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Certification of linguistic, entrepreneurial and digital skills in the Algerian higher education system (LEADS)

ERASMUS-EDU-2023-CBHE

Project number 101126783

DIGITAL TRAINING FRAMEWORK

Version 1.0

31/07/2025



Document control information

Setting	Value
Document title	DIGITAL TRAINING FRAMEWORK
Project Title	Certification of linguistic, entrepreneurial and digital skills in the Algerian higher education system
Document author	Berrehouma Nabil
WP1 Leader	
Project coordinator	Abdelhalim Benachenhou
Document Version	Version 1.0
Sensitivity	Public
Date	20/06/2025

Document Approver(s) and Reviewer(s):

NOTE: All Approvers are required. Records of each approver must be maintained. All Reviewers in the list are considered required unless explicitly listed as Optional.

Name	Role	Action	Date
Marwa AFAIFIA	Reviewing	Reviewing	15/05/2025



TABLE OF CO

<u>Certification of linguistic, entrepreneurial and digital skills in the Algerian higher education system (LEADS)</u>	1
<u>DIGITAL TRAINING FRAMEWORK</u>	1
<u>Version 1.0</u>	1
<u>Training Road-Map</u>	5
<u>Training Content Description 1 Browsing, Searching And Filtering Data, Information And Digital Content</u>	6
<u>Training Content Description 2 Evaluating data, information and digital content</u>	9
<u>Training Content Description 3 Managing data, information and digital content</u>	12
<u>Training Content Description 4 Interacting, Sharing and Collaborating through digital technologies</u>	15
<u>Training Content Description 5 Netiquette</u>	18
<u>Training Content Description 6 Managing digital identity</u>	20
<u>Training Content Description 7 Developing, Integrating and re-elaborating digital content</u>	23
<u>Training Content Description 8 Copyright and Licences</u>	26
<u>Training Content Description 9 Programming</u>	29
<u>Training Content Description 10 Protecting devices</u>	32
<u>Training Content Description 11 Protecting personal data and privacy</u>	35
<u>Training Content Description 12 Protecting environment , health and well-being</u>	37
<u>Training Content Description 13 Solving technical problems</u>	40
<u>Training Content Description 14 Identifying needs and technological responses</u>	43
<u>Training Content Description 15 Creative Use of Technological and Digital Solutions</u>	46



TRAINING ROAD-MAP

Add an Introductory text

		Digital Competency				
		Information and Data Literacy	Communication and Collaboration	Digital Content Creation	Safety	Problem Solving
Proficiency Level	Foundation	Browsing, searching and filtering data, information and digital content	Interacting and Sharing and Collaborating through digital technologies	Developing, Integrating and re-elaborating digital content	Protecting devices	Solving technical problems
	Intermediate	Evaluating data, information and digital content	Netiquette	Copyright and Licences	Protecting personal data and privacy	Identifying needs and technological responses
	Advanced	Managing data, information and digital content	Managing digital identity	Programming	Protecting environment, health and well-being	Creative Use of Technological and Digital Solutions

TRAINING CONTENT DESCRIPTION 1 BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT



Add a paragraph explaining the tables

Proficiency: Foundation		Skill: Information and Data Literacy	
Competency: Browse, Search And Filter Data, Information And Digital Content			
Goals: at the end of this training the student could:			
1.	Identify and explain information needs, find data, information and content through a simple search in digital environments.		
2.	Find how to access these data, information and content and navigate between them.		
3.	Apply searches to obtain data, information and content in digital environments.		
4.	Identify, explain and Organize simple personal search strategies.		

Course Structure			
	Content		Activities
Digital Literacy and Effective Information Retrieval	1.	Definition and importance of digital literacy.	1. Watch a video on digital literacy.
	2.	Overview of digital environments (search engines, databases, online libraries, etc.).	2. Participate in a discussion forum on the importance of digital skills in the modern world.
	3.	Basic tools for digital search (browsers, search engines).	3. Complete a quiz on basic digital tools and environments.
Information Needs and Search Basics	1.	Types of information needs (academic, personal, professional).	1. Case studies on different information needs.
	2.	Understanding search queries: keywords, phrases, and questions.	2. Practical exercises on formulating search queries.
	3.	Introduction to Boolean operators (AND, OR, NOT).	3. Quiz on Boolean operators and their applications.
Finding and Accessing Data and Information	1.	Using search engines effectively (Google, Bing, etc.).	1. Search engine scavenger hunt: Find specific pieces of information using different search engines.



