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D5.1 Common module platform and content with reference to a micro-credential framework

WP 5

Lead Beneficiary: University of Maribor

Co-funded by
the European Union

DDS-MAP
Dynamic Digital Skills for Agility and Resilience

Table of Contents

List of Tables

List of Figures

List of Abbreviations

ABC - Arena Blended Curriculum

AI - Artificial Intelligence

AR - Augmented Reality

DDS-MAP - Dynamic Digital Resilience for Medical and Allied Professions in Health Services

ECTS - European Credit Transfer and Accumulation System

EHDS - European Health Data Space

EHR - Electronic Health Records

EQF - European Qualifications Framework

EU - European Union

GDPR - General Data Protection Regulation

HEI - Higher Education Institutions

LO - Learning Outcomes

LORI - Learning Objective Review Instrument

MCQ - Multiple Choice Question

NFQ - National Framework of Qualifications

T/F - True/False

UM - University of Maribor

VR - Virtual Reality

WP - Work Package

PROJECT DURATION:	2023/01 – 2025/12
WP:	WP5: Content development of 4 modules to deliver upgrading and new skills
DELIVERABLE:	Common module platform and content with reference to a micro-credential framework
LEAD BENEFICIARY:	University of Maribor (UM)
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Abstract

The Dynamic Digital Resilience for Medical and Allied Professions in Health Services – DDS-MAP developed four modules informed by the DDS-MAP survey results and a localised co-creation process: Module 1: Digital competency; Module 2: Current and Emerging Issues in Healthcare; Module, 3: Digital healthcare implementation and Module 4: Training the Trainer to train the health workforce to build personal wellbeing. The first three modules meet the discipline specific needs of the DDS-MAP target groups (hospital doctors, nurses & non-clinical staff). A fourth module is delivered using a train the trainer format and focuses on personal and organisational resilience and wellbeing.

DDS-MAP's micro-credential approach is informed by a framework developed by DDS-MAP. This framework informed the development of the DDS-MAP modules and forms the foundation of the local accreditation process. DDS-MAP has developed a plan to move towards the micro-credential accreditation of the modules with a backup digital badging system should accreditation not be possible within the timeframe of the project. The DDS-MAP project team is actively engaging with national and regional accrediting and regulatory bodies to identify how such credentials can be professionally recognised for members of local health workforces.

1. Introduction

The DDS-MAP project, funded by the European Health and Digital Executive Agency through its EU4 Health Program, aims to develop a new way of multidisciplinary education for healthcare professionals across the EU. The training will focus on the acquisition of knowledge and mastery of new digital technologies in care, with an emphasis on the management of the associated challenges and wellbeing.

Deliverable 5.1 consists of four modules developed. These include: (1) Digital Competency, (2) Current and Emerging Issues in Healthcare, (3) Digital Healthcare Implementation, (4) Training the Trainer to Train the Health Workforce to Build Personal Wellbeing.

The development of the modules is informed by results obtained in Work Package 4 (survey analysis of training needs, mapping of existing continuous and professional development training possibilities, gap analysis and co-creation with stakeholders) and a review of current frameworks (All-Ireland Nursing and Midwifery Digital Health Capability Framework, OECD and DigiComp2.2). This deliverable intersects with WP6: Design & implement a delivery platform with augmented reality (AR) and virtual reality (VR) features (Moodle delivery platform and AR/VR training/assessment materials), WP 8: Delivering and validating the modules with target group participants (evaluation questionnaires) and WP 7: Localising the module content and testing with selected trainees.

1.1. Objectives

The objective of this deliverable is to describe the content development of 4 modules and its accompanying micro-credential and digital badging frameworks.

1.2. Structure of the document

Structure of the document:

- **Section 1:** Information about the project and the purpose of this document, described in more detail.
- **Section 2:** Information on the micro-credential process and the micro-credential structure.
- **Section 3:** Overview of the development of modules through survey analysis of European and regional needs and a localised co-creation process and links to other WP.
- **Section 4:** Information about the module (Module 1 to Module 4), including the number of ECTS, the number of hours in which the module will be delivered, the content of the lessons, the objectives and competencies, and the expected learning outcomes.

- **Section 5**: Module descriptors – SETU example.
- **Section 6:** Learning Objective Review Instrument (LORI) for assessment of learning content.
- **Section 7:** References.
- **Section 8:** Appendix including templates for the development of educational content (VR, Podcast, Video, PowerPoint).

2. Micro-credentialing approach with CPD

A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. As defined by the European Commission in June 2022, a "'Micro-credential' is a record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes will have been assessed against transparent and clearly defined criteria. Learning experiences leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competencies that respond to societal, personal, and cultural or labour market needs.

The European Credit Transfer and Accumulation System (ECTS) outlines course learning outcomes and workloads visible as part of the Bologna Process, whereby ECTS are aligned with learning objectives and time spent on a subject. Table 1 below outlines for each DDS-MAP participating country the following: ECTS range; availability of national micro-credential policy and availability of local institution level framework.

Table 1: Analysis by country

Country	ECTS	National Level Policy	Institutional Framework
Ireland	1-30	Yes	Yes
Slovenia	1	Currently being developed	Yes, but not transferable to other institutions
Poland	Not applicable	Currently being developed	Currently being developed
Italy	Not applicable	No	Currently being developed
Lithuania	Not applicable	No	No
Croatia	Not applicable	No	Yes but not transferable to other institutions
Latvia	Not applicable	No	No
Germany	0-9	Yes	Yes
Spain	Not applicable	Yes	No

The DDS-MAP Survey results suggest that many healthcare workers lack exposure to both basic and advanced digital technologies (such as robotics and automated medicine dispensers) and lack confidence, knowledge and skills in this area. This suggested that the modules should be pitched at a low to moderate level. There is also large country level variation. As a result, we have chosen to pitch the modules at European Quality Framework 6, depending on the local context and need. The relatively low exposure to and knowledge and confidence also suggest that the modules should be set at a high enough level of European Credit Transfer System (ECTS) to allow for in depth and practical teaching of the subject area whilst also balancing this against the workload and flexibility. We have set the modules at 2.5 ECTS in recognition of these factors.

The following principles were applied to the DDS-MAP micro-credential approach:

1. DDS-MAP micro-credentials are short learning experiences, credit based and aligned to the ECTS and EQF quality standards at 2.5 ECTS per module and EQF Level 6.
2. DDS-MAP micro-credentials are subject to a robust and rigorous quality assurance process including piloting, testing and validation through DDS-MAP project activities.
3. DDS-MAP micro-credentials enable healthcare workers and managers to increase their digital skills and wellbeing, implement digital healthcare initiatives, and/or respond to current and emerging trends.
4. DDS-MAP micro-credentials are informed by the DDS-MAP overarching goals and objectives, survey results, mapping of existing training, EU Pact for skills, and co-creation processes.
5. DDS-MAP micro-credentials are informed by OECD skills, DigiComp 2.2, the All Ireland Digital Capability Framework, and other accepted competency frameworks.
6. DDS-MAP micro-credentials have clear and seamless pathways across different credentials and can be stacked together in any configuration, or the micro-credentials can each be taken as a single standalone module.
7. DDS-MAP micro-credentials are based on assessed proficiency of a competency, not on time spent learning.
8. DDS-MAP micro-credentials are secure, trackable, and portable, and competency is documented in students' academic records.
9. DDS-MAP micro-credentials follow institutional quality assurance processes.
10. Micro-credential policy in the DDS-MAP consortium follows the emerging European policy framework and the national context in each DDS-MAP partner country.

The DDS-MAP Framework recognises that micro-credentials are credit bearing and aligned to ECTS credits and the EQF framework. DDS-MAP modules are at Level 6 of EFQ. The framework recognises that each of the four DDS-Modules must meet a minimum of 2.5 ECTS but can be stacked together in any configuration (for example, all modules can be stacked together for a total of 10 ECTS). The number of effort hours per 2.5 ECTS is proposed at 62.5 effort hours (See: Table 2).

Table 2: EFQ Level/ECTS, Indicative Workload

Module	EFQ	ECTS	Indicative workload
Digital Competency	6	2.5	62.5
Current and Emerging Issues in Healthcare	6	2.5	62.5
Digital Healthcare Implementation	6	2.5	62.5
Training the Trainer to Train the Health Workforce to Build Personal Well-being	6	2.5	62.5

Our review of the current status of micro-credentialling in partner countries and institutions suggests that, despite it being European Union policy, the implementation of micro-credentials at national and institutional levels is poorly developed across the Union. A significant issue is that there is no agreed definition of what constitutes a micro-credential in terms of ECTS credits etc. Some Irish and German higher education institutions have established micro-credential frameworks, though the degree to which these are fully implemented is not clear. Slovenian and Croatian partners can issue micro-credentials at an institutional level but these are non-transferable to other institutions within their respective jurisdictions. Irish, Slovenian and Croatian partners are preparing applications for the DDS-MAP modules to be accredited through established processes. Polish, Latvian and Lithuanian partners are engaged with an initial application process through emerging micro-credential frameworks within their jurisdictions. German, Italian and Spanish partners will pilot the modules through a digital badging system with a view to establishing micro credentials for these modules in the near future. A caveat that needs to be borne in mind is that within these processes the DDS-MAP partners have no control in relation to the degree to which DDS-MAP modules will be accredited through these micro-credential frameworks. In this context, the fallback plan will be to use a digital badging system.

These badges can be used by learners as a form of recognition in professional and academic contexts, including uploading them to platforms like LinkedIn or OpenBadge Passport. This badging system issues a badge for each module, as shown in the table below. The DDS-MAP Project will issue these badges to learners who successfully complete individual DDS-MAP modules, regardless of national policies, ensuring that everyone can receive a badge if accreditation is not possible. A digital badge includes information about who earned the digital badge, what the badge represents, how it was earned, when the learner earned it, who issued it, and, where possible, examples of evidence of the work that went into earning the badge.

More information on the badging system can be found at the following link: https://new.express.adobe.com/webpage/rFzKtwsjDPxBN.

Table 3: Badges for modules

Module 1: Digital Competency	Module 2: Current & emerging issues in healthcare	Module 3: Digital Healthcare Implementation	Module 4: Building a Healthy Workforce and Personal Wellbeing
			

By combining micro-credential certificates, where applicable and digital badges for all learners, DDS-MAP ensures that learners' achievements are both trackable and portable across countries, even in cases where national systems for the recognition of micro-credentials are still under development.

3 Content development of four modules

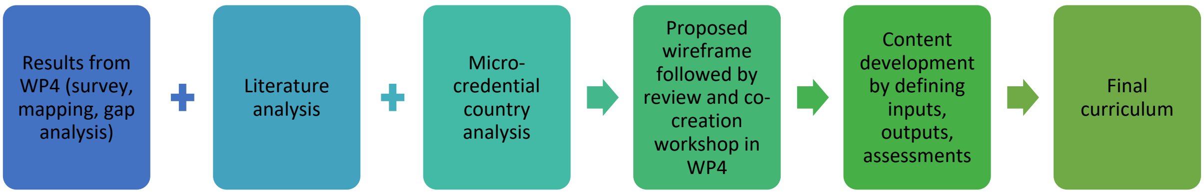


Figure 1: Modules and content development

Figure 1 outlines the steps of modules and content development using the Arena Blended Curriculum (ABC) methodology, which was applied for module preparation. The ABC focuses on a blended learning design approach based on Diana Laurillard's conversation framework (1). It ensures a rich learning experience through interactive, discursive, and collaborative methods. This method helps ensure that each course:

- Uses a blended learning approach;
- Is developed with a student-centred approach;
- Creates opportunities for group and individual work;
- Supports constructivist and socio-constructive ideologies;
- Integrates a wide range of activity types in the learning design.

The results obtained from WP 4 were initially evaluated, also considering Ireland Digital Capability Framework for Health and Social Care (2) and European digital framework and European Digital Framework (DigComp 2.2 framework) (4).

The Ireland Digital Capability Framework (2) emphasises that digital health technologies play an increasingly vital role in enhancing care recording, information sharing, and maintaining continuity of care while reducing data duplication within the health system. Thus, technology is crucial for fostering a digitally proficient health and care professional workforce. The European Digital Framework (4) includes key components of digital competence in five areas: Information and Data Literacy, Communication and Collaboration, Digital Content Creation, Safety, and Problem Solving. Both frameworks guided our integration of essential digital competencies tailored to the specific needs of healthcare professionals into our module content and assessment approach.

Survey results from WP4 revealed that nurses, healthcare professionals, and medical doctors exhibit the highest level of interest in training related to cybersecurity, emergency preparedness, and utilising electronic health records. Additionally, there was a moderate level of preference for training focusing on personal wellbeing, telemedicine, and mobile health among this group. Non-clinical staff demonstrated the highest level of interest in training encompassing cybersecurity, emergency preparedness, the utilisation of electronic health records, and personal wellbeing. Both clinical and non-clinical staff exhibited keen interest in enhancing their proficiency with digital tools and databases, mastering the operational intricacies of various devices and software, and adeptly applying digital processing skills.

We considered these findings when preparing the modules, emphasising the selected content to address the needs, desires and expectations of each group. Based on the high interest in cybersecurity, emergency preparedness, and the utilisation of electronic health records, we ensured these topics received prominent attention in the modules. Given the critical importance of cybersecurity and the challenges of implementing it in real-world settings, we implemented virtual reality (VR) scenarios developed in WP6 based on real life scenarios based around potential cybersecurity threats. These scenarios provide learners with realistic, hands-on experience in addressing cybersecurity challenges, enhancing practical skills in a controlled environment and assessing competencies in this area using VR.

Module 1 Digital Competency in Healthcare

Module One is shaped by DDS-MAP survey findings suggesting that healthcare workers report relatively low levels of exposure to digital technologies, confidence and knowledge. Cybersecurity and data management are given particular emphasis due to findings suggesting a particular lack of competence in these subjects. Foundational IT skills, including file management, internet safety, data protection and digital communication tools, which were highlighted as areas of weakness, are all considered. In order to upskill workers, this module will improve healthcare worker competency in a range of pertinent fields including learning how to manage and share health data, interact with digital tools confidently and improving their cybersecurity practices.

Module 2 Current and Emerging Issues in Healthcare workers

Cybersecurity and emergency preparedness were identified as priority areas where healthcare workers felt unprepared in the DDS-MAP survey. Many healthcare workers reported not feeling confident in identifying a cyber-attack and not feeling confident in their overall cybersecurity practice. They also considered emergency preparedness a key area for improvement. Module Two has been developed to address gaps in cyber threat prevention, emergency preparedness and foresight planning. The module considers prevention, response and planning in terms of current and emerging challenges.

