for informed decision-making. This Micro credential goes beyond the basics, providing practical insights and hands-on experiences to ensure participants are provided with information to help safeguard valuable intellectual assets and leverage data effectively.

The Micro credential encourages participants to gain a comprehensive understanding of security measures to protect intellectual property and learn how to administer security protocols effectively, safeguarding proprietary information from unauthorised access and potential threats.

Content will cover the principles of proficiency in research methodologies to gather relevant and reliable information and data analysis techniques to extract meaningful insights, enabling informed decision-making in various professional contexts.

Additionally, participants will engage in hands-on activities that simulate real-world scenarios, allowing you to apply security protocols to protect intellectual property and cultivate problem-solving skills by addressing security challenges and implementing effective protective measures. They will apply research and data analysis techniques to enhance decision-making processes and explore case studies and practical exercises to understand how data-driven insights contribute to successful outcomes in diverse industries.

On successful completion of the micro credential participants will earn "Intellectual Property Security and Data Analysis Mastery" and will possess the skills to administer robust security measures for intellectual property protection and apply advanced research and data analysis techniques. Armed with these capabilities, participants will be well informed to navigate the complex landscape of intellectual property security and leverage data as a strategic asset for informed decision-making in their professional endeavours.

Questions

Administering Security for Intellectual Property

1. How do you define the term "intellectual property”?
2. How do you define the term "intellectual property security”?
3. Why is it crucial in today's professional landscape?
4. Can you outline three key security measures you would administer to protect intellectual property within an organisation?

Application of Research Techniques

5. Describe a situation where applying research techniques would play a critical role in gathering information for decision-making.

6. How do you determine the relevance and reliability of research sources when conducting investigations related to intellectual property?

Data Analysis Proficiency

7. Provide an example of how data analysis techniques would contribute to informed decision-making in a professional setting.
8. What types of data analysis tools or methodologies would you consider using in a scenario where robust data insights are needed to support decision-making?

Collaborative Problem-Solving in Digital Environments (MC 5.3.C.4)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Collaborative Problem-Solving in Digital Environments **Code: MC 5.3.C.4**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.50)

Problem solving in Digital Environments

- Apply a collaborative method of communicating and gathering information for problem situations in digital environments

Description

"Collaborative Problem-Solving in Digital Environments" is a micro credential for individuals seeking to gain essential skills in fostering collaborative communication and information gathering for effective problem-solving in the digital realm. This Micro credential goes provides practical insights and strategies for leveraging collective intelligence and maximising collaboration in the face of complex challenges.

The Micro credential ensures that participants will engage in collaborative communication methodologies tailored for digital environments and develop effective communication skills to facilitate seamless information exchange and understanding within a team.
Content will cover strategies for gathering information efficiently and collaboratively in digital environments and the skills needed in utilising digital tools and platforms for information gathering, ensuring accuracy and relevance.

Additionally, participants will engage in collaborative problem-solving exercises that simulate real-world digital scenarios and develop a deep understanding of how teamwork enhances problem-solving outcomes in the context of digital challenges.

On successful completion of the micro credential participants will earn "Collaborative Problem-Solving in Digital Environments" and will be presented with the essential skills in fostering collaborative communication and information gathering for effective problem-solving in the digital realm.

Questions

Collaborative Communication Techniques

1. How would you describe the importance of collaborative communication in addressing problem situations in digital environments?
2. Can you provide an example of a collaborative communication method you would apply in a digital team setting to gather information for problem-solving?

Information Gathering in Digital Contexts

3. What strategies do you find most effective for gathering information collaboratively in a digital environment?
4. How do digital tools enhance the efficiency of information gathering in problem situations compared to traditional methods?

Problem-Solving in a Team Setting

5. Share an experience where teamwork would contribute to the successful resolution of a digital problem.
6. In a team scenario, how would you approach collaborative problem-solving to ensure diverse perspectives are considered in digital environments?

Digital Collaboration Tools

7. Can you name two digital collaboration tools you find effective for communication and information sharing in remote or distributed team environments?
8. How do you adapt your communication methods when using digital collaboration tools to address problem situations in a virtual team setting?

Digital Proficiency for Knowledge Creation and Innovation (MC 5.3.C.5)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Digital Proficiency for Knowledge Creation and Innovation **Code: MC 5.3.C.5**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.51 and 5.3.59)

Knowledge Creation and Innovation

- Recognise the importance of developing a high level of proficiency in using a variety of digital tools, software, and technologies relevant to knowledge creation and innovation
- Train individuals in digital tools that you have matched to suit their requirements

Description

"Accessibility Management and Policy Optimisation" is a micro credential to arm participants with the knowledge for developing a high level of proficiency in utilising a diverse range of digital tools, software, and technologies relevant to knowledge creation and innovation. Through tailored training, participants will not only recognise the importance of digital proficiency but also learn how to train individuals in using digital tools matched to their specific requirements.

The Micro credential explores insights into why developing a high level of proficiency in digital tools is crucial for fostering knowledge creation and innovation and investigates the impact of digital proficiency on individual and organisational success in the contemporary digital landscape.

Content will look into how to identify the unique requirements of individuals and match them with the most relevant digital tools and how to develop proficiency in creating customised training programs to maximise the effectiveness of digital tools for diverse roles and responsibilities.

Additionally, participants will explore a wide array of digital tools, software, and technologies relevant to knowledge creation and innovation and understand how different tools contribute to various stages of the innovation process, from ideation to implementation.

On successful completion of the micro credential participants will earn "Accessibility Management and Policy Optimisation" and will not only recognise the importance of digital proficiency but will also possess the skills to train individuals in using digital tools matched to their specific requirements.

Questions

Understanding Digital Proficiency

1. Why is it crucial to recognise the importance of developing a high level of proficiency in using various digital tools, software, and technologies for knowledge creation and innovation?
2. Can you provide an example of how digital proficiency can contribute to the success of an innovation initiative within an organisation?

Tailored Training Approaches

3. How do you identify the specific requirements of individuals when it comes to digital tools, and why is this matching process important?
4. Share an experience where tailoring training programs to match individuals' requirements would lead to improved proficiency and productivity in a digital environment.

Exploring the Digital Tool Landscape

5. Name two digital tools or technologies that are particularly relevant to knowledge creation and innovation and explain their respective contributions.
6. How does an understanding of the digital tool landscape contribute to more effective decision-making in the context of innovation?

Hands-on Training Sessions

7. Describe a hands-on training session you would design to help participants apply their digital proficiency skills in practical scenarios related to knowledge creation and innovation.
8. In what ways can hands-on training sessions foster problem-solving abilities and enhance participants' confidence in using digital tools for innovation?

Strategic Tool Selection for Optimal Performance (MC 5.3.C.6)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Strategic Tool Selection for Optimal Performance **Code: MC 5.3.C.6**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.52 and 5.3.53)

Tool Selection for Optimal Performance

- Understand the potential implications of mismatching or choosing the incorrect tools for the activity or line of work
- Develop a strategy that categories tools for their various uses, appropriate for various functions or departments

Description

"Strategic Tool Selection for Optimal Performance" is a micro credential to empower participants with the knowledge and skills to understand the potential implications of mismatching or choosing incorrect tools for their activities or lines of work. Participants will learn how basic tool proficiency, providing insights and strategies to develop a strategic approach for categorising tools based on their various uses, ensuring appropriateness for diverse functions or departments within an organisation.