	2. Accessing academic databases (Google Scholar, JSTOR, etc.). 3. Exploring online libraries and repositories (Project Gutenberg, Open Library).	2. Access and retrieve articles from academic databases. 3. Explore and navigate an online library. 4. Organizing and Managing Information.
Organizing and Managing Information	1. Tools for organizing information (bookmarks, reference managers like Zotero, Mendeley). 2. Creating and maintaining a digital library. 3. Developing personal search strategies and workflows.	1. Set up and organize a reference management tool. 2. Create a digital library for a given topic. 3. Develop and present a personal search strategy.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
1. "Research Strategies: Finding Your Way Through the Information Fog" by William Badke 2. "The Information: A History, a Theory, a Flood" by James Gleick	1. Tutorials from Google Search Education. 2. Workshops and webinars from academic libraries.	1. Reference managers: Zotero, Mendeley 2. Digital libraries: Project Gutenberg, Open Library 3. Academic databases: JSTOR, PubMed, Scopus

Evaluation Methods	
1. Quizzes and tests 2. Practical assignments and exercises.	3. Participation in discussion forums and group activities. 4. Final exam and capstone project evaluation.



TRAINING CONTENT DESCRIPTION 2 EVALUATING DATA, INFORMATION AND DIGITAL CONTENT

Proficiency: Intermediate	Skill: Information and Data Literacy
Competency: Evaluate data, information and digital content	
Goals: at the end of this training the student could:	
1. Detect the credibility and reliability of common sources of information 2. Perform the analysis, comparison and evaluation of the credibility and reliability of well-defined sources of data, information and digital content 3. Carry out an evaluation of the credibility and reliability of different sources of data, information and digital content. 4. Critically assess data, information and digital content.	

Course Structure		
	Content	Activities
Introduction to Information Credibility and Reliability	Definition and importance of credibility and reliability. Types of digital sources (websites, social media, academic journals). Common issues with digital information (bias, misinformation, disinformation).	Watch an introductory video on information credibility. Participate in a discussion forum about why evaluating sources is important. Complete a quiz on basic concepts of credibility and reliability.
Detecting Credibility and Reliability of Common Sources	Key indicators of credibility (author credentials, publication source, date of publication). Evaluating websites: domain analysis (.edu, .gov, .org, .com). Identifying red flags (lack of authorship, sensationalism, lack of citations).	Analyze various websites using a credibility checklist. Group activity: Evaluate different social media posts for credibility. Create a personal checklist for evaluating common sources.
Analysing and Comparing Well-Defined Sources	Analyzing academic journals and articles (peer review process, impact factor).	Compare two academic articles on the same topic for credibility.



	Comparing news sources (mainstream media vs. independent media).	Analyze news articles from different media outlets and compare reliability.
	Evaluating professional and governmental sources (reports, white papers).	Evaluate a government report for accuracy and trustworthiness.
Evaluating Credibility and Reliability of Various Sources	Evaluating digital content from blogs, forums, and user-generated content platforms.	Evaluate a blog post and forum discussion for reliability.
	Using fact-checking tools and resources (Snopes, FactCheck.org).	Use fact-checking tools to verify information from a viral post.
	Cross-referencing information from multiple sources.	Cross-reference a news story from multiple sources and report findings.
Critical Assessment of Data, Information, and Digital Content	Critical thinking and its role in evaluating information.	Conduct a critical assessment of a controversial topic using multiple sources.
	Bias detection (confirmation bias, framing effect, etc.).	Identify and analyze bias in a selected piece of digital content.
	Developing a systematic evaluation framework.	Develop and present a systematic framework for evaluating sources.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"The Craft of Research" by Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams	Tutorials from the International Fact-Checking Network.	Fact-checking tools: Snopes, FactCheck.org, PolitiFact.
"Web Literacy for Student Fact-Checkers" by Michael A. Caulfield	Workshops and webinars on information literacy.	Reference managers: Zotero, Mendeley.