Module 3 Digital Healthcare Implementation

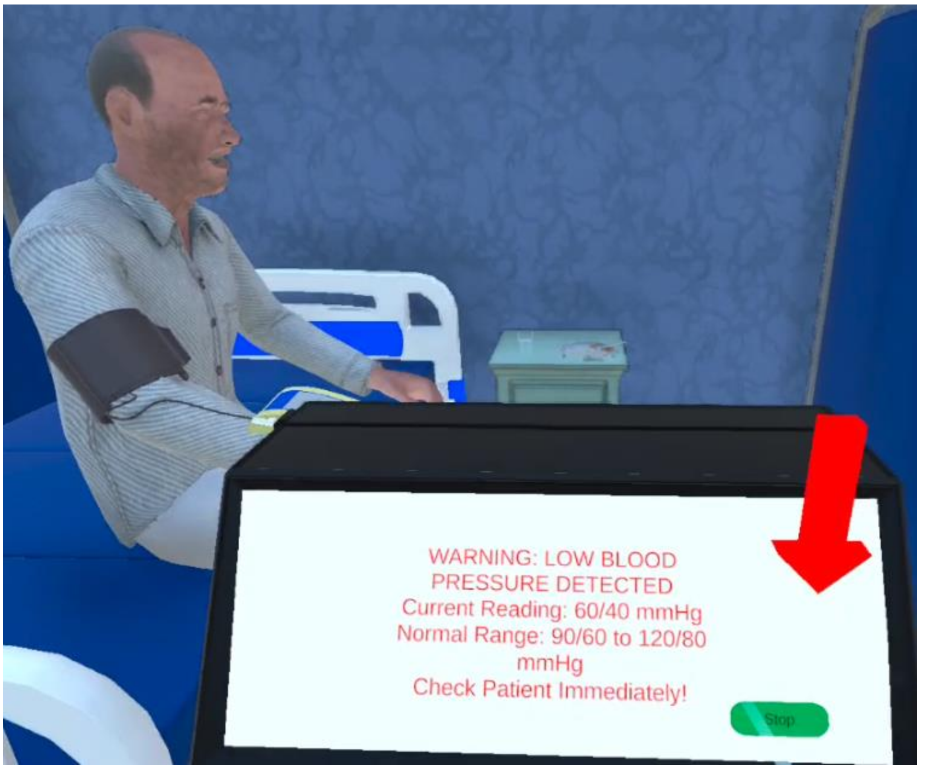
Many DDS-MAP survey respondents reported using basic tools (for example, 87.9% reported using a desktop/laptop in the last two weeks). In contrast, there were much lower reported use of advanced technologies like wearable devices (23%) and robotics (2.1%). In response to these findings, this module includes an in depth exploration of advanced technologies like artificial intelligence (AI), and augmented/virtual reality (AR/VR). The module both introduces learner to these tools and equips them with the necessary skills to implement them in their work environment. An emphasis on change management and agile project management aligns with the survey's findings indicating a need for adaptability in fast evolving digital environments.

Module 4 Building a Healthy Workforce & Personal Wellbeing

This module responds to the moderate levels of stress reported by healthcare professionals. Module content will focus on stress management, resilience building strategies and digital wellbeing. The use of an organisational assessment tool to identify stressors and build strategies to increase organisational resilience will form a core component of the module content. Wellbeing and stress management in the context of managing surges will also be considered.

Extended Reality approach

All modules can be accessed using virtual reality headsets and the modules can be accessed in a purposefully build virtual learning environment which is modelled on the real world MUTUALIA hospital which is currently being developed in Spain. As cybersecurity was identified the number one priority area in the survey, cybersecurity was chosen as specific topic to asses through virtual reality-based teaching scenarios which had been articulated in previous research with Irish critical care nurses that had experienced the CONTI cyberattack (Hore et al., 2024). These scenarios can be accessed and assessed through the virtual environment. In parallel, the hospital can be accessed through an augmented reality application which introduces students to a practical application of augmented reality in healthcare.



Micro-credential approach

A micro-credential country analysis was conducted to define an integrated micro-credentialing approach (see previous section). It was established that countries are at different stages of implementing micro-credentials, with not all having accreditation possibilities. Additionally, there are differences in guidelines, including assessment criteria and requirements across countries. Based on country analysis and considering SETU micro-credential guidelines, the initial suggestion for module development and assessment was to pursue accreditation at 1 ECTS per module, which would have been linked to 25 effort hours and 1 learning outcome.

However, a general European trend towards higher ECTS per module was observed during the content development process. This trend can be linked to the high administrative burden associated with registering students, which means that school administrators are reluctant to accept low credit bearing modules. As a result, a decision to increase the amount of ECTS was made to futureproof the modules. This necessitated the development of additional content and assessments for each module.

Module descriptors for micro-credentialing were prepared, which include module details, delivery methods, description of the learning process, learning content and learning outcomes with a detailed description of assessment methods, estimated learning times and assessment criteria (see section 4.1). These assessments are part of the module descriptors, with each module including both continuous and final assessments. Assessment criteria adhere to institutional guidelines, allowing for both grading and pass/fail systems, depending on partner policy. Final assessment quizzes in each module can be taken in Moodle or in a VR environment.

As mentioned, the ABC approach (1) to curriculum development was followed, involving a collaborative and rapid design method. First, we identified the key learning outcomes for the modules based on the above-described findings from the WP4 survey, mapping and gap analysis, as well as literature analysis and considering micro-credential framework. Next, we engaged with stakeholders, including partners, educators, and students, in co-creation workshops. We held a collaborative co-creation workshop on identifying the learning personas (Figure 2, 3 and 4). Learning personas are fictional but research-based representations of our target groups and reflect their characteristics, needs, goals, challenges, and learning preferences. Our staff persona templates included a short bio, goals/aspirations including main goals and drivers, barriers to learning & frustrations (job & learning opportunities), and finally technology considerations & digital learning perceptions. These personas informed the storyboard process and in the development of modules later in the process, helping to design more personalized and relevant learning experiences.

***Figure 1**: Doctor's staff persona template*

***Figure 2**: Nursing staff persona template*

***Figure 3**: Non-clinical staff persona template*

We created a wireframe (Appendix 7.1) linked to storyboarding, mapping out the sequence of content activities and assessments for the modules. Other workshops were held on specific content areas (as part of WP4, a workshop on cybersecurity issues) to gather input and refine the storyboard and identify possible improvements. We used feedback from co-creation workshops to iteratively improve the curriculum, ensuring that it aligns with the desired learning outcomes. Content was then developed by the identification of existing resources from each participating partner and by defining final inputs, outputs, and assessments.

Templates with instructions for preparing materials were suggested for this purpose (see Appendix).

As agreed, four modules have been developed:

- Module 1: Digital Competency
- Module 2: Current and Emerging Issues in Healthcare
- Module 3: Digital Healthcare Implementation
- Module 4: Training the Trainer to Train the Health Workforce to Build Personal Well-being

Each module includes a detailed description, learning segments, objectives, activities, and a proposed timeframe for each activity, as well as learning segments, an indication of which materials are localized according to the needs of specific countries (see next section, section 4).

The first three modules are developed as common core content platform modules that are adapted to meet the discipline specific needs of the 3 groups (hospital doctors, nurses, non-clinical staff) through survey analysis of European and regional needs and a localised co-creation process. This adaptation is informed by a survey analysis of European and regional needs, followed by a localised co-creation process. A fourth module, focused on training trainers to deliver multidisciplinary training in personal resilience and wellbeing, is targeted at training the trainers. While the modules feature generic content, they also include discipline-specific "deeper dive" sections contained within a toolkit with learning materials, that allows each group to engage independently with content tailored to their specific needs. Additionally, the modules include localised materials to address the unique needs of different countries, ensuring relevance at both the regional and local levels (see detailed overview in Chapter 4.1). Each module also contains a Toolkit & Additional Resources section, offering supplementary materials tailored to the needs of the target groups and localised content This approach ensures that all learners, regardless of discipline or location, can access both general and specific learning resources that are relevant to their role and local context.

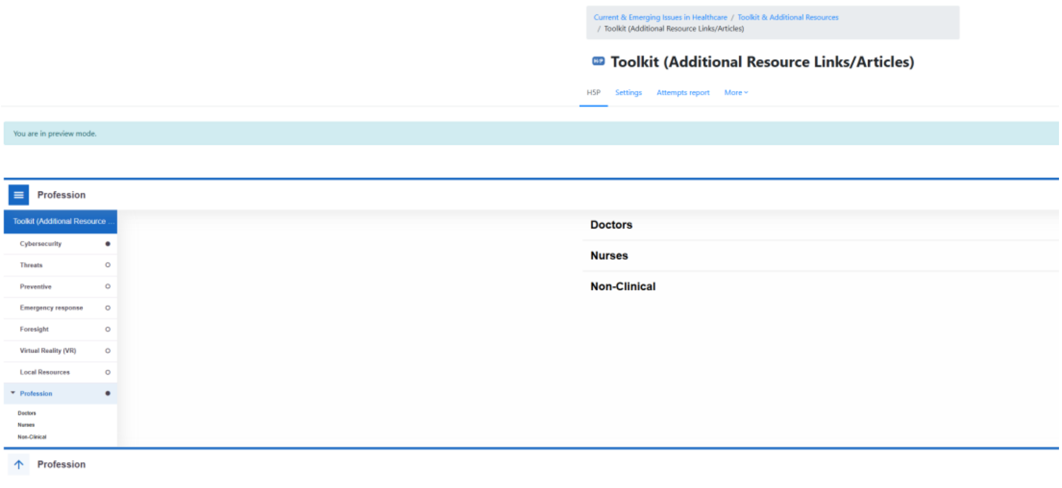
Finally, we integrated digital tools and resources into the learning platform to enhance learning and ensure the curriculum is engaging and effective. The content was transformed into a mix of text (PPT presentations), images, audio (podcasts), video, animations, and interactive elements using digital tools such as Padlet, Canva, and Genially, along with YouTube for videos and podcasts. This approach creates engaging and collaborative learning materials that cater to diverse learning preferences. Content is being delivered using the Moodle platform, which was selected as the delivery platform in WP6. We have also taken into account various learning styles and needs and to adopt a Universal Design for Learning (UDL) approach (3). The Moodle platform allows access to materials on different devices, including laptops, tablets, and mobile phones. Participants can engage with the content directly in Moodle, download it for offline use, and access it in multiple formats. For example, podcasts are available as audio files with accompanying transcripts, PowerPoint presentations can be downloaded as text files. This ensures that all materials are accessible and flexible to suit the preferences and requirements of different users. Thus, demonstrating core principles of UDL such as multiple means of engagement & representation. Overall, this approach ensures a user-friendly experience across diverse learning environments and personal preferences, while a common cross-disciplinary learning and shared knowledge, understanding, and competencies across all targeted disciplines. This facilitates integrated working within and between health and allied care organizations.

Moodle includes VR training within the module and encourages the use of VR, for example in experiencing a free trial of a meditation app such as (TRIPP, CALM, Headspace or Liminal) in module 4 for dealing with occupational and personal stress. Moodle includes VR assessment materials and a dolls house AR dolls-house digital twin of the Mutualia Hospital developed in WP6. Evaluation questionnaires from WP8 were also included on the platform. The development of the latter was informed by the module content. Moodle platform includes learning content, assessments, evaluation questionnaires (referenced to WP8) and timelines and instructions for learners and facilitators (6 weeks for each module) (information for piloting in WP7) (Appendix 7.2). To ensure a positive experience and minimize learning problems, a peer forum and a designated area for facilitators have been developed.

Link to DDS-MAP modules

Localisation

Areas for localisation have been indicated for the translation process (for example, where a local example can be used to illustrate a point). Translators have also been instructed to provide localised content, based on country-level data, and per profession which will be displayed in a purposefully created Toolkit (Additional Resources Links/Articles) section for each module in a "local resources" and "professions" sections (see: below).



4 Module description and curriculum

The following section outlines the module, the activities within the module, the number of learning outcomes (LO) achieved in each module, the distribution of time and the content.

The figure below outlines the main learning segments of all four modules.

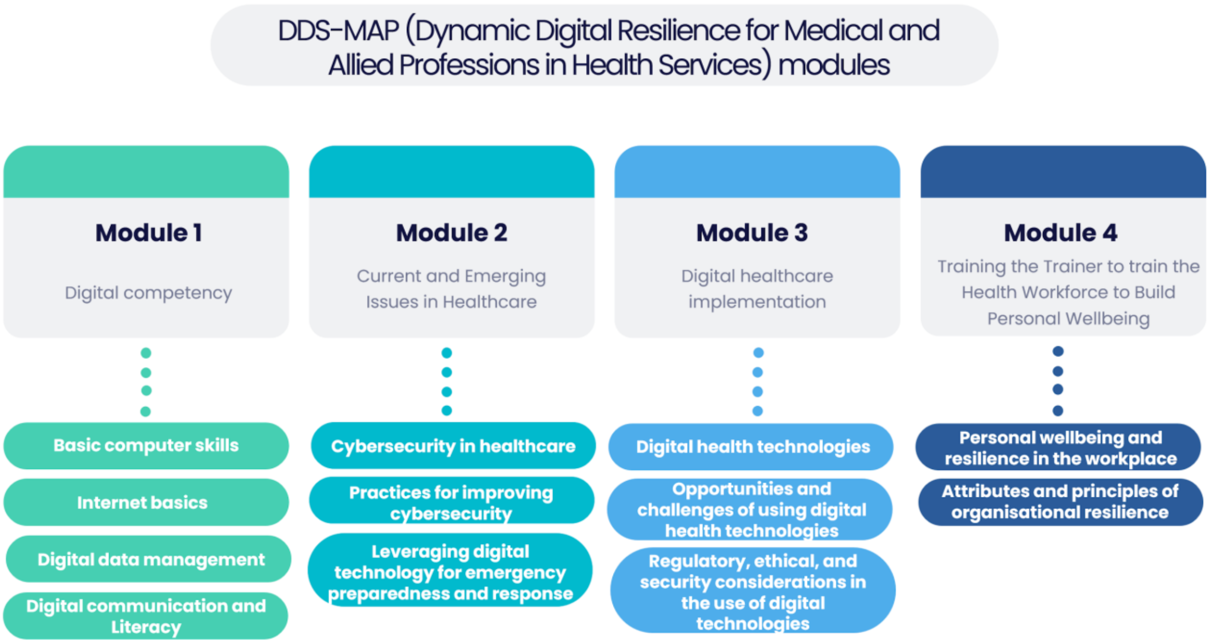


Figure 2: DDS-MAP Modules

The next table includes objectives and learning outcomes (based on Bloom's taxonomy considering EQF level 6) for all four modules.

Table 4: Objectives and learning outcomes of DDS-MAP modules

Modules (2.5 ECTS per module)	Objectives	Learning outcomes
Module 1: Digital Competency	Learner will: • Learn about basic computer and internet skills to manage health data • Learn about communication and collaboration through digital technologies	Learner will be able: • To create, store, organise, and share health data, health information and content • To interact, communicate, and collaborate trough digital technologies

Module 2: Current and Emerging Issues in Healthcare	Learner will: • Learn about the importance of cybersecurity practices, highlighting the interaction between technology and human behaviour • Learn about utilizing digital technologies in modern disaster management strategies	Learner will be able: • Identify common risks, threats, and vulnerabilities to prevent network devices, data, and systems from cyberattack • To discuss how digital technologies can be applied to emergency preparedness and response
Module 3: Digital Healthcare Implementation	Learner will: • Learn about different digital health technologies • Learn how to appropriately utilise digital technologies for providing safe, efficient, and quality care, that aligns with procedural, policy, legal, ethical, security, and privacy requirements	Learner will be able: • To select appropriate digital technologies for environment and patients • To use available technologies appropriately to deliver safe, efficient, quality care
Module 4: Training the Trainer to train the Health Workforce to Build Personal Wellbeing	Learner will learn about: • Stress management and resilience building • Key aspects of organisational resilience responsibility	Learner will be able: • To demonstrate how personal and organisational resilience can be developed and improved • To reflect on applying knowledge of stress management and resilience to one's own organisation

2.1. Module Descriptors

2.1.1. Module 1 Descriptor

Module Descriptor

This descriptor is prepared as part of the validation process for the micro credential.