The Micro credential emphasises the need for conducting evaluations to form a deep understanding of the potential consequences of mismatching or selecting incorrect tools for specific activities or lines of work and to explore real-world examples to illustrate the impact of tool mismatches on productivity, efficiency, and overall performance.

Content will cover a strategy for categorising tools based on their various uses and how to tailor tool categories to suit the specific functions and requirements of different departments within an organisation. Participants will learn how to align tools with the distinct functions and workflows of different departments and explore case studies and practical exercises to ensure the optimal selection and integration of tools for diverse organisational needs.

Additionally, participants will acquire skills in identifying potential risks associated with tool selection and deployment and develop strategies to mitigate risks by strategically aligning tools with organisational functions and objectives.

On successful completion of the micro credential participants will earn "Strategic Tool Selection for Optimal Performance" and will possess the skills to understand the implications of tool mismatch, develop a strategic categorisation strategy, and align tools with the specific needs of various functions or departments.

Questions

Understanding Tool Implications

1. Why is it important to understand the potential implications of mismatching or choosing the incorrect tools for specific activities or lines of work?
2. Can you provide an example from your experience where choosing the wrong tool would have a significant consequence for a project or activity?
3. How would you go about assessing the right tool for the digital problem?
4. How would you approach developing a strategy to categorise tools based on their various uses within an organisation?

Aligning Tools with Functions and Departments

5. Why is it essential to align tools with the distinct functions and workflows of different departments within an organisation?
6. Can you describe a scenario where successful alignment of tools with a department's needs would lead to improved performance or outcomes?
7. Who would you involve in the decision-making strategy and list the steps that you would take to come to a consensus?
8. What steps would you take to identify potential risks associated with tool selection and deployment in an organisational context?

Risks, Compliance, and Financial Implications in Digital Environments (MC 5.3.C.7)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	**Risks, Compliance, and Financial Implications in Digital Environments** Code: MC 5.3.C.7
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.54, 5.3.55 and 5.3.56)

Risk Compliance and Finance

- Assess and manage risks associated with the adoption of digital tools and technologies for innovation
- Identify the relevant regulations and ethical standards connected with compliance and protection of data and innovations
- Conduct cost-benefit analyses to evaluate the financial implications of adopting digital tools and technologies for innovation

Description

"Risks, Compliance, and Financial Implications in Digital Environments" is a micro credential to present participants with the essential skills to assess and manage risks associated with the adoption of digital tools and technologies. Providing insights and strategies to identify relevant regulations, uphold ethical standards, and conduct thorough cost-benefit analyses. Participants will gain the expertise needed to navigate the intricate landscape of digital innovation while ensuring compliance, data protection, and a keen understanding of the financial implications of adopting innovative technologies

The Micro credential covers the multifaceted risks associated with the adoption of digital tools and technologies for innovation and the risk assessments and effective risk management to safeguard organisational interests. It covers the skills in strategic decision-making to align digital innovation efforts with organisational goals and how to balance risks, compliance, and financial considerations to drive successful digital innovation initiatives.

Content will cover the importance of Identifying the relevant regulations and ethical standards connected with compliance and the protection of data and innovations and exploring case studies to understand the real-world implications of non-compliance and the importance of ethical considerations in digital innovation.

Additionally, participants will conduct cost-benefit analyses to evaluate the financial implications of adopting digital tools and technologies for innovation and learn how to make informed decisions by weighing the costs and benefits associated with different digital innovations.

On successful completion of the micro credential participants will earn "Risks, Compliance, and Financial Implications in Digital Environments" and will possess the skills to assess and manage risks, navigate compliance and ethical standards, and conduct financial analyses for digital innovation.

Questions

Assessing and Managing Risks

1. How would you suggest managing risks associated with the adoption of digital tools and technologies for innovation?
2. How could risk management positively influenced the outcome of a digital innovation project?

Identifying Regulations and Ethical Standards

3. Define Ethics.
4. How do you stay informed about the relevant regulations and ethical standards connected with compliance and the protection of data and innovations in your industry?

5. Share an instance where a failure to identify and adhere to regulations and ethical standards had negative consequences for a digital innovation initiative.

Conducting Cost-Benefit Analyses

6. Define Cost-Benefit.
7. Why is conducting cost-benefit analyses crucial when evaluating the financial implications of adopting digital tools and technologies for innovation?
8. Provide an example of a situation where a well-executed cost-benefit analysis guided decision-making in the adoption of a digital tool for innovation.

Agile Problem Resolution in Digital Environments (MC 5.3.C.8)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Agile Problem Resolution in Digital Environments **Code: MC 5.3.C.8**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.57, 5.3.58 and 5.3.60)

Agile Problem Resolution

- Encourage resolution of conceptual problems and problem situations in digital environments individually and collectively
- Solve problems that others are encountering
- Implement the tools, be able to regulate and respond to queries

Description

"Agile Problem Resolution in Digital Environments" is a micro credential to empower participants with the skills and mindset to encourage the resolution of conceptual problems and navigate problem situations in digital environments. Participants will gain the skills in solving problems but will also learn how to implement tools effectively, regulate processes, and respond to queries with agility and expertise.

The Micro credential will provide the fundamental principles of a problem-solving culture and cultivate the ability to resolve conceptual problems and navigate challenging situations in digital environments, both individually and collectively while exploring methodologies to foster a collaborative problem-solving culture within teams and organisations.

Content will cover the skills to solve problems that others are encountering in digital settings and to learn effective communication and collaboration techniques to assist colleagues and contribute to a proactive problem-solving environment.

Additionally, participants will acquire hands-on experience in implementing a variety of digital tools for problem-solving and develop the ability to regulate processes, ensuring efficient problem resolution, and respond to queries with agility and expertise.

On successful completion of the micro credential participants will earn "Cultivating a Company-Wide Problem-Solving Culture" and will possess the skills to encourage problem resolution individually and collaboratively in digital environments. They will be adept at solving problems for others, implementing tools effectively, and responding to queries with agility and expertise.

Questions

Encouraging Problem Resolution

1. Why is it important to encourage the resolution of conceptual problems and navigate problem situations in digital environments, both individually and collectively?
2. How would you foster a collaborative problem-solving culture within a team in a digital work environment?

Solving Problems for Others

3. What skills are crucial for effectively solving problems that others are encountering in digital settings?
4. Can you provide an example of a situation where you successfully assisted a colleague in solving a digital problem?