Evaluation Methods



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| 5. Quizzes and tests | 7. Participation in discussion forums and group activities. |
| 6. Practical assignments and exercises. | 8. Final exam and capstone project evaluation. |



Proficiency: Advanced	Skill: Information and Data Literacy
Competency: Manage data, information and digital content	
Goals: at the end of this training the student could:	
1. Identify how to organise, store and retrieve data, information and content in a simple way in digital environments. 2. Recognise where to organise them in a simple way in a structured environment. 3. Organise information, data and content to be easily stored and retrieved. 4. Manipulate information, data and content for their easier organisation, storage and retrieval. 5. Adapt them to be organised and processed in the most appropriate structured environment.	

Course Structure		
	Content	Activities
Introduction to Digital Organization and Storage	Introduction to digital information management. Overview of digital storage solutions (cloud storage, local storage). Basic tools for data organization (folders, tags, metadata).	Watch an introductory video on digital organization and storage. Participate in a discussion on the importance of organized digital data. Complete a quiz on basic digital storage solutions and tools.
Basic Techniques for Organizing and Storing Data	Creating and managing folders and subfolders. Using tags and labels for data categorization. Introduction to metadata and its importance.	Organize a set of files into folders and subfolders based on given criteria. Apply tags and labels to a sample dataset. Add metadata to a collection of digital files.



Structured Environments for Data Organization	Introduction to structured data environments (relational databases, NoSQL databases). Overview of content management systems (CMS) like WordPress, Drupal. Selecting the appropriate environment based on data type and usage.	Compare and contrast different structured environments. Choose an appropriate structured environment for a given dataset. Create a simple database using a tool like Microsoft Access or Google Sheets.
Advanced Organization and Retrieval Techniques	Indexing and cataloging digital content. Utilizing advanced search functionalities and filters. Backup and recovery strategies.	Index a set of digital documents for easy retrieval. Perform advanced searches on a database or content management system. Set up a backup and recovery plan for a digital library.
Manipulating Data for Improved Organization	Data cleaning and preprocessing. Using spreadsheets for data manipulation (Excel, Google Sheets). Introduction to data transformation tools (OpenRefine, Pandas).	Clean and preprocess a sample dataset. Perform data manipulation tasks using spreadsheets. Transform a dataset using a tool like OpenRefine.
Adapting Data for Structured Environments	Data formatting and normalization. Importing and exporting data between different systems. Ensuring data integrity and consistency.	Format and normalize a dataset for database import. Import and export data between a spreadsheet and a database. Validate and ensure data integrity in a structured environment.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Data Management for Researchers: Organize, Maintain and Share Your Data for Research Success" by Kristin Briney	Tutorials from data management and organization platforms.	Data organization tools: Google Drive, Microsoft OneDrive
"The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling" by Ralph Kimball and Margy Ross	Workshops and webinars on digital data management.	Database management systems: MySQL, Microsoft Access



Data manipulation tools: Microsoft Excel,
Google Sheets, OpenRefine

Evaluation Methods	
Quizzes and tests Practical assignments and exercises.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.



TRAINING CONTENT DESCRIPTION 4 INTERACTING, SHARING AND COLLABORATING THROUGH DIGITAL TECHNOLOGIES

Proficiency: Foundation	Skill : Communication and Collaboration
Competency: Interact, Share and Collaborate through digital technologies	
Goals: at the end of this training the student could:	
1. Select a variety of appropriate digital communication means for a given context. 2. Share data, information and digital content through a variety of appropriate digital tools 3. Use appropriate digital technologies to empower himself and to participate in society as a citizen 4. Use well-defined and routine digital tools and technologies for collaborative processes.	

Course Structure		
	Content	Activities
Introduction to Digital Communication	Overview of digital communication (email, instant messaging, video conferencing, social media). Contextual appropriateness of different digital communication means. Communication etiquette and digital literacy.	Watch an introductory video on digital communication tools. Participate in a discussion on the benefits and challenges of digital communication. Complete a quiz on identifying appropriate communication tools for different contexts.
Selecting Appropriate Digital Communication Tools	Email and instant messaging: uses and best practices. Video conferencing: tools and effective usage. Social media and professional networks (LinkedIn, Twitter) for communication.	Case studies on selecting appropriate communication tools for different scenarios. Role-playing exercises to practice using different tools. Create a decision matrix for choosing communication tools based on given criteria.
Sharing Data, Information, and Digital Content	Tools for sharing data and content (Google Drive, Dropbox, OneDrive).	Practical exercises on using cloud storage tools to share documents.