Module Details:

Module title:	Digital Competency in Health Care
ECTS Credits:	2.5
LEVEL:	EFQ6
Duration:	4-6 Weeks
Description / Module Aims	
This module equips learners with the digital competencies and IT skills essential for a healthcare hospital environment. It fosters the development of knowledge, proficiency, and capabilities necessary for the efficient delivery of care and the operation of contemporary clinical hospital and healthcare settings. The module focuses on: (i) Computer and File Management Skills, (ii) Internet Basics, (iii) Digital Data Management, (iv) Data Protection and Sharing, and (v) Digital Communication and Literacy.	

Delivery Method

This micro-credential will be delivered online, but the capstone quiz assessment can be taken either online on Moodle or in VR within the institution utilising a limited number of headsets. Learners will be facilitated online by accessing the content via the LMS Moodle. Learners will interact with a facilitator & fellow learners via online synchronous webinars and by working through self-directed learning resources asynchronously available on Moodle.

Micro-Credential Project Purpose

The healthcare environment is evolving to increasingly moving toward digitalisation, ranging from the wide scale adoption of electronic health records (EHRs) to the use of digital tools in practice: e.g. (remote monitoring, tele-counselling, and VR based treatments) which require rapid and diverse development of digital competencies ranging from digital communication to data analysis. The target learners for this micro credential are doctors, nursing staff and non-clinical staff who are involved in the provision of frontline healthcare and require upskilling to keep pace with technological innovations within the sector.

This micro credential aims to introduce the learner to the technologies and devices used in the healthcare profession and tools to support communication and collaboration by utilising an online blended environment. This micro-credential is aligned to a Level 6 on the EQF.

Description of Learning Process

There are approximately 62.5 effort hours in this 2.5 credit micro-credential. These hours are composed of:

- Interaction with a facilitator via online webinars
- Self-directed learning activities

Indicative Content

- Utilising IT Troubleshooting approaches, technical tools & techniques
- IT Terminology & functions
- Computer Software: technical issues & digital devices
- Backups: importance & how to guide, advice on regular backups
- File collaboration & secure sharing
- Internet Safety
- Assessing credibility on the internet
- Data Management & Sharing/Protection policies within healthcare settings
- Generative AI & AI's role in Data Management
- Tools/Apps for Communication, Collaboration & Telecare solutions.

Learning Outcomes

On successful completion of this module a Learner will be able to:

1. Create, store, organise, and share health data, health information and content.
2. Interact, communicate, and collaborate through digital technologies.

Learning & Teaching Methods

- Online Activities/Exercises (A-Sync) (PowerPoints, Infographics, T/F Activities, MCQs)
- Online Webinar/Lecture/Virtual Classroom (Sync)
- Guided Reading of texts
- Independent Further Readings
- Case Study Analysis
- Scenario Activity
- VR Scenario

Estimated Learning Times:

Type	Hours
Synchronous/Facilitated Learning Hours:	**15 Hrs**
A-Synchronous (independent) Learning Hours:	**47.5 Hrs**

Entry Requirements

Applicants must be currently working within a healthcare setting or sector.

Assessment Methods/Evaluation:

60% - Continuous

40% - Quiz

Assessment Type	Assessment Method	%	Outcome Assessed	Week No
MCQ – Computer & IT Skills (3 Questions)	Continuous	10%	1,2	1
MCQ – Internet Security/Safety (3 Questions)	Continuous	10%	1,2	2
MCQ – URL Credibility/Cyber Security	Continuous	5%	1,2	2
MCQ – Data Sharing & Protection (3-6 Questions)	Continuous	15%	1,2	3
MCQ – Communication & Collaboration Apps (3 Questions)	Continuous	10%	2	4
MCQ – Telecare Solutions (3 Questions)	Continuous	10%	2	4
Quiz Assessment – Opt in VR	Capstone	40%	1,2	5-6

Assessment Criteria

Assessment Criteria: Pass/Fail (based on institutional policies)

Assessment Evidence

The evidence of learning in this module is their achievement of the learning outcomes by completing the online assessed quiz activities & incorporating the technologies and applications introduced in the micro-credential into their own practice.

Micro-Credential Tags

Blended Learning, Online Learning, Digital Healthcare, Digital Health Technologies, Doctors, Nursing Staff, Non-Clinical Staff, Telehealth, Electronic Health Records

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2.1.2. Module 2 Descriptor

Module Descriptor

This descriptor is prepared as part of the validation process for the micro credential.

Module Details:

Module title:	Current & Emerging Issues in Health Care
ECTS Credits:	2.5
LEVEL:	EQF 6
Duration:	4-6 Weeks
Description / Module Aims	
This module equips students to address cybersecurity challenges within the healthcare profession. It enhances their knowledge and skills in improving cybersecurity prevention practices, utilisation of digital technology for emergency preparedness and response, and developing foresight planning capabilities essential for modernizing clinical healthcare settings. The module focuses on: (i) Cybersecurity (ii) Practices for Improvement of Cybersecurity (iii) Leveraging Digital Technologies for Emergency Preparedness & Response (iv) Foresight Planning.	

Delivery Method

This micro-credential will be delivered online except for the VR assessment which takes place in a controlled environment within the institution utilising a limited number of headsets. Learners will be facilitated online, with webinars/virtual classrooms & by accessing the content via the LMS Moodle. Learners will interact with a facilitator and fellow learners via online synchronous webinars and discussion forums. They will also work through self-directed learning resources asynchronously available on Moodle.

Micro-Credential Project Purpose

The importance of preparing clinical & non-clinical staff for identified issues with large potential impacts (climate change, mass migration, conflicts, pandemics, infodemics, demographic changes & shortage of health care professionals) cannot be underestimated. The purpose of this micro-credential is nurture critical thinking skills and the use of practical tools such as scenario planning & foresight exercise methodologies where multiple scenarios can be articulated and planned for with public engagement through the use of technologies such as social media. This micro credential aims to introduce the learner to the principles of cyber threat prevention and leveraging technologies and foresight planning to support challenges & proactive preparedness through technology by utilising an online blended environment. This micro-credential is aligned to a Level 6 on the EQF.

Description of Learning Process

There are approximately 62.5 effort hours in this 2.5 credit micro-credential. These hours are composed of:

- Interaction with a facilitator and peers via online webinars and discussion forums
- Self-directed learning activities

Indicative Content

- Cybersecurity in Healthcare: Definitions & Threats; Practices for Improving Cybersecurity within a healthcare setting.
- IT Terminology & functions
- Leveraging of technologies for Emergency preparedness & response
- Megatrends: Definitions & Recognition, Macro & Micro trends
- Foresight Planning & Implementation in Practice

Learning Outcomes

On successful completion of this module a Learner will be able to:

1. Identify common risks, threats, and vulnerabilities to prevent network devices, data, and systems from cyberattack.
2. Discuss how digital technologies can be applied to emergency preparedness and response.

Learning & Teaching Methods

- Online Activities/Exercises (A-Sync) (PowerPoints, Infographics, H5P Interactive Handbook, MCQ's, Sequence Activity)
- Discussion Forums/Padlet Boards
- Essay/Long answer Questions
- Guided Reading of texts
- Independent Further Readings
- Online Video (Webinar/Virtual Classroom/Sync)
- Podcast
- Scenario Activity

Estimated Learning Times:

Type	Hours
Synchronous/Facilitated Learning Hours:	**20 Hrs**
A-Synchronous (independent) Learning Hours:	**42.5 Hrs**

Entry Requirements

Applicants must be currently working within a healthcare setting or sector.
Assessment Methods/Evaluation:

40% - Continuous

60% - VR Scenario

Assessment Type	Assessment Method	%	Outcome Assessed	Week No
MCQ – Cyber Security Threats (3 Questions)	Continuous	10%	1	1
MCQ – Responding to a Cyber Security Attack (3-5 Questions)	Continuous	15%	1	2
MCQ – Advantages of Applying Tech to Emergency Response (3 Questions)	Continuous	10%	2	3
Foresight Planning Sequencing Activity	Continuous	5%	2	4
VR Scenario Assessment	Capstone	60%	1,2	5-6

Assessment Criteria

Assessment Criteria: Pass/Fail (based on institutional policies)

Assessment Evidence

The evidence of learning in this module is their achievement of the learning outcomes by completing the online assessed quiz activities, contributing to the online discussions, completion of the foresight sequencing activity and VR Scenario Assessment. Also, evidence of learning is provided by the application and incorporation of Cybersecurity Threat Prevention, utilisation of technology for Emergency Response & Foresight Planning introduced in the micro-credential into their own practice.

Micro-Credential Tags

Blended Learning, Online Learning, Digital Healthcare, Digital Health Technologies, Doctors, Nursing Staff, Non-Clinical Staff, Cybersecurity, Megatrends, Emergency Preparedness & Response, Foresight Planning.

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2.1.3. Module 3 Descriptor

Module Descriptor

This descriptor is prepared as part of the validation process for the micro credential.

Module Details:

Module title:	Digital Healthcare Implementation
ECTS Credits:	2.5
LEVEL:	EQF 6
Duration:	4-6 Weeks
Description / Module Aims	
This module equips learners with an understanding of various digital e-health technologies, including mobile health, wearable devices, electronic health records (EHRs), health information systems, artificial intelligence (AI), and virtual/augmented reality (AR/VR). It helps identify the opportunities and challenges of integrating digital health technologies into practice. Additionally, it introduces new skills in change management, AGILE project management, and surge management. The module also emphasises regulatory, ethical, and security considerations in the use of digital technologies, with a special focus on ethics, data security, data sharing, and governance. The module focuses on (i) Digital Health Technologies (ii) Opportunities & Challenges of	

Digital Health Technologies (iii) Regulatory, Ethical & Security Considerations in the use of Digital Technologies.

Delivery Method

This micro-credential will be delivered online, but the capstone quiz assessment can be taken either online on Moodle or in VR within the institution utilising a limited number of headsets. Learners will be facilitated online, with webinars/virtual classrooms & by accessing the content via the LMS Moodle. Learners will interact with a facilitator and fellow learners via online synchronous webinars and discussion forums. They will also work through self-directed learning resources asynchronously available on Moodle.

Micro-Credential Project Purpose

The rapid and transformation digitisation process of the healthcare industry requires acquisition of new skills such as change management and AGILE project management. Healthcare practices and systems will change with the introduction of emergent new digital technologies. As will the roles of healthcare professionals and the positioning of the role of patients. Therefore, it's important to increase the knowledge and competence in the utilisation & integration of digital technologies, between professionals and patients and increase competence in the interaction with new digital tools within the healthcare profession. Also of increasing importance within this space is design thinking skill to ensure adoption of user friendly solutions and increasing awareness of design thinking concepts is of fundamental importance as these skills are in high demand within the industry. This micro credential aims to introduce the learner to all these concepts by utilising an online blended environment. This micro-credential is aligned to a Level 6 on the EQF.

Description of Learning Process

There are approximately 62.5 effort hours in this 2.5 credit micro-credential. These hours are composed of:

- Interaction with a facilitator and peers via online webinars and discussion forums
- Self-directed learning activities

Indicative Content

- Digital Health Technologies; Definitions, Devices & Applications, Health Information Systems, AI & VR, Electronic Health Records (EHR).
- Opportunities & Challenges of Digital Health Technologies; Implementing Design Thinking, Change Management, AGILE Principles for Project Management & Surge Management.
- Regulatory, Ethical & Security Considerations in the use of Digital Technologies, Ethical Considerations & Data Security; Sharing & Governance.

Learning Outcomes

On successful completion of this module a Learner will be able to:

1. Select appropriate digital technologies for environment and patients.
2. Use available technologies appropriately to deliver safe, efficient, quality care.

Learning & Teaching Methods

- Online Activities/Exercises (A-Sync) (PowerPoints, Infographics, Flash Cards, MCQ's, Interactive PDFs, True/False Activity, Fill in the Blanks Activity)
- Padlet Boards/Polls/Discussion Forums/ Genially Activities
- Guided Reading of texts
- Independent Further Readings
- Online Video (Webinar/Virtual Classroom/Sync)
- Scenario Activity
- Podcast
- Case Study Analysis (Sync)
- VR Demonstration & Scenario

Estimated Learning Times:

Type	Hours
Synchronous/Facilitated Learning Hours:	**22.5 Hrs**
A-Synchronous (independent) Learning Hours:	**40 Hrs**

Entry Requirements

Applicants must be currently working within a healthcare setting or sector.

Assessment Methods/Evaluation:

50% - Continuous

50% - Quiz

Assessment Type	Assessment Method	%	Outcome Assessed	Week No
MCQ – Mobile Health (m-health) & Wearables	Continuous	10%	1,2	1
MCQ – Electronic Hospital Records (EHR) (3 Questions)	Continuous	10%	2	2
Fill in Blank Activity – AIGLE Project Management	Continuous	10%	2	3
Regulatory & Security of Digital Tech True/False Activity	Continuous	10%	1,2	4
MCQ – Data Sharing & Governance	Continuous	10%	1,2	4
Quiz Assessment – Opt in VR	Capstone	50%	1,2	5-6

Assessment Criteria

Assessment Criteria: Pass/Fail (based on institutional policies)

Assessment Evidence

The evidence of learning in this module is their achievement of the learning outcomes by completing the online assessed quizzes & True/False activities, contributing to the online discussions, completion of the AGILE project management fill in the blank activity. Further evidence of learning is provided by the application and incorporation of Data Sharing/Regulation/Governance/Security, utilisation of technology such as m-tech & electronic hospital records (EHRs) as introduced in the micro-credential into their own practice.

Micro-Credential Tags

Blended Learning, Online Learning, Digital Healthcare, Digital Health Technologies, Doctors, Nursing Staff, Non-Clinical Staff, E-Health, Mobile Health (M-Health), Electronic Hospital Records (EHR), Health Information Systems, AGILE, Project Management, Digital Regulation, Digital Security, Data Sharing, GDPR, Health Data Governance, Health Ethics

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2.1.4. Module 4 Descriptor

Module Descriptor

This descriptor is prepared as part of the validation process for the micro credential.

Module Details:

Module title:	Building A Healthy Workforce & Personal Wellbeing
ECTS Credits:	2.5
LEVEL:	EQF 6
Duration:	4-6 Weeks
Description / Module Aims	
This module equips learners with strategies, planning & coping mechanisms for personal wellbeing and mental health which are vital in the healthcare workplace, where high levels of occupational and digital stress can impact staff performance and patient care. Addressing these aspects fosters a healthier, more productive workforce capable of managing the pressures of the healthcare environment. Clinical healthcare organisational resilience, including surge management, resilience strategies, and supportive cultures, is equally crucial. These elements ensure that healthcare facilities can adapt to and recover from crises, maintaining continuity and quality of care. The module also emphasises implementing robust business processes to further strengthen organisational resilience, enhancing the overall stability and efficiency of healthcare services. The module focuses on (i) Personal Wellbeing in the Workplace, (ii) Organisational Resilience in the Workplace	

Delivery Method

This micro-credential will be delivered online but the capstone quiz assessment can be taken either online on Moodle or in VR within the institution utilising a limited number of headsets. Learners will be facilitated online by accessing the content via the LMS Moodle. Learners will interact with a facilitator & fellow learners via online synchronous webinars, discussion forums and working through self-directed learning resources asynchronously available on Moodle.

Micro-Credential Project Purpose

The provision of upskilling hospital staff and (clinical/non-clinical) middle management in promoting personal wellbeing, digital resilience, stress management, and organisational resilience is crucial within the healthcare industry. These leaders play a key role in fostering a supportive work environment, mitigating burnout, and enhancing overall staff morale. By equipping them with the skills to manage stress and adapt to digital challenges, they can better support their teams, ensure efficient operations, and maintain high-quality patient care. Additionally, their ability to build organisational resilience helps healthcare facilities navigate crises effectively, ensuring continuity of care and improving patient outcomes.