Implementing Tools and Regulation

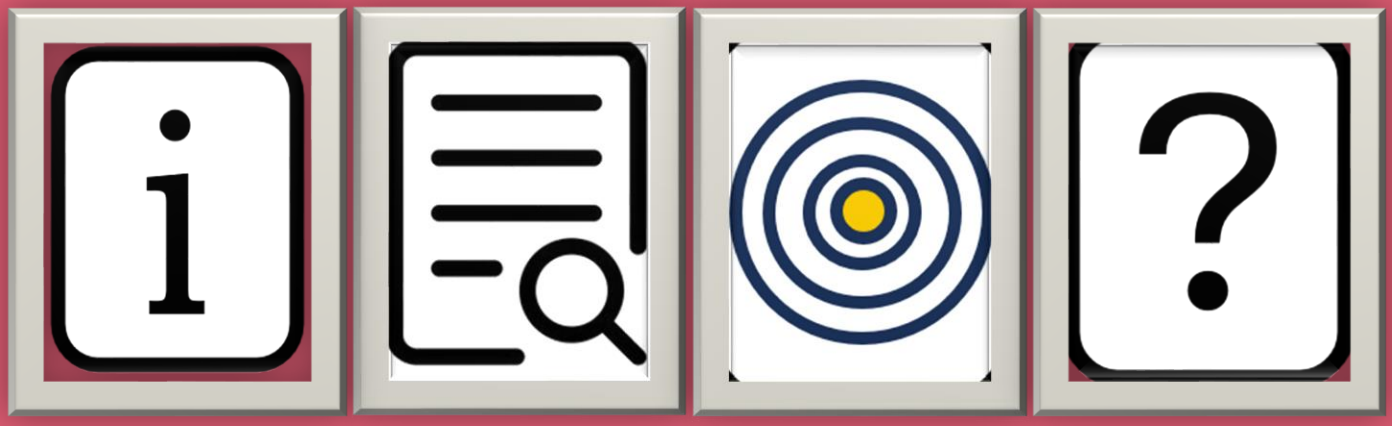
5. How do you approach the implementation of digital tools for problem-solving, and why is this process important?
6. In what ways do you regulate processes to ensure efficient problem resolution when implementing tools in a digital environment?

Responding to Queries

7. Why is the ability to respond to queries with agility and expertise crucial in a digital work setting?
8. What information might you need in order to respond to a query effectively first time?

EXPERT LEVEL

(Level 7 and Level 8)



Modelling and Advanced Analytics in Digital Problem-Solving (MC 5.3.D.1)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Modelling and Advanced Analytics in Digital Problem-Solving **Code: MC 5.3.D.1**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.61 and 5.3.64)

Modelling and Advanced Analytics

- Understand the importance of modelling and advanced analytics
- Analyse and categorise the potential for different digital tools and their impact and likelihood of solving issues

Description

"Modelling and Advanced Analytics in Digital Problem-Solving" is a micro credential to empower participants with a profound understanding of the pivotal role of modelling and advanced analytics in addressing complex challenges

The Micro credential present information to participants on the significance of modelling and advanced analytics in the context of digital problem-solving and how these techniques contribute to informed decision-making and strategic planning and evaluate the likelihood of different digital tools effectively solving specific problems.
Participants will understand how to factor in variables such as user adoption, scalability, and integration challenges when assessing likelihood.

Content will provide guidance and strategies on how to analyse and categorise the potential of different digital tools based on their capabilities and how to learn to identify tools that align with specific problem-solving requirements and objectives.

Additionally, participants will learn the skills to assess the impact of digital tools on addressing various issues in a digital environment and to explore real-world case studies to understand how impactful tool selection enhances problem-solving outcomes.

On successful completion of the micro credential participants will earn "Modelling and Advanced Analytics in Digital Problem-Solving" and will be skilled at analysing and categorising the potential of different digital tools, assessing their impact, and evaluating the likelihood of successful problem resolution.

Questions

Importance of Modelling and Advanced Analytics for Problem Solving

1. What is modelling in the context of digital data?
2. What can modelling and advanced analytics be particularly useful for?
3. Why is it crucial to understand the importance of modelling and advanced analytics in the context of digital problem-solving?
4. What other techniques or tools can complement modelling and advanced analytics?
5. How would you prioritise and identify the digital tools needed for implementation?
9. How would you assess the likelihood of a digital solution solving a problem

Digital Tools Training and Decision-Making Mastery (MC 5.3.D.2)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Digital Tools Training and Decision-Making Mastery **Code: MC 5.3.D.2**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.62, 5.3.63 and 5.3.69)

Training and Decision-Making

- Schedule training for employees for the various tools
- Select, with confidence, and after researching the correct digital tools
- Create a decision tree that employees can follow to try and solve simple issues they may be experiencing

Description

"Digital Tools Training and Decision-Making Mastery" is a micro credential to empower participants with the skills needed to schedule effective training sessions for employees, confidently select the right digital tools, and create decision trees for independent problem-solving.

The Micro credential allows participants to strategically schedule training sessions for employees across various digital tools and the importance of ongoing training to keep employees updated on the latest tools and technologies.

Content will provide guidance on developing the confidence to select the correct digital tools through thorough research and analysis and on exploring best practices in tool selection, taking into account organisational needs and employee skillsets.

Additionally, participants will acquire skills in creating decision trees that guide employees in solving simple issues independently and understand the principles of designing intuitive decision trees that cater to diverse user experiences. This will foster a culture of continuous learning and empowerment by enabling employees to resolve simple issues on their own and develop effective communication strategies to convey decision tree processes to employees.

On successful completion of the micro credential participants will earn "Digital Tools Training and Decision-Making Mastery" and will have the skills and confidence to strategically schedule training sessions, confidently select digital tools, and create decision trees for employee problem-solving.

Questions

Strategic Training Scheduling

1. How would you approach scheduling training sessions for employees across various digital tools to ensure effectiveness and minimal disruption?
2. Who and what do you have to consider in the scheduling of training?

Confident Tool Selection

3. What steps do you take to confidently select the correct digital tools after conducting thorough research and analysis?

Decision Tree Creation

4. How do you go about creating a decision tree that employees can follow to solve simple issues independently?

Empowering Employee Problem-Solving

5. Why is it important to empower employees to resolve simple issues on their own?
6. How do you communicate this empowerment effectively?
7. What are some common challenges you might encounter during the installation of accessibility tools, and how would you address them?
8. How does prioritising accessibility from the beginning align with the concept of inclusive design?

Digital Tools Management and Personalisation (MC 5.3.D.3)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Digital Tools Management and Personalisation **Code: MC 5.3.D.3**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.65, 5.3.68 and 5.3.70)

Tools Management and Personalisation

- Regularly review and update policies and procedures related to digital tools utilised
- Adapt digital environments to your personal needs
- Manage the update of procedures, instructions, guides and training especially when there is a change

Description

"Digital Tools Management and Personalisation" is a micro credential to present participants with the skills and strategies needed to maintain, adapt, and personalise digital tools within a dynamic organisational environment. Providing in-depth insights into the continuous review and updating of policies, procedures, and personalisation approaches, participants will learn how to manage updates effectively, ensuring that procedures, instructions, guides, and training materials remain relevant in the face of change.

The Micro credential presents participants with information about developing a systematic approach to regularly review and update policies and procedures related to the digital tools utilised within the organisation and to understand the importance of staying current with industry best practices and compliance standards.

Content will explore techniques to adapt digital environments to personal needs, fostering a more tailored and efficient work experience and show how personalisation contributes to increased productivity and employee satisfaction.

Additionally, participants will acquire skills in managing updates to procedures, instructions, guides, and training materials, especially during periods of change and understand the role of effective communication in ensuring a smooth transition and user adoption. They will foster a user-centric mindset in managing digital tools, emphasising the importance of aligning tools with the needs and preferences of end-users.