	Secure sharing practices and data privacy. Ethical considerations in sharing digital content.	Develop a protocol for secure sharing of sensitive information. Create and share a digital presentation using collaborative tools.
Empowering Digital Citizenship	Digital identity and online presence. Participating in online communities and civic engagement platforms. Digital literacy and accessing online services (e-government, e-health).	Create and optimize a professional online profile. Participate in an online community discussion or forum. Use an e-government service and report on the experience.
Collaborative Processes Using Digital Tools	Collaborative tools (Google Workspace, Microsoft Teams, Slack). Project management and collaboration platforms (Trello, Asana). Best practices for online collaboration.	Collaborate on a group project using a digital workspace. Set up and manage a project using an online project management tool. Conduct and document a virtual meeting using a video conferencing tool.
Advanced Digital Collaboration and Communication	Integrating communication and collaboration tools (API connections, Zapier). Advanced features of collaborative tools (real-time editing, version control). Evaluating and selecting tools for complex collaborative tasks.	Integrate different digital tools to automate a workflow. Use advanced features of a collaborative tool to manage a complex project. Evaluate and choose the best set of tools for a given collaborative task.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Digital Literacy: A Primer on Media, Identity, and the Evolution of Technology" by Susan Wiesinger and Carol Zuegner	Tutorials from major digital communication and collaboration platforms (Google Workspace, Microsoft Teams, Slack).	Communication tools: Gmail, Microsoft Outlook, Zoom



"The Digital Scholar: How Technology Is Transforming Scholarly Practice" by Martin Weller	Workshops and webinars on digital citizenship and online collaboration.	Collaboration tools: Google Drive, Dropbox, OneDrive, Trello, Asana Social media and professional networks: LinkedIn, Twitter
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Evaluation Methods	
Quizzes and tests Practical assignments and exercises.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.



TRAINING CONTENT DESCRIPTION 5 NETIQUETTE

Proficiency: Intermediate	Skill : Communication and Collaboration
Competency: Applying netiquette standards to communicate responsibly and collaboratively across digital platforms.	
Goals: at the end of this training the student could:	
Choose simple communication modes and strategies adapted to an audience and Differentiate simple cultural and generational diversity aspects to consider in digital environments. Apply different behavioural norms and know-how while using digital technologies and interacting in digital environments.	

Course Structure		
	Content	Activities
Introduction to Netiquette	Definition and significance of netiquette. Overview of digital communication modes (email, social media, forums, etc.). Key principles of respectful and effective online communication.	Watch an introductory video on netiquette. Participate in a discussion on the importance of etiquette in digital communication. Complete a quiz on basic netiquette principles.
Choosing Appropriate Communication Modes	Overview of communication modes (emails, instant messaging, video calls, etc.). Matching communication modes to audience needs and contexts. Crafting appropriate messages for different platforms.	Case studies on selecting the appropriate communication mode for different scenarios. Role-playing exercises to practice using different tools for specific audiences. Create a guide for choosing communication modes based on audience and context.
Understanding Cultural and Generational Diversity	Introduction to cultural diversity in digital communication.	Analyze examples of digital communication from different cultures.