This micro credential aims to effectively promote organisational & personal responsibilities in reducing work stress, enhancing digital resilience and promoting personal wellbeing by utilising an online blended environment. This micro-credential is aligned to a Level 6 on the EQF.

Description of Learning Process

There are approximately 62.5 effort hours in this 2.5 credit micro-credential. These hours are composed of:

- Interaction with a facilitator & peers via online webinars and discussion forums
- Self-directed learning activities

Indicative Content

- Personal wellbeing; planning & improvement strategies
- Stress management & coping mechanisms
- Good mental health & wellbeing strategies
- Occupational stress management
- Digital wellbeing (stress & anxiety)
- Organisational resilience
- Resilience strategies & culture
- Surge management
- Business process & organisational resilience

Learning Outcomes

On successful completion of this module a Learner will be able to:

1. Demonstrate how personal and organisational resilience can be developed and improved
2. Reflect on applying knowledge of stress management and resilience to one's own organisation

Learning & Teaching Methods

- Online Activities/Exercises (A-Sync) (PowerPoints, Infographics, Interactive Wellbeing Activities, Interactive PDFs, Searchable Glossary, Interactive Book, MCQ's)
- Online Webinar/Workshop/Virtual Classroom (VC) (Sync)
- Guided Reading of texts
- Independent Further Readings
- Stress Assessment Questionnaire
- Videos
- Podcasts
- Scenario Analysis Activity
- Virtual Reality (VR) for Stress Relief
- Padlet Boards/Discussion Forums

Estimated Learning Times:

Type	Hours
Synchronous/Facilitated Learning Hours:	**34 Hrs**
A-Synchronous (independent) Learning Hours:	**28.5 Hrs**

Entry Requirements

Applicants must be currently working within a healthcare setting or sector.

Assessment Methods/Evaluation:

60% - Continuous

40% - Assessment

Assessment Type	Assessment Method	%	Outcome Assessed	Week No
Resilience Plan – Improvement Planning	Continuous	30%	1	3
Reflection on Assessment & Improvement Plan	Continuous	30%	2	4-5
Quiz Assessment – Opt in VR	Capstone	40%	1,2	5-6

Assessment Criteria

Assessment Criteria Assessment Criteria: Pass/Fail (based on institutional policies)

Assessment Evidence

The evidence of learning in this module is their achievement of the learning outcomes by utilising & completing the assessment tool to gauge the current processes & practices within their own organisation. Using this this assessment tool output to aid in creation of a resilience improvement plan & then reflecting on this improvement plan. Additionally, an overall assessment quiz covering all topics is also required to be completed. Further evidence of learning is provided by the application and incorporation of the techniques & tools introduced in the micro-credential into their own practice and utilising them to educate staff on well-being and resilience within a healthcare work environment.

Micro-Credential Tags

Blended Learning, Online Learning, Digital Healthcare, Digital Health Technologies, Doctors, Nursing Staff, Non-Clinical Staff, Personal Wellbeing, Mental Health, Stress Management, Occupational Stress, Digital Wellbeing, Organisational Resilience, Surge Management, Resilience Strategy & Culture, Business Process

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2.2. Module 1 detailed overview

Below is a detailed overview of the learning segments for all four modules, including objectives, activity, estimated time and suggestions for WP7 in terms of *translation* and/or *localisation* of prepared materials.

Computer Skills
Computer Usage & Troubleshooting Tech Issues

Learning segment	Objective	Activity	Estimated time (hours)
Computer Usage & Troubleshooting Tech Issues	• Define technical troubleshooting approaches, tools and techniques	• **Mini Hook/Section Overview:** Basic definition of technical troubleshooting approaches, tools and techniques with PowerPoint presentation ***(Translation)***	0.5 hours
Computer and Internet Skills (desktop, file, folder, icon, password, backup, etc.).	• Explore terminology and functions of user interface elements such as menus, icons, buttons, passwords, backup, etc.	• **Interactive Searchable Glossary** of computer terms and functions of user interface (focus on security principles such as passwords, encryption, backup, etc.) ***(Translation)*** • PowerPoint Presentation: An overview of Microsoft Office (Microsoft Office Components, key features, benefits) and Google Workspace applications (Google Workspace Components, key features, benefits). ***(Translation)*** • **MCQ** (10% weight amount) ***(Translation)***	4 hours
Troubleshooting steps and solving common	• Identify common technical problems related to digital devices and	• **PowerPoint Presentation with Follow-Up Reading:** Tips for solving common computer problems	5.5 hours

computer problems	software and apply basic troubleshooting techniques to resolve them.	***Translation & Localisation)*** ● **Support Contacts:** List contact information for professional IT support services, online forums, and communities for further assistance ***(Localisation)*** ● **Further Reading:** Recommend websites, forums in computer troubleshooting ***(Localisation)***	

File Management Skills

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)**
File Back Up	● Understand the importance of backing up files and performing back up	● **PowerPoint Presentation:** Importance of performing file backups, including using backup software, and the Importance of protecting critical data in the event of a cyber-attack (what to back up, back up methods, beck up software, secure beck up, ensure compliance). ***(Translation)***	4 hours

		● **PowerPoint Presentation**: Basic concepts of file management ***(Translation)*** ● **Backup Exercise:** Perform a mock backup with a checklist for self-assessment	
Collaborate and securely share files	● Understand the use of file collaboration and how to control access to sensitive information (secure file sharing).	● **Tutorial Presentation with images:** use and create file collaboration (sharing folders and documents, online file sharing services, procedure for controlling access to sensitive folders and documents) in Google Drive ***(Translation)*** ● **Collaboration Exercises:** Share and collaborate on a document with instructions (Google Drive) with a checklist for self-assessment ***(Translation)***	4 hours

Internet Basics

Learning Segment	Objective	Activity	Estimated time (hours)
Internet Safety Tips for	● Know how to use the internet safely.	● **Interactive Infographics:** Tips on how to stay safe online	5 hours

Healthcare Workforce		(use strong, unique passwords, two-factor authentication, secure wi-fi connections, regularly update software, secure communication channels, etc.) ***(Translation & Localisation)*** ● **Scenario Activity**: Find and read the latest WHO guidance document on protecting personal data in health information systems using a browser and search engine and then bookmark it ***(Translation)*** ● **3 MCQ** (10% weight amount) ***(Translation)***	
Credible URLs while browsing the internet	● Recognise URLs	● **Infographics:** on recognising credible URLs ***(Translation)*** ● **True or False Activity** (5% weight amount) ***(Translation)*** ● **Further Reading:** Recommend websites ***(Localisation)***	3 hours

Digital Data Management

Learning Segment	Objective	Activity	Estimated time (hours)
Data Managem ent	• Understand managing patient data while ensuring adherence to regulatory standards	• **PowerPoint Presentation with Follow-Up Reading:** The importance of data management, an overview of types of data and key regulations (GDPR, EHDS) ***(Translation & Localisation)*** • **Further Reading:** Recommend websites ***<u>(Localisation)</u>***	4 hours
Data Sharing and Data Protection	• Identify data security and legal regulations in healthcare.	• **PowerPoint Presentation:** Ethical considerations and challenges involved in managing digital health data (patient privacy, consent, data security, and the responsible use of data) ***(Translation)*** • **Case Study Analysis:** Review real-world written scenario on data breaches and best practices ***(Translation)*** • **MCQ** (15% weight amount) ***(Translation)*** • **Additional Reading:** Reading on secure health data sharing practices ***<u>(Localisation)</u>***	6 hours

Artificial Intelligence	• Understand generative AI chatbots and their use in data management.	• **Interactive PowerPoint Presentation with Follow-Up Reading:** Introduction to Generative AI Chatbots and Use of Generative AI Chatbots in Data Management (websites, blogs, online repositories), data protection risks when using artificial intelligence algorithm. ***(Translation)*** • **Synchronous online lecture with video on demand:** Prompt Engineering Tips and Different Examples how to use Prompt Engineering in Healthcare. **Try it yourself! *(Localisation)*** • **Further Reading:** Recommend websites ***(Localisation)***	10 hours

Digital Communication and Literacy

Learning Segment	Objective	Activity	Estimated time (hours)
Communication & Collaboration Apps	• Understand secure video calling tools and applications such as email, messaging, video calling, web	• **PowerPoint Presentation slides:** use of different communication & collaboration applications (e. g. Gmail, MS Teams, Google Meet) (secure video calling tools, checking security settings in communication tools such	7 hours

	conferencing, etc.	as camera permissions, microphones, checking for security updates, knowing the privacy policy of communication tools). ***(Translation)*** ● **MCQ** (10% weight amount) ***(Translation)*** ● **Further Reading:** Recommend websites ***(Localisation)***	
Telecare solutions	● Familiarize with the telecare solutions, including using digital communication tools for remote healthcare delivery.	● **Interactive Infographics including links, files, and images:** fundamentals of telecare, including digital communication tools (mobile applications, remote patient monitoring, health information exchange, virtual platforms) for remote healthcare delivery (focus on ensuring data privacy, identifying security vulnerabilities, using secure communication channels). ***(Translation)*** ● **MCQ** (10 % weight amount) ***(Translation)*** ● **Further Reading:** Recommend websites ***(Localisation)***	5 hours

Practice / Quiz (Formative Exercise) — Moodle or VR (40% weight amount) ***(Translation)***

2.3. Module 2 detailed overview

Cybersecurity in Health Care

Cybersecurity in Health Care

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Importance of cybersecurity in healthcare	• Be aware of the importance of ensuring cybersecurity in healthcare	• Mini Hook/Section Overview with video presentation: Cybersecurity awareness. ***(Translation)***	0.5 hour

Cybersecurity Definitions (Technology, Systems & Processes)

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Knowledge of basic concepts of cybersecurity	• Explore basic concepts of cybersecurity concepts	• H5P Interactive Handbook: introduction to the most common basic concepts of cybersecurity in relation to Technology Systems & Processes *(firewalls, antivirus, anti-malware software, IDS and IPS, network systems, operating systems, database systems, cloud systems, security protocols, risk assessment, incident response)* ***(Translation)*** • **Further reading:** recommended websites ***(Localisation)***	6 hours

Understanding Threats (Malware, Phishing, Social Engineering, Ransomware)

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Understanding Threats (Malware, Phishing, Social Engineering, Ransomware)	● Understand different cyber security threats	● Interactive Handbook (H5P): Most common cyber threats (e.g., viruses, malware, network attacks, phishing, spoofing, leaving workstations unsecured, connecting to public Wi-Fi, etc.). ***(Translation)*** ● **3 MCQ** (10% weight amount) ***(Translation)*** ● **Further reading:** recommended websites and articles ***(Localisation)***	8 hours

Practices for Improving Cybersecurity

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Preventive measures to protect against threats (cyber hygiene)	● Explore preventive measures against threats.	● Interactive Handbook including video links, embedded files, and images: Tips for cybersecurity in healthcare *(authentication process, password management, logging out of user accounts, safe emailing, security of wi-fi, encryption for uploading to cloud-based systems, etc.)* ***(Translation)*** ● **Further reading:**	8 hours

		ENISA Foresight Cybersecurity Threats for 2030 ENISA Best practices for cyber crisis management ENISA Cloud Security for Healthcare Services ENISA Cybersecurity Culture Guidelines: Behavioural Aspects of Cybersecurity ***(Localisation)*** ● **Discussion Forum:** Learners will share recommendations for cybersecurity practices suitable for implementation in their work environments in Padlet. ***(Translation & Localisation)***	
Acting in the event of a cyber-attack	● Respond to a threat or cyber-attack.	● **Infographic**: a step-by-step guide: recognise the signs of a cyberattack, respond, alert the IT or cybersecurity team ● **Podcast**: Interview/podcast with healthcare professionals who have been exposed to a cyber-attack in their clinical setting. ***(Translation & Localisation)*** ● **5 MCQ** (15% weight amount) ***(Translation)***	5 hours

Leveraging Digital Technology for Emergency Preparedness & Response

Type of Technologies for utilisation

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Digital technology used for emergency response	• Explore digital technology that can be used to respond to emergencies.	• PowerPoint Presentation: different existing digital technologies (mobile application, geographic information systems, internet of things, artificial intelligence, EHT, HIE, wearable health devices) for use in the context of emergency preparedness with practical usage examples. ***(Translation)*** • **Further reading:** recommended websites and articles ***(Localisation)***	5 hours

Applying Tech to Emergency Response & Preparedness – Opportunities & Advantages

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Emergencies and digital technology solutions	• Explore opportunities & advantages of applying technology to emergency response & preparedness	• **Interactive infographics**: demonstration of the benefits and opportunities of smart emergency response systems. ***(Translation)*** • **Practical Exercise:** Review current practices and propose potential digital technology	5 hours

		implementations in a clinical setting as an answer to an essay-type question in Moodle. ***(Translation)*** • **3 MCQ** (10% weight amount) ***(Translation)*** • **Further reading:** websites and recommended articles ***(Localisation)***	

Applying Tech to Emergency Response & Preparedness – Barriers, Challenges & Future Implications

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Barriers and challenges for smart emergency response systems	• Understand barriers and challenges of smart systems in emergency response.	• **PowerPoint Presentation**: challenges and barriers of smart emergency response systems. ***(Translation)*** • **Further reading:** websites and recommended articles ***(Localisation)***	4 hours
Future implications of the use of digital technology for emergency response	• Explore possible future implications of using digital technology to respond to emergencies.	• **Future reading:** Reading the literature to identify potential future challenges, such as attacks on the information system, ethical issues, etc. (e.g.: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10001761/) ***(Localisation)*** • **Practical Exercise:** Based on the required reading, prepare a list of potential challenges in clinical	6 hours

		setting using Padlet. ***(Translation & <u>Localisation)</u>***	

Megatrends (Macro & Micro) – Define relevant trends misinformation, climate change, mass migration, conflicts, pandemics, infodemics and foresight planning methods

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Identification of macro and micro megatrends	• Understand and identify key macro and micro megatrends affecting emergency preparedness.	• **Interactive infographics with Follow-Up Reading**: definition of the relevant trends' misinformation *(climate change, mass migration, conflicts, pandemics, infodemics), their impact and planning methods* ***(Translation & <u>Localisation)</u>***	4 hours

Foresight & Scenario Planning – Preparation for Potential Issues

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2,5 ECTS**
Preparation for potential issues	• Understand basic principles of foresight and scenario planning and their relevance to healthcare.	• **Infographic**: basics of foresight & scenario planning and key steps, leveraging technology in scenario planning ***<u>(Translation)</u>*** • **Further Reading**: Examples of Strategic Foresight and Scenario Planning (E.g. OECD Strategic foresight for the COVID-19 crisis and beyond: Using futures thinking to design better public policies) ***<u>(Localisation)</u>***	6 hours

		• **Sequence Drop Down Activity** (5% weight amount) ***(Translation)***	

Practice / Quiz (Formative Exercise) – VR scenario assessment (60% weight amount) ***(Translation)***

2.4. Module 3 detailed overview

Digital Health Technologies

Digital Health Technologies – Definition & Why it's important?