On successful completion of the micro credential participants will earn "Digital Tools Management and Personalisation" and be will presented with the knowledge and skills to skills to regularly review and update policies, personalise digital environments, and manage effective change in procedures and training materials.

Questions

Regular Review and Update of Policies

1. Why is it crucial for organisations to regularly review and update policies and procedures related to the digital tools they utilise?
2. Can you provide an example of a situation where failure to update policies might lead to challenges in the use of digital tools within an organisation?

Adapting Digital Environments

3. How do you approach adapting digital environments to the personal needs of users within an organisation?
4. Share an experience where personalising digital environments could positively impact the efficiency or satisfaction of users.

Managing Updates during Change

5. Why is it important to manage the update of procedures, instructions, guides, and training materials, especially during periods of change?
6. Can you share a specific strategy or approach to successfully manage updates if there were to be a significant change in digital tools or processes?

Strategic Problem-Solving Leadership in Digital Environments (MC 5.3.D.4)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Strategic Problem-Solving Leadership in Digital Environments **Code: MC 5.3.D.4**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.66 and 5.3.67)

Problem-Solving Leadership

- Advocate for increased investment in solutions and allocate resources effectively
- Foster a company-wide culture of problem solving to resolve conceptual problems and problem situations in digital environments

Description

"Strategic Problem-Solving Leadership in Digital Environments" is a micro credential to empower participants with the skills and mindset to advocate for increased investment in solutions and allocate resources effectively.

The Micro credential show participants how to develop the ability to advocate for increased investment in digital solutions and how to acquire skills in allocating resources effectively to support the implementation of strategic problem-solving initiatives.

Content will encourage participants to learn strategies to foster a company-wide culture of problem-solving within digital environments and to explore methods to encourage employees at all levels to actively contribute to resolving conceptual problems and complex digital situations.

Additionally, participants will learn about cultivate leadership skills to drive innovation and problem-solving initiatives and the role of leadership in creating an environment that encourages creative thinking and proactive problem resolution. The participants will explore frameworks for making impactful decisions related to resource allocation and problem-solving investments and understand how effective decision-making contributes to the overall success of digital initiatives.

On successful completion of the Micro credential participants will earn "Strategic Problem-Solving Leadership in Digital Environments" and be will possess the skills to advocate for increased investment, allocate resources strategically, and foster a culture of problem-solving.

Questions

Advocating for Increased Investment and Effective Resource Allocation

1. How do you make the case for increased investment in digital solutions within your organisation?
2. What factors do you consider in advocating for such investments?
3. How could effective resource allocation positively impact the success of a digital solution or initiative?

Fostering a Culture of Problem-Solving

4. What is culture?
5. What strategies do you employ to foster a company-wide culture of problem-solving within digital environments?
6. Share a specific instance where promoting a problem-solving culture would lead to the successful resolution of a conceptual problem or a complex digital situation.

Integration of Investment Advocacy and Cultural Transformation

7. How do you integrate your advocacy for increased investment in digital solutions with efforts to foster a problem-solving culture?

8. Share insights on how leadership can play a role in aligning investment decisions with the goal of nurturing a culture of proactive problem resolution.

Impactful Problem Resolution

9. How does fostering a company-wide culture of problem-solving contribute to impactful problem resolution in digital environments?
10. Provide an example where the cultivation of a problem-solving culture led to significant improvements in digital processes or outcomes.

Design Thinking and Collaborative Learning Strategies (MC 5.3.D.5)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Design Thinking and Collaborative Learning Strategies **Code: MC 5.3.D.5**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.71 and 5.3.76)

Design Thinking and Learning

- Create design thinking workshops to foster a culture of problem solving, inclusivity and collaboration
- Investigate other methods for training, development, individual and collective learning

Description

"Design Thinking and Collaborative Learning" is a micro credential to empower participants with the knowledge and practical skills to create impactful design thinking workshops that foster a culture of problem-solving, inclusivity, and collaboration.

The Micro credential demonstrates to participants how to compose engaging design thinking workshops that stimulate creativity and innovative thinking. Understand the principles of human-centered design and how to apply them to real-world challenges. Develop a toolkit of design thinking techniques to guide teams through the problem-solving process.

Content will provide guidance and strategies on exploring strategies for building and sustaining a collaborative culture within organisations. Understand the importance of inclusivity and diversity in problem-solving and learn how to create an environment where all voices are heard and valued.

Additionally, participants will explore various training and development methods for both individual and collective learning. Evaluate the effectiveness of different approaches and discover how to tailor learning experiences to meet the diverse needs of participants. Participants will gain insights into team dynamics and effective communication strategies and learn how to navigate group interactions, manage conflicts, and create a positive and productive team environment.

On successful completion of the micro credential participants will earn "Design Thinking and Collaborative Learning" and will be provided with information on how to lead design thinking workshops that inspire innovation, foster a collaborative mindset, and contribute to the overall success of your team or organisation.

Questions

Design Thinking Process

1. Define Design Thinking
2. What are the key stages in the design thinking process, and how do they contribute to effective problem-solving?
3. Can you outline a scenario where each stage of the design thinking process would be crucial?
4. How do you ensure inclusivity in a design thinking workshop to accommodate diverse perspectives?
5. Can you provide examples of activities or strategies used to encourage active participation from all team members?
6. How do you assess the success and impact of a design thinking workshop in terms of promoting a culture of problem-solving within a team or organisation?

Investigating Learning Methods

7. What alternative methods for training and development can be explored beyond traditional classroom-based approaches?

8. How do these alternative methods cater to different learning styles and preferences?
9. How can individualised learning plans be developed to accommodate diverse skill levels and learning paces?
10. How do you create an environment that promotes collective learning and knowledge sharing within a team or organisation?
11. How do you incorporate technological advancements in your training methods to stay current with industry trends?

Rapid Prototyping and Blockchain Integration Strategies (MC 5.3.D.6)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Rapid Prototyping and Blockchain Integration Strategies **Code: MC 5.3.D.6**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.72 and 5.3.74)

Rapid Prototyping and Blockchain

- Implement rapid prototyping techniques
- Consider blockchain technology

Description

"Rapid Prototyping and Blockchain Integration Strategies" is a micro credential to empower participants with the knowledge and skills to implement rapid prototyping techniques seamlessly and harness the potential of blockchain technology.

The Micro credential allows participants to explore the principles and methodologies of rapid prototyping, understanding how to translate concepts into tangible prototypes swiftly and to learn to navigate prototyping tools and techniques, ensuring the efficient validation of ideas and concepts.

Content will provide guidance on applying rapid prototyping techniques to real-world challenges, fostering an environment where innovation can thrive and that can analyse case studies to understand how successful organisations have utilised rapid prototyping for product development and problem-solving. Content will explore the security implications of rapid prototyping and blockchain integration, understanding how to safeguard sensitive data and maintain privacy and address potential challenges and risks associated with implementing these technologies in various contexts.

Additionally, participants will gain a comprehensive understanding of blockchain technology, exploring its decentralised nature, security features, and its role in transforming industries and look into the basics of smart contracts and decentralised applications (DApps) as integral components of blockchain ecosystems. They will learn how to identify suitable scenarios for integrating blockchain solutions within diverse industries and understand the process of integrating blockchain into existing systems and explore strategies for maximising its benefits.