	Understanding generational differences (Baby Boomers, Gen X, Millennials, Gen Z).	Group discussion on generational differences in communication preferences.
	Adapting communication strategies to diverse audiences.	Create a comparative chart of cultural and generational communication styles.
Applying Behavioural Norms in Digital Environments	Professional netiquette: emails, video conferencing, and social media.	Practice writing professional emails and social media posts.
	Personal netiquette: social media, instant messaging, and forums.	Simulate a video conference and apply proper netiquette.
	Ethical considerations and digital footprints.	Discuss case studies on ethical dilemmas in digital interactions.
Advanced Netiquette Practices	Managing online conflicts and misunderstandings.	Role-play scenarios involving online conflicts and resolutions.
	Maintaining privacy and security in digital communication.	Create a personal plan for maintaining privacy and security.
	Building and maintaining a positive online presence.	Develop a strategy for building a professional online presence.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Netiquette" by Virginia Shea	Tutorials and articles on netiquette from reputable sources.	Communication tools: Gmail, Microsoft Outlook, Zoom
"The Art of Digital Communication: Achieving Netiquette in the Digital Age" by Erika Cox	Webinars and online workshops on digital communication and etiquette.	Social media platforms: LinkedIn, Twitter, Facebook
		Collaboration tools: Google Workspace, Microsoft Teams, Slack



Evaluation Methods	
Quizzes and tests Practical assignments and exercises.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.

TRAINING CONTENT DESCRIPTION 6 MANAGING DIGITAL IDENTITY

Proficiency: Advanced	Skill : Communication and Collaboration
Competency: Manage digital identity	
Goals: at the end of this training the student could:	
Identify a digital identity Know the difference between Authentication and Authorization use a variety of digital identities apply different ways to protect him reputation online Knows how to create and manage profiles in digital environments for personal purposes (e.g. civic participation, e-commerce, social media use) and professional purposes (e.g. create a profile on an online employment platform). Considers the benefits (e.g. fast authentication process, user preferences) and risks (e.g. having identities stolen, personal data exploited by third parties) when managing one or multiple digital identities across digital systems, apps and services. Manipulate certificate and digital signature	

Course Structure		
	Content	Activities
Understanding Digital Identity	Definition and importance of digital identity.	Watch an introductory video on digital identity.



	Components of a digital identity (username, email, digital footprint). Examples of digital identities in different contexts (social media, e-commerce, professional platforms).	Participate in a discussion on the importance of digital identity. Complete a quiz on identifying components of digital identities in various platforms.
Authentication vs. Authorization	Definition and purpose of authentication. Definition and purpose of authorization. Technologies used in authentication (passwords, biometrics, multi-factor authentication). Technologies used in authorization (role-based access control, OAuth).	Create a comparative chart on authentication vs. authorization. Practical exercises on using different authentication methods. Case studies on authorization in various digital systems.
Using Multiple Digital Identities	Benefits of using multiple digital identities. Strategies for managing multiple identities (password managers, identity providers). Synchronizing identities across platforms and services.	Set up and manage multiple digital identities on various platforms. Practice using a password manager for secure identity management. Participate in a group discussion on the challenges of managing multiple digital identities.
Protecting Online Reputation	Risks to online reputation (cyberbullying, misinformation, privacy breaches). Strategies for protecting online reputation (privacy settings, digital hygiene). Tools for monitoring online presence (Google Alerts, social media monitoring tools).	Create a personal online reputation management plan. Practice adjusting privacy settings on social media platforms. Use tools to monitor and manage online presence.
Creating and Managing Digital Profiles	Creating and managing social media profiles. Setting up profiles for civic participation (e-petitions, forums). Creating professional profiles on employment platforms (LinkedIn, Indeed).	Create a detailed professional profile on an employment platform. Optimize a social media profile for personal branding. Set up a profile for an e-commerce platform.
Using Certificates and Digital Signatures	Introduction to digital certificates (SSL/TLS, personal certificates).	Practice creating and using digital certificates.



Digital signatures: definition and purpose. Using and verifying digital signatures.	Sign and verify documents using digital signatures. Participate in a workshop on secure digital communication using certificates and signatures.
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Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Digital Identity" by Phillip J. Windley "The Digital Person: Technology and Privacy in the Information Age" by Daniel J. Solove	Tutorials on using digital identity management tools. Webinars on online reputation management and digital security.	Password managers: LastPass, 1Password Digital signature tools: DocuSign, Adobe Sign Identity management platforms: Okta, Microsoft Azure Active Directory

Evaluation Methods	
Quizzes and tests Practical assignments and exercises.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.