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Types of eHealth (digital and mobile communication devices)	• Define eHealth and identify the different types of eHealth (telemedicine, mHealth, HER, wearables, e-prescriptions, etc.).	• **Mini Hook/Section Overview:** Definition of eHealth, presentation of different type of eHealth (Flashcards) ***(Translation)***	0.5 hour

Digital Health Technologies (Devices & Apps) – Mobile Apps & Wearables Definition & Examples

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Definition of mobile health (mHealth) and wearable devices	• Define mHealth and identify wearable technology	• **PowerPoint Presentation slides:** Definition of mobile health and different type of wearable technology ***(Translation)*** • **Further reading:**	5 hours

		Rowland, Simon P., J. Edward Fitzgerald, Thomas Holme, John Powell, and Alison McGregor. "What is the clinical value of mHealth for patients?." NPJ digital medicine 3, no. 1 (2020): 4. Becker, Stefan, Talya Miron-Shatz, Nikolaus Schumacher, Johann Krocza, Clarissa Diamantidis, and Urs-Vito Albrecht. "mHealth 2.0: experiences, possibilities, and perspectives." JMIR mHealth and uHealth 2, no. 2 (2014): e3328. Other articles on examples of using mobile for patient care. ***(Localisation)*** ● **Moodle Quiz** to review key points. (10 % of weight amount) ***(Translation)***	

Health Information Systems – Definition & Examples

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Definition of health informatio n systems	● Learners will be able to identify a health information	● **Video AS:** Definition of health information systems, basic characteristics, benefits, and limitation ***(Translation)***	3 hours

	system and its basic features, strengths and limitations.	**Further reading**: Epizitone, A.; Moyane, S.P.; Agbehadji, I.E. A Systematic Literature Review of Health Information Systems for Healthcare. Healthcare 2023, 11, 959. ● https://doi.org/10.3390/healthcare11070959 ***(Localisation)*** ● **Moodle Activity:** list the benefits and disadvantages of health information systems ***(Translation)***	

Artificial Intelligence (AI) & Virtual Reality (VR) – Definition & Examples

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Using AI in healthcare (prediction, natural language)	● Understand how AI is used in different aspects of patient care. ● Understand the potential benefits and limitations of AI.	● Synchronous online lecture with video on demand: Different aspects of the use of artificial intelligence in healthcare (medical imaging and diagnostics, predictive analytics, personalized treatment, chatbots, decision support systems), and its benefits and limitations. ***(Translation)*** ● **Further reading:** ● Väänänen, Antti, Keijo Haataja, Katri Vehviläinen-Julkunen, and Pekka Toivanen.	6 hours

		"AI in healthcare: A narrative review." F1000Research 10 (2021): 6. ● Shaheen, Mohammed Yousef. "Applications of Artificial Intelligence (AI) in healthcare: A review." ScienceOpen Preprints (2021). ***(Localisation)*** ● **Padlet** for collaborative brainstorming on AI and VR - potential benefits and limitations ***(Translation)***	
Characteristics of VR	● Define VR and identify the different types of VR	● **Infographic:** Different types of VR (immersive, augmented, collaborative) and their characteristics. ***(Translation)*** ● **VR Demonstration:** Hands-on session with VR headsets to experience an immersive environment (Example of hospital tour) – optional ***(Translation)*** ● **Further reading:** recommended	3 hours

		websites ***(Localisation)***	
Using VR in healthcare	• Understand the potential benefits and limitations of virtual reality. • Understand how VR is used in different aspects of patient care.	• **PowerPoint Presentation:** Different aspects of the use of virtual reality in healthcare (medical training and education, patient education, therapy for patient), and its benefits and limitations. ***(Translation)*** • Further reading: selected articles ***(Localisation)***	5 hours

EHR – Definition & Examples

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Introduction to EHR	• Describe the basic components of an EHR and should know why they are important for a patient care.	• **Infographics:** Introduction to the different EHR applications, EHR components, the most important patient information included in the HER, benefits of using EHR for patient and healthcare workers. ***(Translation)*** • **Additional reading:**	4 hours

		• Seymour, Tom, Dean Frantsvog, and Tod Graeber. "Electronic health records (EHR)." American Journal of Health Sciences (AJHS) 3, no. 3 (2012): 201-210. • Mandl, Kenneth D., and Isaac S. Kohane. "Escaping the EHR trap—the future of health IT." N Engl J Med 366, no. 24 (2012): 2240-2242. ***(Localisation)*** • 3 MCQ (10 % of weight amount) ***(Translation)***	

Opportunities & Challenges of Digital Health Tech

Opportunities & Challenges of Digital Health Tech – Definition & Examples, Telematrics & Digital Innovation System / Digital device

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Opportunities and Challenges of Digital Health Technology	• Understand the concept of digital health technology and the impact on healthcare • Identifying the challenges and barriers associated with the	**PowerPoint Presentation slides:** Background information on digital health technology and its potential benefits. Examples of digital health	5 hours

	implementation of digital health technology	implementations. ***(Translation)*** • **Case Study Analysis**: Review real-world case studies of successful digital health implementations in healthcare with Q&A session. ***(Localisation)*** • **Padlet activity** to gather opinions on challenges. ***(Translation)***	

Design Thinking – Definition & Examples (Pros & Cons)

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Design Thinking in Digital Health	• Familiarize with the principles of design thinking	• **Infographics:** core principles of design thinking ***(Translation)*** • **Padlet** for collaborative brainstorming of ideas for digital health solutions that can be used to improve a specific aspect of the health system ***(Localisation)***	4 hours

Change Management – Definition & Examples (Pros & Cons)

Learning segment	Objective	Activity	Estimated time (hours) 2.5 ECTS
Change Management in Digital Health Technologies	• Understand the importance of change management in the context of the introduction of digital technologies in the health sector and identify challenges and barriers	• **PowerPoint Presentation slides:** Background information on change management • **Case Study Analysis**: Case study of a healthcare organisation that has successfully implemented digital technologies ***(Translation)*** • **SWOT analysis using Padlet**: evaluate the strengths, weaknesses, opportunities, and threats associated with the change ***(Translation)***	5 hours

Project Management (AGILE) – Definition & Examples, Importance of AGILE and Responsive Processes

Learning segment	Objective	Activity	Estimated time (hours) 2.5 ECTS
AGILE project management	• Knowledge of the concept of agile project management and its characteristics	• **Interactive PDFs:** Introduction to the concept of agile management, outlining the steps, advantages and disadvantages,	5 hours

		and challenges in implementation ***(Translation)*** ● **Further reading:** What is Agile methodology? (A beginner's guide) (Sarah Laoyan) ***(Localisation)*** ● **Fill in the Black activity** (10 % of weight amount) ***(Translation)***	

Surge Management

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Managing surges	● Understanding how digital technologies can be utilized to effectively manage surges in healthcare settings.	● **Infographics:** utilization of digital technologies for efficient surge management in healthcare settings ***(Translation)*** ● **Podcast:** field expert discussing recent advancements in digital technologies in healthcare and their practical impacts on managing surges ***(Localisation)*** **Additional Reading:** selected websites, and articles on managing	4 hours

		surges e.g. COVID-19 pandemcis ***Localisation)***	

Regulatory, Ethical & Security Considerations in the use of Digital Technologies

Regulatory, Ethical & Security Considerations in the use of Digital Technologies – Definition & Why it's important?

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Regulatory and security in the use of digital technologies	● Understand the key regulatory frameworks governing the use of digital technologies in healthcare, such as HIPAA in the US, GDPR in Europe.	● **PowerPoint Presentation slides:** What are the GDPR Requirements for Healthcare Providers (***Translation)*** ● **Further reading articles:** ● Mocydlarz-Adamcewicz M, Bajsztok B, Filip S, Petera J, Mestan M, Malicki J. Management of Onsite and Remote Communication in Oncology Hospitals: Data Protection in an Era of Rapid Technological Advances. J Pers Med. 2023 Apr 28;13(5):761. ● Zuo Z, Watson M, Budgen D, Hall R, Kennelly C, Al	4 hours

		Moubayed N. Data Anonymization for Pervasive Health Care: Systematic Literature Mapping Study. JMIR Med Inform. 2021 Oct 15;9(10):e29871. ***(Localisation)*** • **True or False Activity** (10 % of weight amount) ***(Translation)***	

Ethics & Data Security – Definition & Why it's important/policy & examples

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Ethics & Data Security	• Explore ethical considerations and challenges involved in managing digital health data, focusing on patient privacy, consent, data security, and the responsible use of data	• **PowerPoint Presentation:** ethical considerations and challenges involved in managing digital health data, focusing on patient privacy, consent, data security, and the responsible use of data) ***(Translation)*** • **Practice activity**: short case scenarios on ethical/unethical practices followed by evaluation using statements for good practice/bad practice (drag and drop	3 hours

		statements) ***(Translation)***	

Data Sharing & Governance – Definition, Acts and Policies

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Data Sharing & Governance – Definition, Acts and Policies	• Explore definitions, relevant acts, and policies related to data sharing and governance.	• **PowerPoint Presentation slides:** definitions and relevant acts and policies ***(Translation)*** **Further reading:** Policy Documents ***(Localisation)*** • **Moodle Quiz** (10 % of weight amount) ***(Translation)***	4 hours

Practice / Quiz (Formative Exercise) – Moodle or VR (50 % of weight amount)

4.5 Module 4 detailed overview

Personal Wellbeing in the Workplace

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Definition & Why its important?	• Understand the importance of personal well-being to enhance professional life and work satisfaction.	• **Mini Hook:** section overview in PowerPoint presentation ***(Translation)***	0.5 hour

Personal Wellbeing

Learning segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Developing well-being & planning improvement strategies	• Understand the importance of personal well-being to enhance professional life and work satisfaction.	• **PowerPoint Presentation:** Introduction to personal wellbeing with tips for self-care*)* ***(Translation)*** • **Interactive Well-being Activity:** using MS Word for participants to visually map out their well-being strategies and explore different areas of life balance (e.g., physical health, mental health, social connections, professional development) - populating the board with their strategies ***(Translation)*** • **Practical Exercise:** Draft a personal well-being plan using a predetermined template with self-care practices ***(Translation)***	5 hours

Mental Health & Wellbeing

Learning Segment	Objective	Activity	Estimated time (hours) 2.5 ECTS
Definition of stress and coping mechanisms	• Understand stress effects and learn coping mechanisms.	• Interactive Handbook (H5P): stressors in healthcare settings and tips for coping with stress (e.g. mindfulness, effective communication, time management, and delegation skills) with external links ***(Translation)*** • **Stress Factor Assessment questionnaire:** Participants assess their critical stress factors in work life, as well as resources to cope with them ***(Translation)***	6 hours

Stress Management

Learning Segment	Objective	Activity	Estimated time (hours) 2.5 ECTS
Strategies for Maintaining Good	• Explore strategies for maintaining	• **H5P Interactive Handbook:** Background information on strategies for maintaining good mental health	6.5 hours

Mental Health & Well-being	mental health and wellbeing and stress manageme nt.	• **Infographic:** recognizing symptoms of technology-induced stress and effective coping strategies during translation process add local links ***(Translation)*** • **VR Stress Relief:** Stress management technique example - optional (list of YT videos for VR, e.g. https://www.meta.com/blog/quest/vr-meditation-apps-health-wellness/, Virtual Nature 360° - Nature Meditation for VR Quest (youtube.com), VR Meditation | 777 Healing Frequencies | 360 degree video (youtube.com), https://www.youtube.com/watch?v=8Du1hrPrV38) ***(Localisation)*** • **Practical Exercise**: apply a stress management technique and conduct a reflection activity using Padlet ***(Localisation)*** • **Optional Videos**: Links to stress management videos on YouTube ***(Localisation)***	

Occupational Stress

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Definition, Absenteeism, Burnout & Coping Strategies	• Explore causes of occupational stress in healthcare, outcomes, and coping strategies.	• **PowerPoint Presentation:** causes of occupational stress leading to absenteeism and burnout, highlighting key statistics and	6.5 hours

		impact on healthcare professionals ***(Translation)*** ● **Podcast:** a psychologist specializing in occupational health to discuss advanced coping strategies and how to effectively teach stress management techniques, including use of multimedia tools and real-life case example ***(Localisation)***	

Digital Wellbeing (Stress & Anxiety)

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Definition and Coping Strategies Online vs Hybrid Working	● Address digital technology challenges, enhance coping strategies, and manage stress in online and hybrid environments.	● **PowerPoint Presentation:** Digital well-being tips ***(Translation)*** ● **Individual Practical Exercise:** Draft a plan to improve digital habits using a predetermined template followed by reflective practice with emphasis on	7 hours

		challenges and barriers ***(Translation)*** ● **Padlet Session:** Post the most useful and relevant collective strategies on a Padlet board, allowing participants to visually map out and access shared resources and ideas ***(Localisation)***	

Organisational Resilience in the Workplace

Attributes & Principles of Organisational Resilience

Learning segment	Objective	Activity	**Estimated time (hours)** **2.5 ECTS**
Definition, Principles and Attributes	● Understand resilience principles specifically within the workplace context and identify attributes of a resilient workforce.	● **PowerPoint Presentation:** key attributes and principles of organisational resilience principles, highlighting leaders' roles in fostering resilience ***(Translation)*** ● **Action Plan Development:** learners develop their own action plans to teach resilience, using a guided template to outline objectives, activities, and	4 hours

		assessment methods ***(Localisation)***	

Organisational Resilience

Learning Segment	**Objective**	**Activity**	**Estimated time (hours)** **2.5 ECTS**
Definition and applying resilience to your own organizational context	• Equip staff with tools and knowledge to apply resilience strategies (emotional, operational, financial, environmental) effectively within their specific organizational contexts.	• **Interactive Searchable Glossary:** aspects of resilience in organizations. ***(Translation)*** • **Interactive PowerPoint Presentation with further readings**: emotional, operational, financial, and environmental resilience ***(Translation)*** • **Interactive PDF:** Techniques for Effective Training on Resilience ***(Localisation)***	6 hours

Resilience Strategy and Culture

Learning Segment	Objective	Activity	Estimated time (hours) 2.5 ECTS
Creating Human-Centred Process Resilience Strategy to Adopt and Organisational culture	• Understand how strategy and culture contribute to organizational resilience.	• **PowerPoint Presentation:** explaining resource development and resilience among employees, teams and management and leaders' task ***(Translation)*** • **Interactive online workshop:** Techniques for Effective Training on Resilience, followed by **Feedback Form in Google Forms** ***(Translation)*** • **Resilience plan:** Based on the Stress Factor Assessment questionnaire feedback, develop a resilience plan for implementing targeted strategies for improvement using predetermined template (30 % of weight amount) ***(Translation)***	7 hours

Surge Management

Learning Segment	Objective	Activity	Estimated time (hours) 2.5 ECTS
Surge management & Coping with occupational stress during surges	• Equip staff with strategies to manage sudden increases in workload, such as during a public health crisis.	• **Interactive PDF:** workplace stress management during the surges and employee stress management solutions, insights gained from managing stress during pandemic ***(Translation)*** • **Discussion Forum in Padlet:** Share examples of coping with stress from healthcare settings during COVID-19 ***(Localisation)*** • **Further reading:** Pollock A, Campbell P, Cheyne J, Cowie J, Davis B, McCallum J, McGill K, Elders A, Hagen S, McClurg D, Torrens C, Maxwell M. Interventions to support the resilience and mental health of frontline health and social care professionals during and after a disease outbreak, epidemic or pandemic: a mixed methods systematic review. Cochrane Database Syst Rev. 2020 Nov 5;11(11):CD013779. Doi: 10.1002/14651858.CD013779. PMID: 33150970; PMCID: PMC8226433. ***(Localisation)*** • **Reflection:** Reflect on Stress Factor Assessment results and improvement plan using the guided template ***(Translation)*** (30 % of weight amount)	6 hours

Business Process & Organizational Resilience

Learning Segment	Objective	Activity	Estimated time (hours) 2.5 ECTS
Business Process & Organizational Resilience	• Explore how business process re-engineering can enhance organizational resilience.	• **Guidance Provided:** Offer templates or software tools for mapping business, and guidelines on identifying critical points in these processes. ***(Translation)*** • **Assigned readings:** on business process re-engineering ***(Localisation)***	7 hours

Practice / Quiz (Formative Exercise) – Moodle or VR (40 % of weight amount)

3. Assessment tool for learning content

To ensure quality and evidence-based learning content, modules are going to assessed using the Learning Objective Review Instrument (LORI) assessment tool during piloting (instructions for WP 7). Tool is implemented in Moodle platform.