On successful completion of the micro credential participants will earn "Rapid Prototyping and Blockchain Integration Strategies" and will emerge with the expertise to seamlessly implement rapid prototyping techniques and confidently navigate the intricacies of blockchain technology.

Questions

Prototyping

1. Define prototyping and rapid prototyping
2. List some benefits of rapid prototyping.
3. Can you explain the key steps involved in the rapid prototyping process?
4. How does rapid prototyping contribute to the efficient development of products or solutions?
5. Name a few prototyping tools and describe how they facilitate the creation of prototypes.
6. In what scenarios would you choose one prototyping tool over another?

Blockchain

7. Define blockchain in simple terms. How does it differ from traditional databases?
8. What are the fundamental components of a blockchain?
9. Briefly explain what smart contracts are and how they function within a blockchain ecosystem.
10. Can you give an example of a use case where a smart contract could add value?
11. What are some common challenges organisations might face when integrating blockchain, and how can they be addressed?
12. What security considerations are crucial when implementing blockchain solutions?

Innovations in Digital Transformation: AI, IoT, and RPA Integration (MC 5.3.D.7)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Innovations in Digital Transformation: AI, IoT, and RPA Integration **Code: MC 5.3.D.7**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 Hours
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 5.3.73, 5.3.75 and 5.3.78)

AI, IoT, and RPA

- Explore the potential of artificial intelligence (AI)
- Be aware how the internet of Things can benefit your digital environment
- Adopt robotic process automation (RPA)

Description

"Innovations in Digital Transformation: AI, IoT, and RPA Integration" is a micro credential to present participants with a deep understanding of three transformative technologies: Artificial Intelligence (AI), the Internet of Things (IoT), and Robotic Process Automation (RPA).

The Micro credential informs participants about the world of AI, understanding its core concepts, applications, and potential impact on various industries and explore real-world AI use cases and learn how organisations are leveraging AI to enhance decision-making, automate processes, and drive innovation.

Content will explore the Internet of Things (IoT) and its role in creating a connected digital ecosystem and how IoT can optimise processes, improve efficiency, and provide valuable insights through the seamless integration of devices and data.

Additionally, participants will explore the fundamentals of Robotic Process Automation (RPA) and its application in streamlining repetitive tasks and learn how to identify suitable processes for RPA implementation and understand the benefits of introducing automation into your workflow. Participants will discover the synergies between AI, IoT, and RPA, and how their combined implementation can lead to a more intelligent and efficient digital environment and are encouraged to engage in hands-on exercises to develop strategies for integrating these technologies seamlessly within your organisation.

On successful completion of the micro credential participants will earn "Innovations in Digital Transformation: AI, IoT, and RPA Integration" and be will presented with the knowledge and skills to skills to navigate the evolving landscape of AI, IoT, and RPA.

Questions

Artificial Intelligence

1. What is Artificial Intelligence, and how would you explain it to someone unfamiliar with the term?
2. Name a few practical applications of artificial intelligence in different industries.
3. How can AI enhance decision-making processes within organisations?
4. In what ways do you think AI has the potential to transform industries or business operations?

Internet of Things (IoT):

5. Define the Internet of Things (IoT) in simple terms.
6. How does IoT differ from traditional internet-connected devices?
7. What are some potential challenges or concerns related to the implementation of IoT in a digital environment?
8. How would you address security considerations when integrating IoT devices into a network?

Robotic Process Automation (RPA):

9. Explain the concept of Robotic Process Automation (RPA) in simple terms.
10. How does RPA differ from traditional automation methods?
11. What factors should organisations consider when adopting RPA, especially in terms of scalability and integration with existing systems?
12. Can you provide an example of a business process where RPA could lead to significant improvements?

Digital Prediction Tools, Cloud Collaboration, and Innovative Thinking (MC 5.3.D.8)

Basic Information

Identification of the learner	Any Citizen
Title and code of the micro-credential	Digital Prediction Tools, Cloud Collaboration, and Innovative Thinking **Code: MC 5.3.D.8**
Country(ies)/Region(s) of the issuer	IRELAND, ITALY, , CYPRUS, GREECE, ROMANIA 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 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 5.3.77, 5.3.79 and 5.3.80)

Prediction Tools

- Familiarise yourself with tools that can make predictions in digital environments

Cloud Collaborations

- Decide on the right cloud-based collaboration tool

Innovative thinking

- Employ an attitude of proposing new ideas and processes for improvement

Description

"Digital Prediction Tools, Cloud Collaboration, and Innovative Thinking" is a micro credential that empowers participants to not only familiarise themselves with cutting-edge prediction tools but also make informed decisions on cloud collaboration tools while instilling an attitude of proposing and implementing new ideas for continuous improvement.

The Micro credential provides participants with a spectrum of tools used for making predictions in digital environments, from machine learning algorithms to data analytics and to gain hands-on experience in applying these tools to extract meaningful insights and inform decision-making processes.

Content will encourage participants to assess the landscape of cloud-based collaboration tools available in the market and to understand the criteria for selecting the right tool based on organisational needs, scalability, security, and ease of use. It will encourage exploring various techniques for generating creative ideas in a digital context and how to facilitate brainstorming sessions and create an environment conducive to innovative thinking.

Additionally, participants will Navigate and utilise cloud-based collaboration tools in a real-world context and develop proficiency in features such as document sharing, project management, and virtual communication to enhance team collaboration. Participants will learn strategies to foster a culture of innovation within teams and organisations and understand the importance of proposing and championing new ideas for process improvement.

On successful completion of the Micro credential participants will earn "Digital Prediction Tools, Cloud Collaboration, and Innovative Thinking" and be will possess the skills to advocate for increased investment, allocate resources strategically, and foster a culture of problem-solving.

Questions

Predictive Tools

1. Can you provide a brief explanation of what predictive tools are?
2. How they are used in digital environments?
3. Name one specific industry where predictive tools are commonly applied and describe their impact.
4. Share an example of a situation where a predictive tool could be beneficial in improving decision-making.

Cloud-Based Collaboration Tool

5. What criteria would you consider when deciding on a cloud-based collaboration tool for a team or organisation?
6. How does the size and nature of a project influence your choice of collaboration tools?
7. Why is security an essential factor when choosing a cloud collaboration tool, and how do you ensure data safety?
8. Can you name a specific security feature that you believe is crucial for cloud collaboration tools?

Employ an Attitude of Proposing New Ideas

9. How do you define an innovative mindset in a professional context?
10. Provide an example from your experience where proposing a new idea led to a positive outcome or improvement.
11. How would you address resistance from team members or stakeholders when introducing a new idea or process for improvement?
12. Share a strategy you have used in the past to encourage a positive reception of innovative proposals.

APPENDIX I: LEARNING OUTCOMES FOR COMPETENCE AREA: PROBLEM SOLVING

INTRODUCTION:

Creatively using digital technologies refers to the skills and competencies required to use digital tools and technologies to create knowledge and to innovate processes and products. To engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.

Creatively using digital technologies involves the ability to innovatively and imaginatively use various digital tools, platforms, and techniques to achieve specific goals or solve problems. It involves a combination of technical expertise, a deep understanding of user needs, and a willingness to explore unconventional paths to achieve desired outcomes.