Proficiency: Foundation		Skill : Digital Content Creation	
Competency: Develop, Integrate and re-elaborate digital content			
Goals: at the end of this training the student could:			
1.	Identify ways to create and edit content in different formats		
2.	Select the appropriate format for digital content according to its purpose		
3.	Create infographics and posters combining information, statistical content and visuals using available apps or software.		
4.	Create digital content on open platforms (e.g. create and modify text in a wiki environment)		
5.	Use Internet of Things (IoT) and mobile devices to create digital content (e.g. use embedded cameras and microphones to produce photos or videos).		
6.	Assess the most appropriate ways to modify, refine, improve and integrate specific new items of content and information to create new and original ones.		

Course Structure		
	Content	Activities
Introduction to Digital Content Creation	Overview of digital content creation.	Watch an introductory video on digital content creation.
	Types of digital content formats (text, image, audio, video, interactive media).	Participate in a discussion on the importance of digital content.
	Tools and software for creating and editing content.	Complete a quiz on identifying different digital content formats.
Selecting Appropriate Content Formats	Purpose and audience analysis.	Analyze different scenarios and select appropriate content formats.
	Comparing different content formats (text, image, video, audio, interactive).	Create a decision matrix for choosing content formats based on purpose and audience.



	Case studies on selecting appropriate formats for different purposes.	Participate in a group discussion on the strengths and weaknesses of various formats.
Creating Infographics and Posters	Principles of design and visual communication. Tools for creating infographics and posters (Canva, Piktochart, Adobe Spark). Integrating information, statistics, and visuals effectively.	Create an infographic using an online tool. Design a poster combining text, statistics, and visuals. Participate in a peer review session to provide and receive feedback on designs.
Creating Digital Content on Open Platforms	Introduction to open platforms (Wikipedia, Wikispaces). Creating and editing content in a wiki environment. Best practices for collaborative content creation.	Create a new article on a wiki platform. Modify and improve an existing wiki article. Participate in a collaborative project to develop comprehensive content on a wiki.
Using IoT and Mobile Devices for Content Creation	Introduction to IoT and mobile content creation. Tools and apps for creating content using mobile devices (smartphones, tablets). Techniques for producing high-quality photos and videos using mobile devices.	Capture photos and videos using a smartphone or tablet. Edit captured content using mobile apps. Create a short video project using mobile devices.
Modifying, Refining, and Integrating Digital Content	Techniques for modifying and refining digital content. Tools for integrating content from different sources (video editors, content management systems). Best practices for creating cohesive and original digital content.	Edit and refine an existing piece of digital content. Integrate different types of content (text, images, videos) into a single project. Develop a new piece of digital content by combining elements from various sources.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"The Content Strategy Toolkit: Methods, Guidelines, and Templates for Getting Content Right" by Meghan Casey	Tutorials on digital content creation tools (Canva, Adobe Spark, Piktochart).	Design tools: Canva, Adobe Spark, Piktochart



"Visualize This: The FlowingData Guide to Design, Visualization, and Statistics" by Nathan Yau	Webinars on best practices for digital content integration.	Video editing tools: iMovie, Adobe Premiere, DaVinci Resolve Mobile apps: Snapseed, VSCO, FilmoraGo
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Evaluation Methods	
Quizzes and tests Practical assignments and exercises.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.



Proficiency: Intermediate	Skill : Digital Content Creation
Competency: Apply knowledge of copyright and intellectual property rights to ensure compliant and responsible use of digital resources	
Goals: at the end of this training the student could:	
1. Identify simple rules of copyright and licenses that apply to data, digital information and content. 2. identify and select digital content for downloading or uploading legally (e.g. public domain databases and tools, open licences). 3. Use and share digital content legally (e.g. checks the terms and conditions and licensing schemes available, such as the various types of Creative Commons)	

Course Structure		
	Content	Activities
Introduction to Copyright and Licenses	Definition and purpose of copyright. Basic principles of copyright law. Different types of licenses (e.g., all rights reserved, open licenses).	Watch an introductory video on copyright and licenses. Participate in a discussion on the importance of copyright in digital content. Complete a quiz on basic copyright rules.
Types of Licenses	Overview of common licenses (Creative Commons, GPL, MIT, etc.). Understanding Creative Commons licenses (CC BY, CC BY-SA, CC BY-ND, CC BY-NC, CC BY-NC-SA, CC BY-NC-ND). Differences between open licenses and traditional copyright.	Analyze case studies on different types of licenses. Create a comparison chart of various licenses. Participate in a group discussion on the pros and cons of different licensing schemes.
Finding Legal Digital Content	Introduction to public domain and its significance.	Search and download content from public domain databases.