Table 5: Learning Objective Review Instrument (LORI)

General Remarks						
	Low				**High**	
1. Content Quality: Accuracy, balanced presentation of ideas, appropriate level of detail, and reusability in varied contexts	1	2	3	4	5	NA
2. Learning Goal Alignment: Alignment among learning goals, activities, assessments, and learner characteristics	1	2	3	4	5	NA
3. Feedback and Adaptation: Adaptive content or feedback driven by differential learner input or learner modelling	1	2	3	4	5	NA
4. Motivation: Ability to motivate and interest an identified population of learners	1	2	3	4	5	NA
5. Presentation Design: Design of visual and auditory information for enhanced learning and efficient mental processing	1	2	3	4	5	NA
6. Interaction Usability: Ease of navigation, predictability of the user interface, and quality of the interface help features	1	2	3	4	5	NA
7. Accessibility: Design of controls and presentation formats to accommodate disabled and mobile learners	1	2	3	4	5	NA
8. Standards Compliance: Adherence to international standards and operability on commonly used technical platforms	1	2	3	4	5	NA

4. References

1. ABC Learning Design [Internet]. Available at: https://abc-ld.org/

2. Health Service Executive and Digital Health and Social Care Northern Ireland. All-Ireland Digital Capability Framework for Health and Social Care [Internet]. 2022. Available at: https://www.health-ni.gov.uk/sites/default/files/publications/health/doh-all-ireland-digital-capability-framework.pdf

3. Universal Design for Learning [Internet]. Available at: https://www.ahead.ie/udl

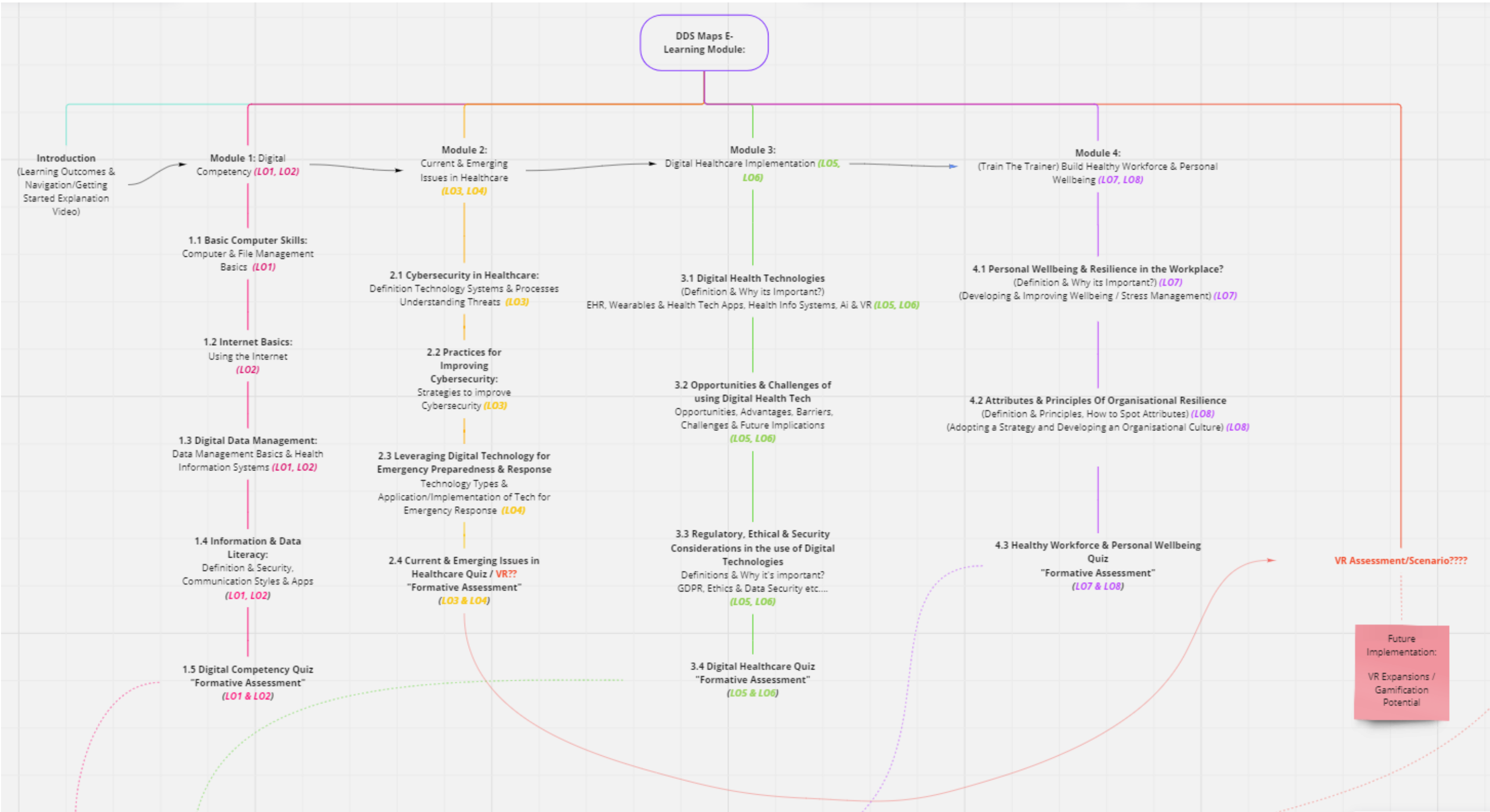
4. Vuorikari R, Kluzer S, Punie Y. DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes. Luxembourg: Publications Office of the European Union; 2022.

5. Appendix

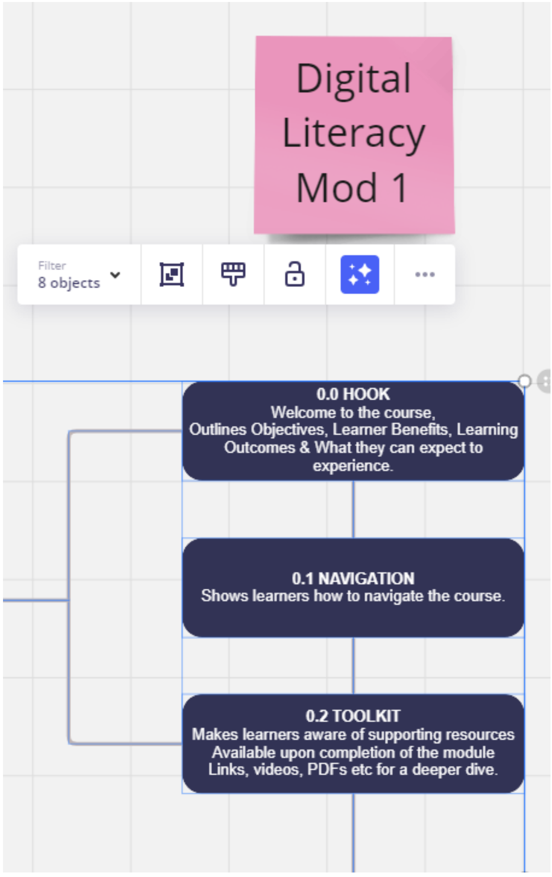
5.1. Wireframe of Modules (Proposed Layout)

Below is a wireframe of modules. It can also be viewed at the following link: https://rb.gy/mrra52.