The key aspects of creatively using digital technologies includes using digital technologies creatively where individuals or organisations explore innovative ways to leverage digital tools and your digital environment for unique solutions or expressions.

Creatively using digital technologies are crucial in numerous contexts, including academic research, professional work, and everyday life. These skills 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, identifying needs and technological responses have become indispensable skills for individuals across various disciplines and industries.

PREREQUISITES

To develop knowledge, skills and attitudes related to the competency PROBLEM SOLVING several areas serve well as prerequisites. These include:

1. **Understanding of Devices:** Familiarity with different types of devices is essential eg. Phones, tablets, laptops, hardrives, monitors, keyboards, mouse, printers and power. Understanding how to access and navigate around these sources are essential.
2. **Information Seeking Strategies**: Knowledge of effective strategies for locating information, including formulating search queries, using search engines, settings, using and searching hardware and software, 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 and relevance of the information to determine its trustworthiness.
4. **Information Organisation 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 analyse 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 analysing 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 PROBLEM SOLVING, enabling them to navigate the vast information landscape and leverage data effectively.

BASIC/FOUNDATION (LEVEL 1 and LEVEL 2)

COMPETENCE AREA 5.3: CREATIVELY USING DIGITAL TECHNOLOGIES			
TO USE DIGITAL TOOLS AND TECHNOLOGIES TO CREATE KNOWLEDGE AND TO INNOVATE PROCESSES AND PRODUCTS. TO ENGAGE INDIVIDUALLY AND COLLECTIVELY IN COGNITIVE PROCESSING TO UNDERSTAND AND RESOLVE CONCEPTUAL PROBLEMS AND PROBLEM SITUATIONS IN DIGITAL ENVIRONMENTS.			
LEVEL 1 and 2 – FOUNDATION At basic level and with guidance, I can: • identify simple digital tools and technologies that can be used to create knowledge and to innovate processes and products. • show interest individually and collectively in simple cognitive processing to understand and resolve simple conceptual problems and problem situations in digital environments.			
Learning Outcome	**Level**	**K – S - A**	**Description**
1. Foster an attitude of curiosity for understanding how things work in digital environments	L1	A	Be able to ask questions and explore topics that builds on current knowledge but also seek and apply new knowledge
2. Identify what techniques can enhance knowledge of problem solving in digital environments	L1	K	Identify which practical experiences can deepen your understanding and problem-solving skills. Eg. root cause analysis, brainstorming, and decision-making frameworks, to approach and resolve problems systematically
3. Identify ways to stay organised using digital tools	L1	K-A	Use digital tools like note-taking apps, task management software, and project management tools to keep your thoughts and work organised

4. Apply and seek feedback through embracing the creative process and for constructive criticism	L1	K-A	Understand that feedback from peers and mentors can be beneficial and can improve cognitive processing abilities towards a better solution
5. Identify the ways in which you can communicate and collaborate on projects	L1	K-S	Seek information either in engaging in discussions using digital environments or by using collaborative tools eg. Slack, Microsoft Teams, or Zoom helping to share ideas and work on projects together, irrespective of geographical locations.
6. List online courses and tutorials related to cognitive processing, digital technology, and problem-solving	L1	K-S	Capitalise on growing knowledge and skills through a proactive attitude understanding it can positively contribute to an individual's ability to innovate and problem solve. Websites like Coursera and university websites offer free and paid courses for upskilling and reskilling.
7. Identify what project management tools can be utilised either individually or collectively	L1	K-S	Understand providing structure in the digital environment will help streamline project workflows, assign tasks, and track progress. Tools like Trello, Asana, or Monday.com can help
8. Consider alternative options to website building and list options	L1	K-S	Find software known as Content Management Systems (CMS) that can make it easy to create and manage websites and blogs without deep technical knowledge. Eg WordPress
9. Review automated software to create more efficiencies	L1	K-S-A	Understand that taking an active approach in freeing up time through automation can create more efficiencies in day-to day operations. Tools like Mailchimp or Constant Contact are used for email marketing

			campaigns and newsletters and Hootsuite makes scheduling, managing, and reporting on social media easier
10. Identify what knowledge needs to be managed and distinguish between digital tools that help to create and protect knowledge and the innovate processes and resulting products.	L1	K-S-A	Acknowledge that different tools exist to fulfil different functions. Be vigilant in conducting research to meet the needs of the knowledge you want to manage, protect and create. Ensure that the tools chosen will fulfil all the functions necessary and align with company objectives.

INTERMEDIATE (LEVEL 3 AND LEVEL 4)

COMPETENCE AREA 5.3: CREATIVELY USING DIGITAL TECHNOLOGIES			
TO USE DIGITAL TOOLS AND TECHNOLOGIES TO CREATE KNOWLEDGE AND TO INNOVATE PROCESSES AND PRODUCTS. TO ENGAGE INDIVIDUALLY AND COLLECTIVELY IN COGNITIVE PROCESSING TO UNDERSTAND AND RESOLVE CONCEPTUAL PROBLEMS AND PROBLEM SITUATIONS IN DIGITAL ENVIRONMENTS.			
LEVEL 3 and 4 – INTERMEDIATE LEVEL 3: On my own and solving straightforward problems, I can: • select digital tools and technologies that can be used to create well-defined knowledge and well-defined innovative processes and products. • engage individually and collectively in some cognitive processing to understand and resolve well-defined and routine conceptual problems and problem situations in digital environments. LEVEL 4: Independently, according to my own needs, and solving well-defined and non-routine problems, I can: • differentiate digital tools and technologies that can be used to create knowledge and to innovate processes and products. • engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.			
Learning Outcome	**Level**	**K – S - A**	**Description**
11. Understand at a basic level the choice of tools and technologies will depend on your specific industry, objectives, and the nature of your projects	L3	K-S	Develop a list of needs and wants, be open to testing different solutions and envisaging their integration

12. Awareness of document management and knowledge sharing capability platforms	L3	K	Investigate knowledge management and documentation tools eg. Microsoft SharePoint and Google Workspace and be able to choose the correct tool for your needs
13. Identify process mapping and workflow automation	L3	K-A	Inclined to explore the latest technologies for process mapping and workflow automation that will help with visualisation, diagramming, mapping and flowcharts.
14. Identify technologies that can help with designing and prototyping	L3	K	Document the collaborative design tools, interactive prototyping, testing and detailed design tools eg. engineering of products.
15. Find data analytics and business intelligence tools specific to needs	L3	K	Independently assess analytic tools that helps to identify and visualise insights, understand user behaviour for process improvement and innovation to make data driven decisions, eg. Google Analytics, Tableau
16. Research tools and technologies that allow you to create physical prototypes for product testing and refinement	L3	S	Understand 3D printing and rapid prototyping options and the cost benefit of doing this in line with your industry, usage and any benefits
17. Reflect on the problem-solving process to identify lessons learned and areas for improvement	L3	A	Engage in individually and collective reflection to effectively understand and resolve routine conceptual problems and problem situations in digital environments while promoting collaboration and continuous improvement
18. Document problem-solving process, including the steps taken and outcomes.	L3	K-S	Understand that documenting and sharing problem solving steps ensures knowledge sharing for efficiencies for future projects