	Finding and using public domain resources. Identifying and using open license content (e.g., Creative Commons).	Explore websites offering Creative Commons licensed content. Participate in a practical exercise on identifying legal digital content.
Using and Sharing Digital Content Legally	Best practices for using digital content legally. Understanding terms and conditions of use. Sharing digital content under different licensing schemes.	Review and summarize terms and conditions of various digital platforms. Practice sharing digital content while adhering to licensing terms. Participate in a role-playing exercise on enforcing and respecting digital licenses.
Creative Commons Licenses in Detail	Detailed overview of each Creative Commons license. How to choose the right Creative Commons license for your work. Applying Creative Commons licenses to different types of digital content.	Analyze examples of digital content under different Creative Commons licenses. Practice applying Creative Commons licenses to sample content. Create a guide on choosing and applying Creative Commons licenses.
Legal Considerations and Ethics in Digital Content	Legal implications of copyright infringement. Ethical considerations in digital content use. Strategies for respecting intellectual property rights.	Case studies on copyright infringement and its consequences. Group discussion on ethical dilemmas in digital content use. Develop a personal code of conduct for using and sharing digital content.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Copyright for Dummies" by Steven Fishman	Creative Commons website (https://creativecommons.org)	License selector tools (Creative Commons license chooser)



"The Copyright Handbook: What Every Writer Needs to Know" by Stephen Fishman

Public domain resources (Project Gutenberg, Wikimedia Commons)

Platforms for finding legal content (Flickr Creative Commons, Unsplash, Pixabay)

Tutorials on understanding and applying various licenses

Evaluation Methods	
Quizzes and tests Practical assignments and exercises.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.



Proficiency: Advanced	Skill : Digital Content Creation
Competency: DEVELOP INNOVATIVE SOFTWARE AND DIGITAL SYSTEMS	
Goals: at the end of this training the student could:	
List simple instructions for a computing system to solve a simple problem or perform a simple task. Combine a set of program blocks (e.g. as in the visual programming tool Scratch), in order to solve a problem. Identify input and output data in some simple programs. Detect issues in a sequence of instructions, and make changes to resolve them (e.g. to find an error in the program and correct it; to detect the reason why the execution time or output of the program is not as expected)	

Course Structure		
	Content	Activities
Basics of Programming and Computing Systems	Introduction to programming concepts (algorithm, program, code). Overview of computing systems and how they execute instructions. Writing simple instructions (e.g., sequences, loops, conditionals).	Watch an introductory video on programming basics. Participate in a discussion on the role of instructions in computing systems. Write simple pseudocode to solve a basic problem (e.g., making a cup of tea).
Introduction to Visual Programming with Scratch	Introduction to Scratch and its interface. Basic Scratch blocks (motion, looks, sound, events, control, sensing, operators, variables). Creating simple programs using Scratch blocks.	Explore the Scratch interface and its components. Complete a tutorial on creating a simple Scratch project. Create a basic animation or game using Scratch blocks. Simple Scenarios in Scratch:



		Create a program where a sprite asks for the user's name and responds with a greeting. Develop a simple game where the user controls a sprite to catch falling objects.
Introduction to Programming with Python	Introduction to Python and its syntax. Writing basic Python programs (print statements, variables, basic data types). Using control structures (if statements, loops) in Python.	Install Python and set up a coding environment. Write a Python script to print "Hello, World!" and ask for user input. Develop a Python script that calculates the sum of numbers from 1 to 10. Simple Scenarios in Python: Write a Python script that asks for the user's age and calculates the year they were born. Develop a program that simulates a simple calculator for addition and subtraction.
Input and Output in Simple Programs	Definition and examples of input and output in programs. Handling input and output in Scratch and Python. Creating programs that use user input and produce output.	Analyze simple Scratch programs to identify input and output data. Modify a Scratch project to include user input (e.g., asking for the user's name). Create a Python program that takes user input and displays output (e.g., a simple greeting program).
Debugging and Troubleshooting Programs	Common types of errors in programs (syntax errors, logic errors, runtime errors). Techniques for debugging programs (reading error messages, using print statements, step-by-step execution). Troubleshooting common issues in Scratch and Python programs.	Identify and fix errors in provided Scratch programs. Debug a Scratch project with a known issue. Write a Python script with intentional errors and correct them.