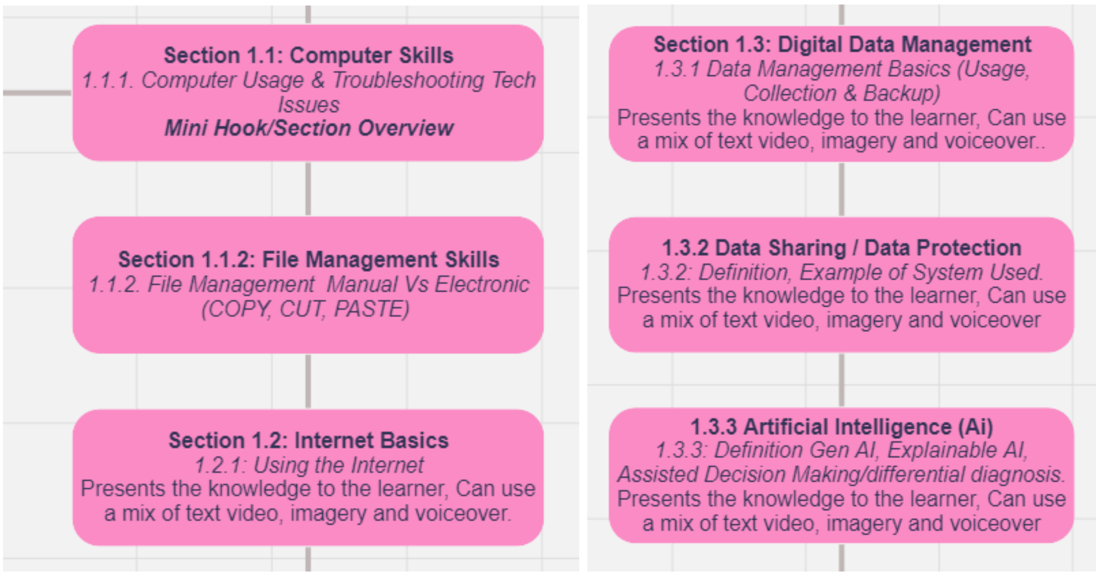
Content map

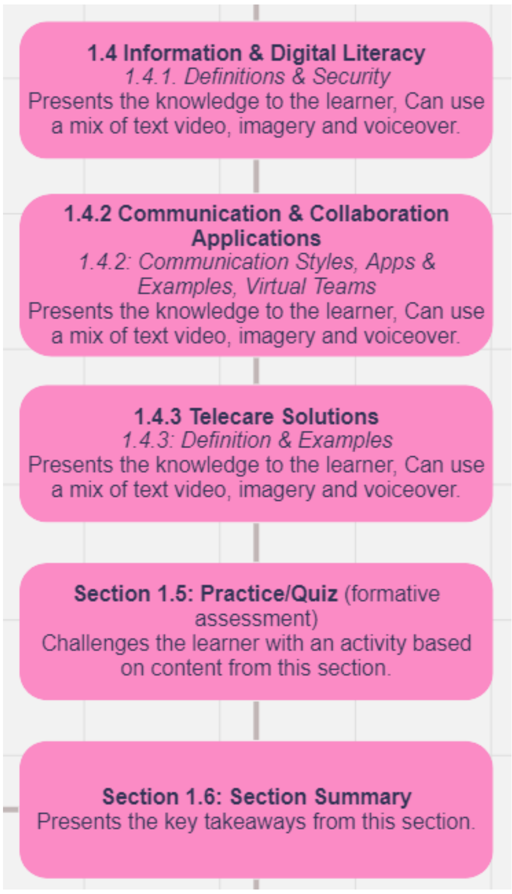


Module: 1 Digital Literacy – Introduction/Start of Module

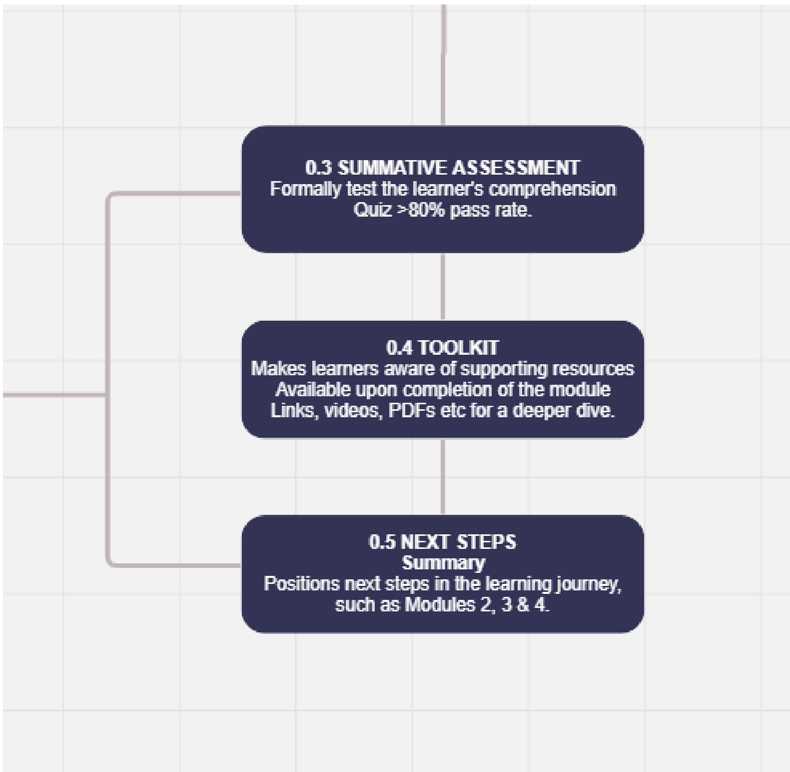


Module: 1 Digital Literacy – Current Sections & Sub-Sections

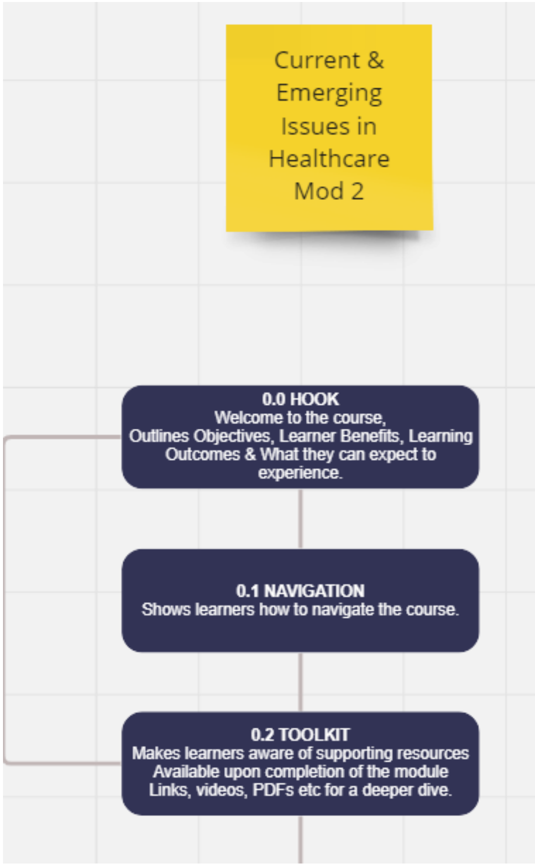




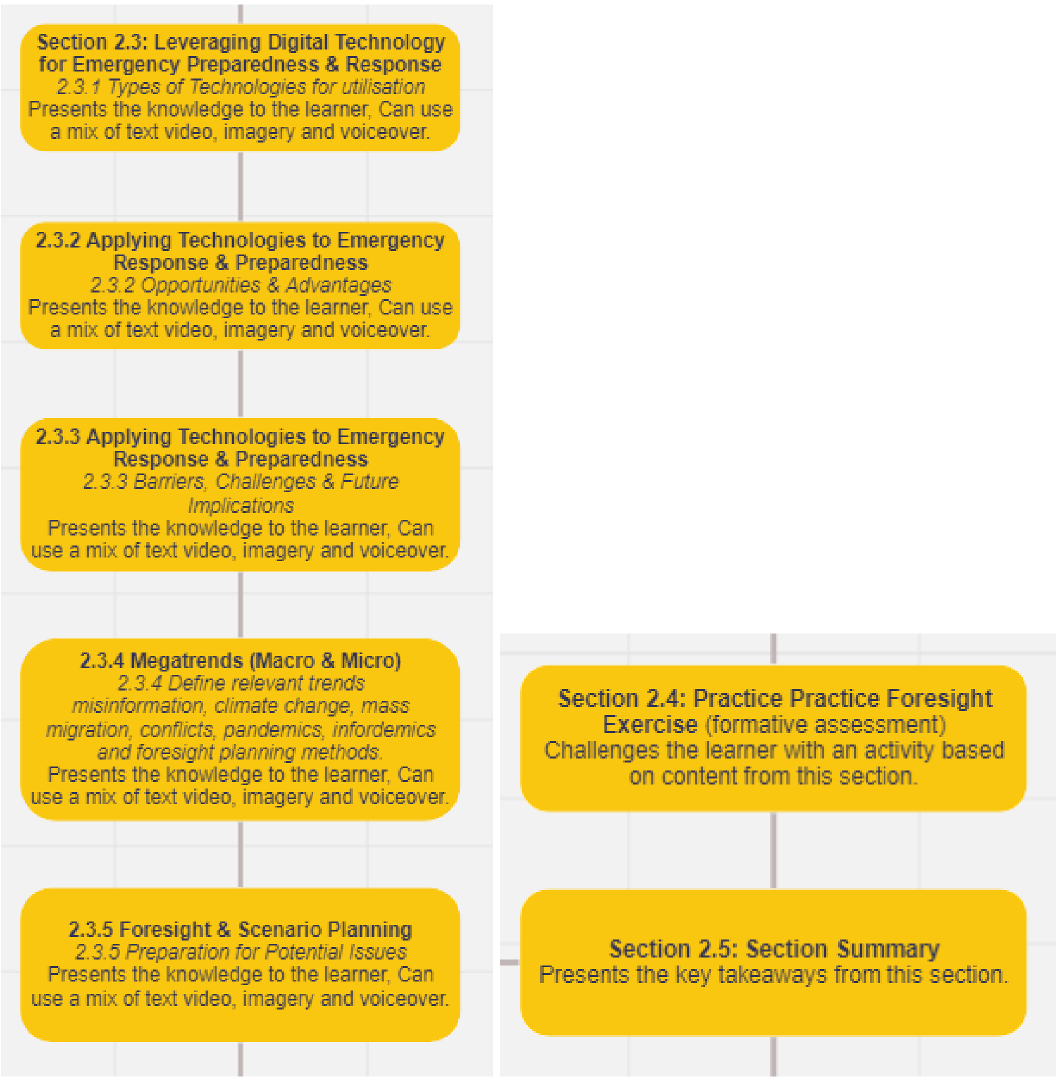
Module: 1 Digital Literacy – Summative Assessment & End of Module



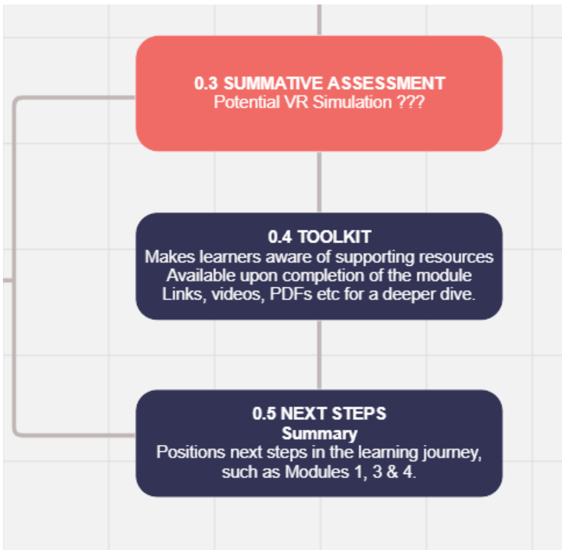
Module: 2 Current & Emerging Issues in Healthcare - Introduction/Start of Module



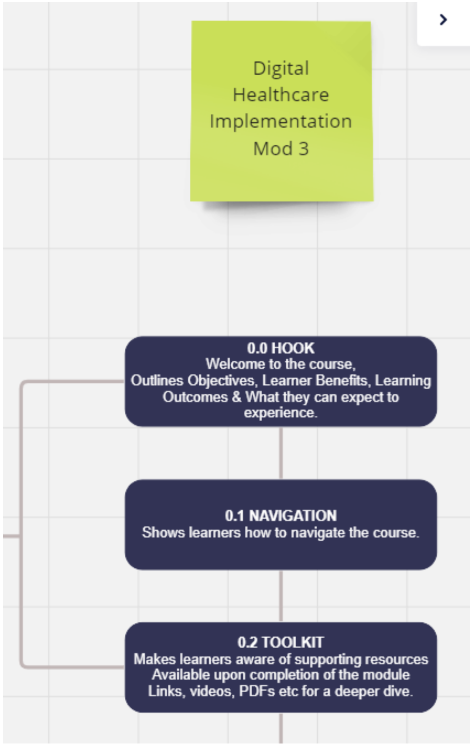
Module: 2 Current & Emerging Issues in Healthcare - Current Sections & Sub Sections



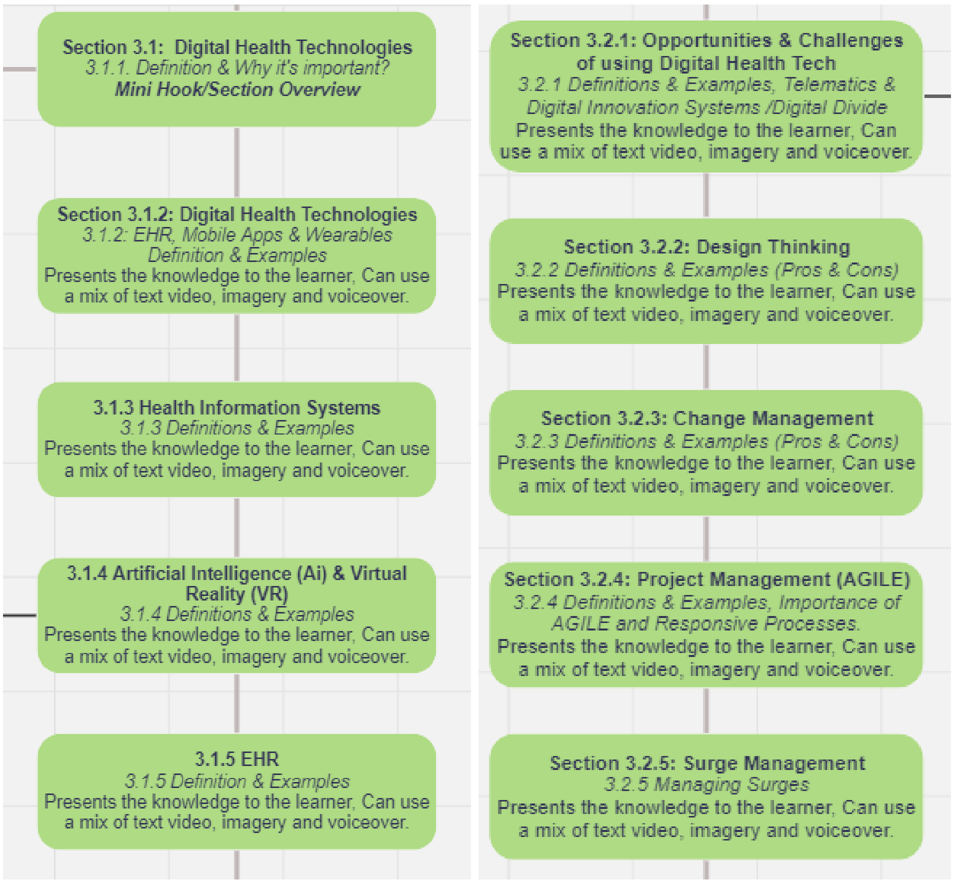
Module: 2 Current & Emerging Issues in Healthcare - Summative Assessment & End of Module

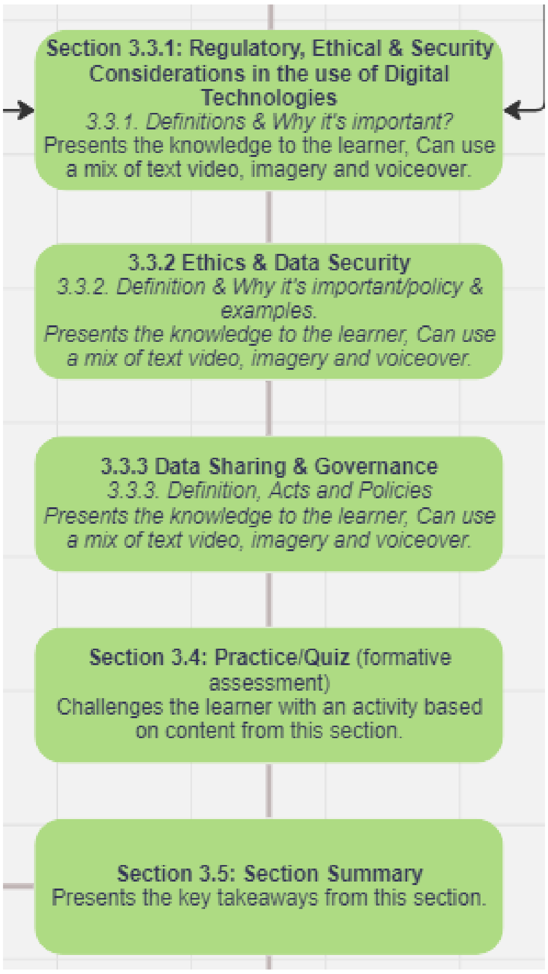


Module: 3 Digital Healthcare Implementation - Introduction/Start of Module

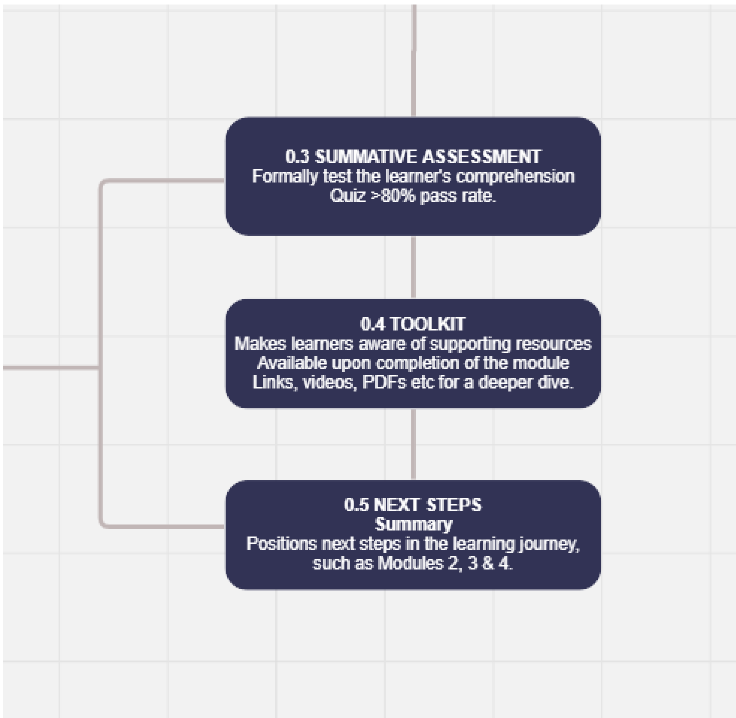


Module: 3 Digital Healthcare Implementation - Current Sections & Sub-Sections

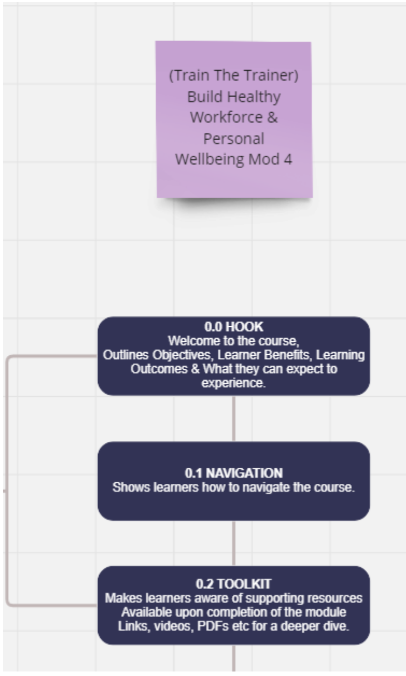




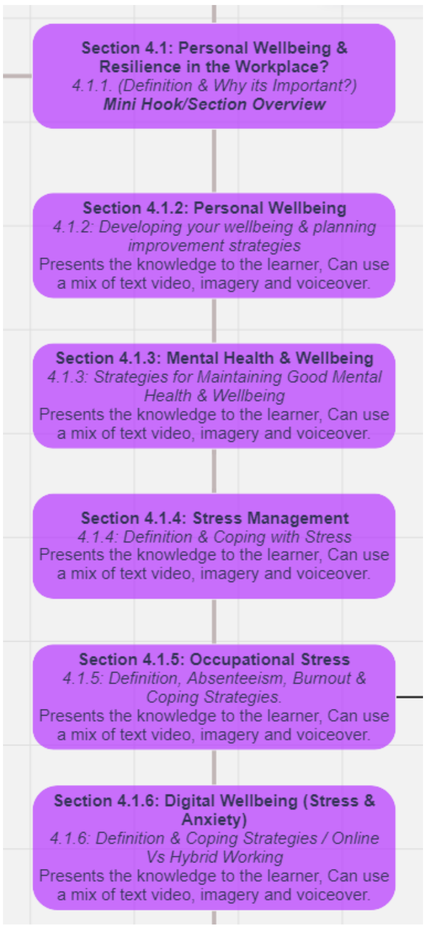
Module: 3 Digital Healthcare Implementation - Summative Assessment & End of Module

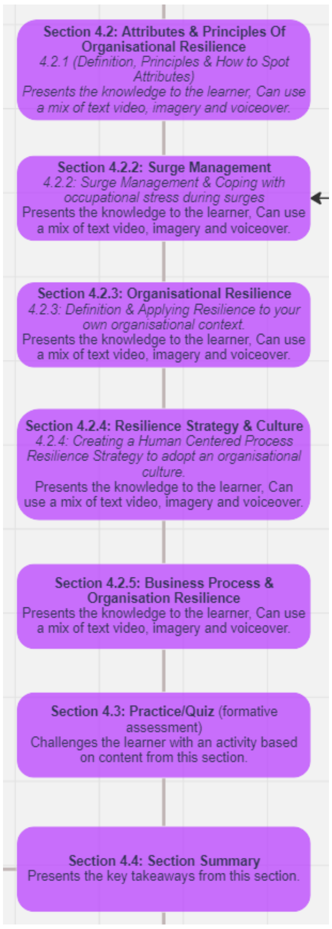


Module: 4 Train the Trainer: Building a Healthy Workforce & Personal Wellbeing - Introduction/Start of Module