19. Generate and test your hypotheses in the digital environment. Evaluate the effectiveness of each solution and gather data to support your findings.	L3	K-S-A	Document findings and take an active approach to listing and storing the evaluations for future use with the view to help others
20. Be vigilant in stay engaged in the monitoring process and be open to refining the solution based on feedback and new information	L3	A	Understand that monitoring and iterations are important for finding the correct solution for effectively resolving routine conceptual problems and if collaborating, ensuring that the solutions works for everyone within their digital environment
21. Know how to define objectives for creating knowledge and driving innovation	L4	K	Understand what specific problems or opportunities to address and match the solution to the problem
22. Evaluate existing tools and processes to understand what is working and what needs improvement	L4	K-A	Understand that monitoring, evaluation, iterations and openness to change are part of the process when using digital technologies
23. Know there are options for system integrations for creating knowledge, innovate processes and products	L4	K	Be aware that certain tools can integrate into other systems and tools and can streamline processes, data flow rather than using separate tools. Be aware of the benefit to cost, if any, and benefit to upskilling individuals, if any.
24. Be vigilant of futureproofing tools for creating knowledge, innovate processes and products	L4	A	Understand how tools can scale with your needs. Research whether they can accommodate future growth and evolving requirements

25. Be aware of the cost of each tool and what it includes/ excludes	L4	K-A	Research any subscription fees, licenses, or maintenance costs. Ensure it aligns with your budget. Does it include support and training?
26. Identify security features of the tools for creating knowledge, innovate processes and products	L4	K	Understand that security features of the tools are important, especially if you are dealing with sensitive data. Ensure they comply with relevant data privacy regulations and policies.
27. Document what is meant by the problem for creating knowledge, innovate processes and products	L4	K-S-A	Define the problem both individually and collectively, break it down into its key components and understand its scope, have a shared understanding. Encourage questions and discussions to clarify the issue.
28. Detect possible solutions for creating knowledge, innovate processes and products	L4	K-S-A	Generate possible solutions or approaches to address the problem. Be open to creative, innovative ideas and pooling together various solutions. Encourage diverse perspectives and creative thinking.
29. Take and active approach planning and strategy development	L4	K-S-A	Create a plan or strategy for implementing the chosen solution. Define the steps, resources, outline responsibilities, roles and timeline required.
30. Be active in staying updated with new technologies and tools in the digital environment.	L4	K-S-A	Build your skills and knowledge. Share insights and experiences to enhance collective problem-solving abilities

ADVANCED LEVEL (LEVEL 5 AND LEVEL 6)

COMPETENCE AREA 5.3: CREATIVELY USING DIGITAL TECHNOLOGIES			
TO USE DIGITAL TOOLS AND TECHNOLOGIES TO CREATE KNOWLEDGE AND TO INNOVATE PROCESSES AND PRODUCTS. TO ENGAGE INDIVIDUALLY AND COLLECTIVELY IN COGNITIVE PROCESSING TO UNDERSTAND AND RESOLVE CONCEPTUAL PROBLEMS AND PROBLEM SITUATIONS IN DIGITAL ENVIRONMENTS.			
LEVEL 5 and 6 – ADVANCED LEVEL 5: As well as guiding others, I can: • apply different digital tools and technologies to create knowledge and innovative processes and products. • apply individually and collectively cognitive processing to resolve different conceptual problems and problem situations in digital environments. LEVEL 6: At advanced level, according to my own needs and those of others, and in complex contexts, I can: • adapt the most appropriate digital tools and technologies to create knowledge and to innovate processes and products. • resolve individually and collectively conceptual problems and problem situations in digital environments.			
Learning Outcome	**Level**	**K – S - A**	**Description**
31. Outline the objectives for creating knowledge and driving innovation specific to your needs	L5	K	Is able to formulate the specific problems or opportunities to address and make recommendations that will act as a solution to the identified problems and opportunities
32. Use the tools and systems to better understand what is the most suitable	L5	K-S	Can use the tools to monitor, evaluate, create, inform and make knowledgeable suggestions based on practical applications that best suit the specific needs and wants. These can be visualisation, communication, storage, prototyping and designing tools for example

solution for the problem or opportunity			
33. Apply the most appropriate options for integrations	L5	K-S	Is able to integrate tools into existing systems to help streamline processes rather than working with independent tools that are not able to “speak” to each other.
34. Be mindful of changes in technology to better suit your needs	L5	A	Research and keep up to date with new and emerging technologies and trends. Take advantage of free trials and be prepared to adapt your processes and tools as new innovations become available
35. Advocate for the cost benefit of certain tools to create efficiencies	L5	A	Encourage colleagues to trial tools that you believe are a solution and be open to receiving feedback regarding their experiences. Use findings to support claims, be open to dismissing the suggested tool or iterate based on this feedback to ensure ongoing innovation and relevance
36. Administer security to protect your intellectual property	L5	K	Ensure your knowledge and innovations are protected with robust security tools and practices, such as firewalls, encryption, and regular security audits
37. Engage others in critical thinking, brainstorming, design thinking and creative tasks	L5	K-S-A	Employ all the attitudes, knowledge and experiences of others to contribute to the process. Question assumptions, biases, and potential misconceptions related to the problem. Evaluate the significance of different factors and variables. Make it fun and engaging
38. Implement a strategy for engaging people in the creative process to resolve different conceptual problems	L5	K-S-A	Foster a culture of inclusivity in the decision-making process. Decide on a whether a narrow or wide focus is most appropriate to solve the solution being debated and who should be involved in the process

39. Apply research and data analysis techniques	L5	K-S	Utilise digital research tools such as search engines, databases, and analytics platforms to gather data and insights relevant to your project. Tools like Google Scholar can help
40. Apply a collaborative method of communicating and gathering information for problem situations in digital environments	L5	K-S-A	Establish a way of communicating where individuals can make suggestions, log their problems, share their insights and experiences to enhance collective problem-solving abilities and create a solution driven environment
41. Recognise the importance of developing a high level of proficiency in using a variety of digital tools, software, and technologies relevant to knowledge creation and innovation	L6	K-S	Acquire the knowledge and skills to conduct a variety of adaptations, by doing so, you can identify ways in which the tools can work best relevant to knowledge creation and innovation
42. Understand the potential implications of mismatching or choosing the incorrect tools for the activity or line of work	L6	K-S	Examine the advantages and disadvantages of each potential solution and be able to make an informed decision knowing that the solution will solve the problem
43. Develop a strategy that categories tools for their various uses, appropriate for various functions or departments	L6	S	Create a personalised plan of solutions that reflect and connect to peoples roles and are relevant to project-specific challenges that can be addressed through digital tools and technologies.
44. Assess and manage risks associated with the adoption of digital tools	L6	K-S	Develop contingency and back up plans for potential disruptions

and technologies for innovation			
45. Identify the relevant regulations and ethical standards connected with compliance and protection of data and innovations	L6	K-S-A	Consider ethical and privacy concerns related to data collection, use, and innovation
46. Conduct cost-benefit analyses to evaluate the financial implications of adopting digital tools and technologies for innovation	L6	K-S	Make informed decisions regarding resource allocation and choosing digital tools that will not be detrimental to efficiencies. Consider initial cost, future costs, training costs, maintenance costs and other costs in your analysis
47. Encourage resolution of conceptual problems and problem situations in digital environments individually and collectively	L6	K-A	Understand that tapping into the knowledge economy within the organisation either on an individual or collective level can better influence creativity, innovation and problem solving.
48. Solve problems that others are encountering	L6	K-S-A	Understand that others may not have the interest, knowledge or time to seek solutions so be open to finding possible solutions for others.
49. Train individuals in digital tools that you have matched to suit their requirements	L6	K	Possess the knowledge and ability to conduct training for employees. By doing so, you can equip them with essential knowledge and skills to help them identify and respond to tasks effectively. This training empowers employees to adopt best practices and contribute to a more problem-solving environment.