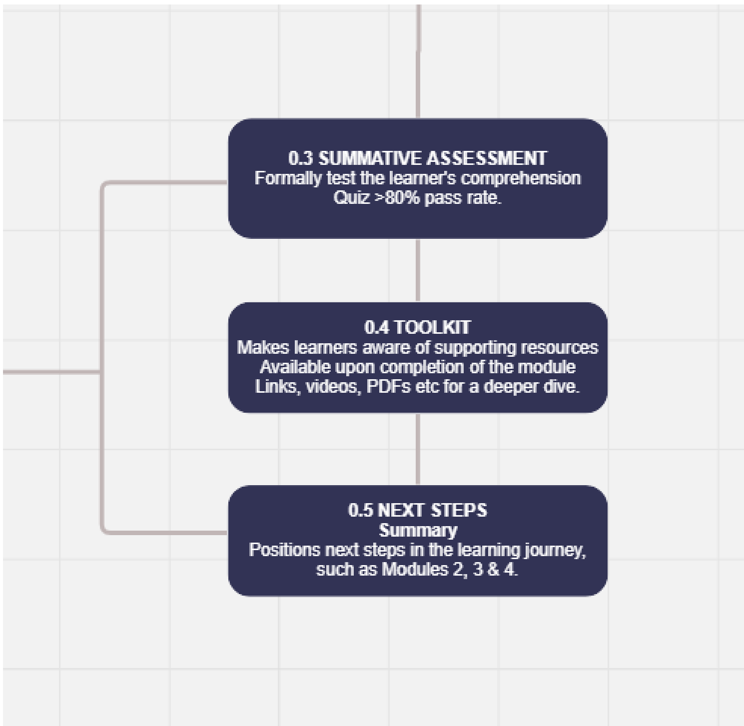


Module: 4 Train the Trainer: Building a Healthy Workforce & Personal Wellbeing - Current Sections & Sub-Sections

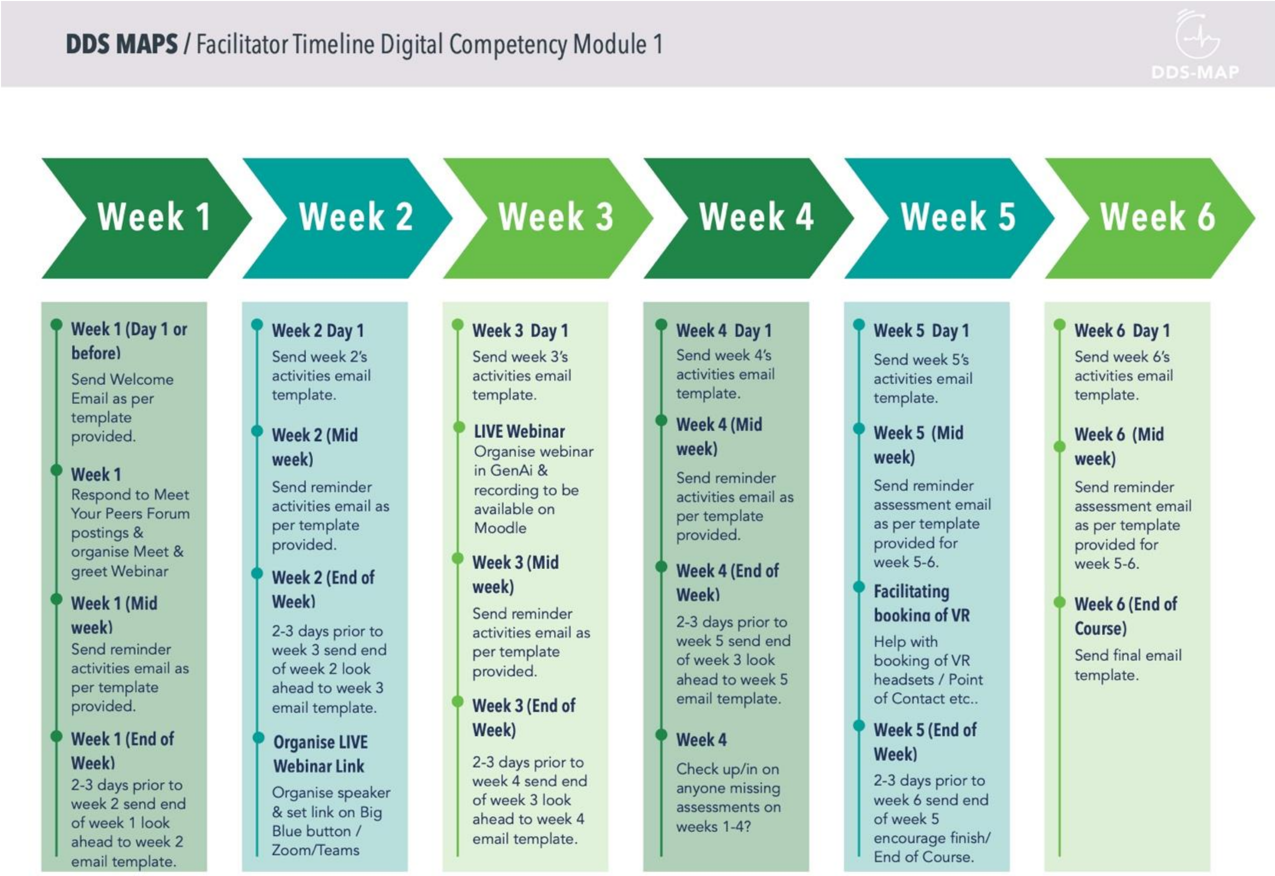




Module: 4 Train the Trainer: Building a Healthy Workforce & Personal Wellbeing - Summative Assessment & End of Module



5.2. Timeline Digital Competency Module for Facilitators



5.2.1. Example of Email Template for Facilitators

Subject: Welcome to the DDS-Maps Digital Competency in Healthcare Mircocredential Module

Dear Students,

I hope this email finds you well. Thank you for registering & welcome to our 6-week course on Digital Competency in Healthcare! My name is [Nominated Facilitator Name], and I will be your facilitator throughout your educational journey. I am thrilled to have you all join us and look forward to an engaging and enriching experience together.

Over the next six weeks, we will delve into topics such as Computer & Internet Skills, File Management, Digital Communication (inc. sharing & collaboration), Digital Data Management and areas such as GenAi, Data Security & Data Protection within a healthcare context. This course is designed to provide you with comprehensive knowledge and practical skills that you use within a healthcare or hospital environment. Whether you are here to enhance your professional abilities, or are undertaking a new topic, I am confident that you will find this course valuable and rewarding.

Here is a brief overview of what to expect:

Course Schedule:

- Start Date: [Start Date]
- End Date: [End Date]
- Weekly Schedule:
  - Week 1: Welcome to Digital Competency, Computer and Internet Skills & File Management (including backing up procedures).
  - Week 2: File Management (Sharing & Collaboration), Internet Basics (Safety Tips) & Digital Data Management (Regulations & Standards)
  - Week 3: Digital Data Management (Data sharing & Protection & GenAi)
  - Week 4: Data Communication & Literacy (Communication & Collaboration Apps & Telecare Solutions)
  - Week 5-6: Final Quiz assessment covering entire module which can be done online or through Virtual Reality (VR) which you can book to take this through the VR experience.
- Location: This module is undertaken as independent study with a majority of a-sync activities, with some live synchronous facilitated sessions which will be recorded if you cannot attend. You are encouraged to attend these facilitated sessions as they will help you to understand the material and get you communicating with other learners undertaking this course. You can complete these activities in and around your schedules each week but try to keep to the schedule each week so as not to fall behind.

Course Materials: All necessary materials and resources will be provided via our online DDS-Maps online Moodle platform. You will receive an invitation to join this platform shortly, where you can access course materials, participate in discussions, and complete the quizzes or assignments. We have also provided you with a Toolkit of additional resources for a deeper dive and additional readings to aid understanding, which you can utilise at your leisure.

Communication: I encourage you to actively participate in all course activities and discussions. Your engagement is key to making this course a success. If you have any questions or need assistance, please feel free to reach out to me via email at [Nominated Facilitator Email] or through the course platform.

Preparation: To get started, please complete the following before our first session:

1. Make sure you can login and access the course.
2. Review the course syllabus and schedule we provided of what to complete each week.
3. Complete the pre-course questionnaire (link provided in the course platform).
4. Introduce yourself in the "Meet Your Peers" forum.

Key Dates:

- First Online Session: [Date and Time]
- GenAi Facilitated Session: [Date and Time]
- Final Quiz Deadline for completion: [Date]

I am excited to embark on this learning journey with you and am here to support you every step of the way. Let's make these six weeks productive, enjoyable, and enriching.

Looking forward to meeting you all shortly!

Best regards,

[Nominated Facilitator Name]

[Nominated Facilitator Contact Information]

[Institution/Organisation Name]

P.S. Don’t forget to mark your calendars for our first online session on [Start Date]!

5.3. Guidelines for the development of educational content

Below are the suggested guidelines for the development of the different educational contents for the project. The purpose of these documents is to provide consistent descriptions and learning materials for the project.

5.3.1. Guidelines for preparing content for audio podcast

[Title] Intra music:
Introduction: [Brief overview of the topic or theme¸ aim of podcast]
Step 1: [Script for Step 1] Step 2, etc.: [Script for Step 2, etc]
[Dialogue and Interview Questions] [Question 1] [Question 2] [Question x]
Sound Cue Instructions: [Background music] [Sound effect]
Conclusion: [Closing]

5.3.2. Guidelines for preparing for video content

Title:

Content description:

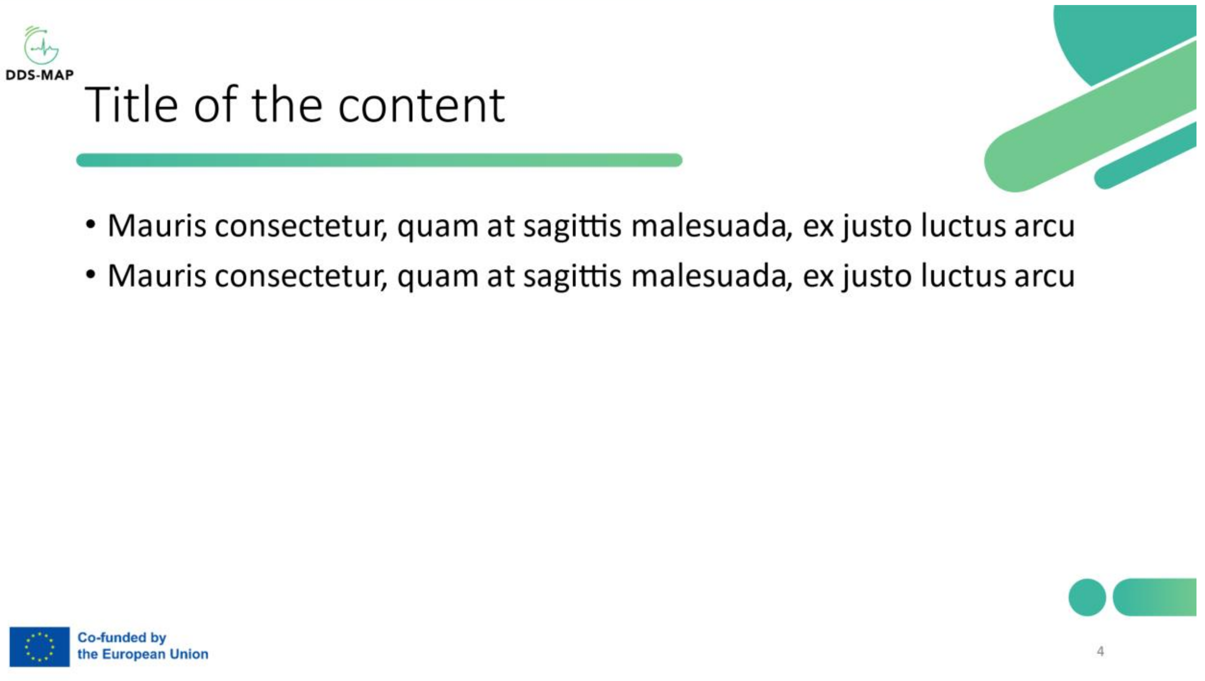
Scene description/subject description:

Segment	Video (actions and interactions)	Audio (voice over, music)	Prop(s)	Type of camera/Camera movements	Time	Notes and any other instructions
Intro						
Step 1						
Step 2, etc.						
Conclusion						

5.3.3. Guidelines for preparing for PowerPoint presentation

Learning content, which will be prepared in the form of a traditional PowerPoint presentation, should include the following key points:

1. *Title page, with relevant project logos included*
2. *Learning content*
3. *Take-home message*
4. *Reading list*
5. *Final page with logos of all involved institutions*


DDS-MAP
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the European Union
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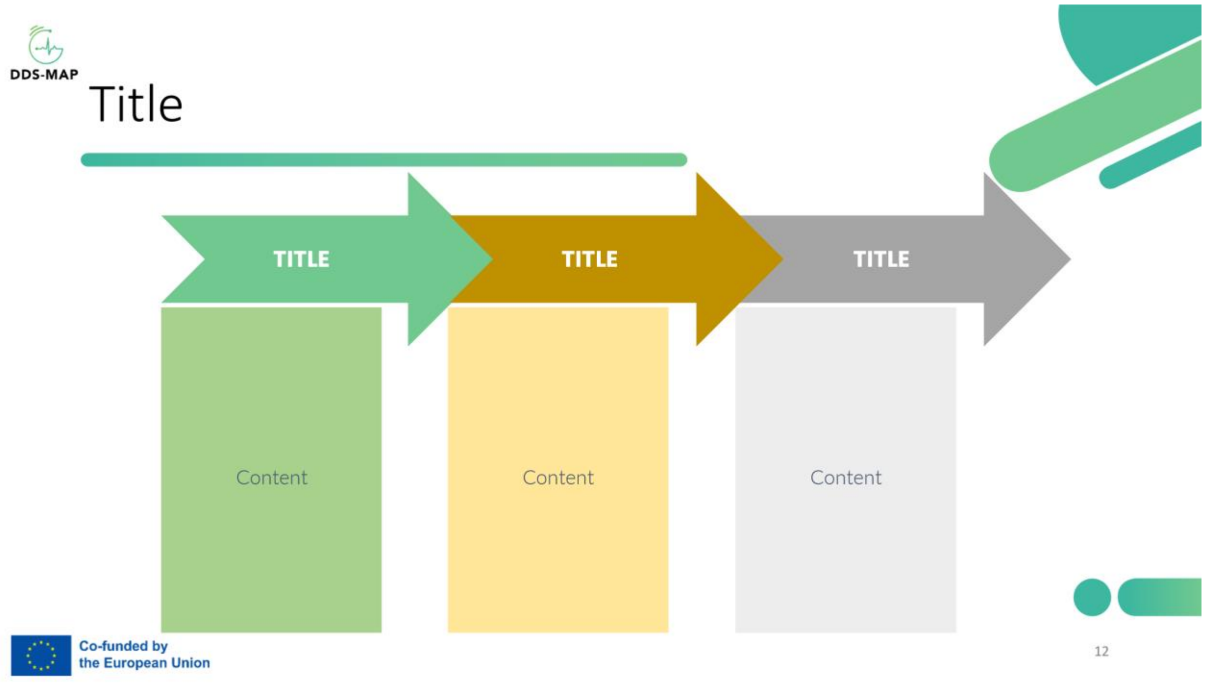
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DDS-MAP

READING LIST

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- Mauris consectetur, quam at sagittis malesuada, ex justo luctus arcu

Co-funded by the European Union

17

DDS-MAP

THANK YOU!

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Rīga Stradiņš University UCD Dublin Medical University of Lublin Ostfalia University of Applied Sciences SETU IBK

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18

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