50. Implement the tools, be able to regulate and respond to queries	L6	A	Feel comfortable answering queries when people are experiencing technical problems and be able to suggest fixes and give guidance. Put in place a dedicated team that can share the workload and expertise in solving these issues. Ticketing software may help with responding to queries.

EXPERT LEVEL (LEVEL 7 AND LEVEL 8)

COMPETENCE AREA 5.3: CREATIVELY USING DIGITAL TECHNOLOGIES			
TO USE DIGITAL TOOLS AND TECHNOLOGIES TO CREATE KNOWLEDGE AND TO INNOVATE PROCESSES AND PRODUCTS. TO ENGAGE INDIVIDUALLY AND COLLECTIVELY IN COGNITIVE PROCESSING TO UNDERSTAND AND RESOLVE CONCEPTUAL PROBLEMS AND PROBLEM SITUATIONS IN DIGITAL ENVIRONMENTS.			
LEVEL 7 and LEVEL 8 – HIGHLY SPECIALISED LEVEL 7: At highly specialised level, I can: • create solutions to complex problems with limited definition using digital tools and possible technological responses, and to adapt and customise digital environments to personal needs. • integrate my knowledge to contribute to professional practice and knowledge and guide others in identifying needs and technological responses. LEVEL 8: At the most advanced and specialised level, I can: • create solutions to solve complex problems with many interacting factors using digital tools and technologies. • propose new ideas and processes to the field.			
Learning Outcome	**Level**	**K – S - A**	**Description**
51. Understand the importance of modelling and advanced analytics	L7	K-S	Use advanced analytical techniques such as machine learning, artificial intelligence, or statistical modelling to gain insights from the data. These techniques can help uncover hidden patterns or relationships in complex problems

52. Schedule training for employees for the various tools	L7	S	Understand that by imparting people with knowledge means less technical queries, less downtime and empowers employees by increasing their confidence and efficiency for the organisation/ department
53. Select, with confidence, and after researching the correct digital tools	L7	K-S	Choose the appropriate digital tools and technologies that are best suited for the problem. This could include programming languages, data analysis software, simulation tools, or specialized software packages.
54. Analyse and categorise the potential for different digital tools and their impact and likelihood of solving issues	L7	K-S	Demonstrate knowledge of being able to prioritise and identify the digital tools specific impact and urgency of implementation. By properly categorising the problem, resources can be effectively allocated to address the most critical first
55. Regularly review and update policies and procedures related to digital tools utilised	L7	K-S-A	Manage the review and updating of policies and procedures to align with current best practices and regulations. This proactive approach ensures that the organisation maintains a strong position and can effectively respond to problems
56. Advocate for increased investment in solutions and allocate resources effectively	L7	K-S-A	Understand that through effective resource allocation, you can enhance the organisation's ability to detect, prevent, respond and solve problems effectively and efficiently. Ensure the people and money are allocated correctly to satisfy the solution successfully
57. Foster a company-wide culture of problem solving to resolve conceptual problems and problem	L7	K-S-A	Approach problem-solving and customisation as an iterative process. Continuously refine your solutions based on feedback and new data. This may involve multiple iterations of data analysis, prototyping, and testing. Individuals feel valued for their problem solving abilities if they are part of the process

situations in digital environments			
58. Adapt digital environments to your personal needs	L7	K-S	Demonstrate expertise in software development, user experience (UX) design, and human-computer interaction (HCI). You can use these skills to create tailored solutions for individuals or specific user groups
59. Create a decision tree that employees can follow to try and solve simple issues they may be experiencing	L7	K	Recognise that employees may be more inclined to use decision trees to help them come to a solution themselves. This avoids them waiting while also teaching and directing them towards a learned solution
60. Manage updates of procedures, instructions, guides & training especially when there is a change	L7	S	Acknowledge that when digital tools change, these need updating to keep solutions relevant. Ensure these changes are made across all functions in the environment. Eg. Links, creating a new blog, conducting new training, tutorial videos etc.
61. Create design thinking workshops to foster a culture of problem solving, inclusivity and collaboration	L8	S-A	Encouraging this human-centered approach inspires creativity and empathy, helping teams find unique digital solutions to problems, feeling part of a team and a decision-making process. New skills will be developed in the workshops while working collectively.
62. Implement rapid prototyping techniques	L8	K-S	Introduce rapid prototyping techniques to quickly test and iterate on digital solutions. Tools like low-code platforms and mock-up software can expedite the development of prototypes.
63. Explore the potential of artificial intelligence (AI)	L8	K-S	Understand the potential of artificial intelligence (AI) and machine learning (ML) to solve complex problems. These technologies can provide insights and automate decision-making processes.

64. Consider blockchain technology	L8	K-S	Understand that blockchain technology can enhance transparency and trust in transactions and data management, especially in industries like supply chain management and finance.
65. Be aware how the internet of Things can benefit your digital environment	L8	K-S	Understand that the utilisation of the Internet of things (IoT) and sensor data can gather real-time information for decision-making. This can improve efficiency and enable predictive maintenance in various industries.
66. Investigate other methods for training, development, individual and collective learning	L8	K-S	Develop virtual reality simulations for training purposes, offering immersive and interactive experiences for employees to learn and solve problems in a safe environment. Implement gamification elements in problem-solving processes to make them more engaging and enjoyable, encouraging active participation and creativity.
67. Familiarise yourself with tools that can make predictions in digital environments	L8	K-S	Utilise predictive analytics to forecast trends, demand, and potential issues, allowing for proactive problem-solving and decision-making.
68. Adopt robotic process automation (RPA)	L8	K-S	Apply RPA to automate repetitive tasks, freeing up employees to focus on more strategic problem-solving activities.
69. Decide on the right cloud-based collaboration tool	L8	K-S	Adopt cloud-based collaboration tools that enable real-time collaboration among remote teams, fostering creativity and efficient problem-solving.
70. Employ an attitude of proposing new ideas and processes for improvement	L8	A	Acknowledge that the digital environment is constantly innovating and be open to change and testing tools and suggest new alternatives as a solution.

Project Coordinator:

EdiTC EDUCATION & INFORMATION TECHNOLOGY CENTRE

Partners:

DIMITRA educational organization

UNIVERSITAS GALATIENSIS

CYPRUS COMPUTER SOCIETY

UNIVERSITÀ TELEMATICA INTERNAZIONALE UNINETTUNO

MMC Mediterranean Management Centre

MTU Ollscoil Teicneolaíochta na Mumhan Munster Technological University

DSW DIGITAL SKILLS WALLET

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.