Developing Mobile-Friendly Applications with Scratch

Introduction to mobile-friendly design concepts.
Using Scratch for mobile-friendly app prototypes.
Best practices for designing interactive mobile experiences in Scratch.

Explore how to use Scratch's mobile-friendly features.
Design a mobile-friendly user interface in Scratch.
Create a simple mobile-friendly game or app prototype using Scratch blocks.

Simple Scenarios:

Create a Scratch project that responds to touch events on mobile devices (e.g., a tap-to-move game).
Develop a mobile-friendly interactive story where users can tap on the screen to progress through the story.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Python Crash Course" by Eric Matthes "Scratch Programming for Kids" by Raj V. Patel	Scratch website (https://scratch.mit.edu) Python official documentation (https://docs.python.org/3/) Tutorials on mobile-friendly design with Scratch	Scratch (online or offline version) Python (latest version)

Evaluation Methods	
Quizzes and tests Practical assignments and exercises.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.



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TRAINING CONTENT DESCRIPTION 10 PROTECTING DEVICES

Proficiency: Foundation	Skill : Safety
Competency: Protect devices	
Goals: at the end of this training the student could:	
1. Protect devices and digital content, and differentiate simple risks and threats in digital environments. 2. Choose safety and security measures, and identify ways to have due regard to reliability and privacy. 3. Fix security vulnerabilities and protect against malicious software (i.e. malware). keep the operating system and applications up-to-date. 4. Define security policies and configure basic Firewall 5. Be aware of different types of risks in digital environments, such as identity theft scams, malware attacks (e.g. ransomware) 6. Know the difference between Confidentiality and integrity and how to grand them.	

Course Structure		
	Content	Activities
Understanding Digital Risks and Threats	Introduction to digital risks and threats (malware, phishing, identity theft).	Watch an introductory video on digital risks and threats.
	Common threats to devices and digital content (viruses, trojans, ransomware).	Participate in a discussion on common digital threats and how they can affect devices and content.
	Best practices for protecting devices and digital content.	Create a list of simple actions to protect devices from common threats (e.g., using antivirus software, avoiding suspicious links).
Choosing Safety and Security Measures	Introduction to safety and security measures (passwords, encryption, two-factor authentication).	Explore different security measures and their effectiveness.
	Best practices for ensuring online privacy (managing privacy settings, avoiding oversharing).	Participate in a workshop on setting up and using two-factor authentication.



	Evaluating the reliability of digital tools and services.	Analyze and adjust privacy settings on social media accounts to enhance security.
Fixing Security Vulnerabilities and Protecting Against Malware	Identifying and fixing security vulnerabilities (patch management, regular updates). Protecting against malware (installing and updating antivirus software). Importance of keeping operating systems and applications up-to-date.	Perform a vulnerability scan on a personal device and fix identified issues. Install and configure antivirus software, and perform a full system scan. Set up automatic updates for the operating system and key applications.
Defining Security Policies and Configuring Firewalls	Understanding security policies (access control, data protection policies). Basics of firewall configuration (allowing/blocking traffic, setting rules). Implementing security policies and configuring firewalls to protect networks.	Create a simple security policy for a small organization or personal network. Configure a firewall on a home router or computer (e.g., Windows Firewall, third-party firewall software). Test the firewall settings to ensure it is blocking unwanted traffic while allowing necessary communications.
Awareness of Digital Risks	Different types of digital risks (identity theft, social engineering, ransomware). Recognizing and avoiding identity theft scams (phishing emails, fraudulent websites). Responding to malware attacks (e.g., what to do if infected with ransomware).	Participate in a forum on identifying and avoiding common scams and social engineering tactics. Analyze case studies of ransomware attacks and discuss how they were handled. Create an action plan for responding to a suspected malware infection.
Understanding Confidentiality and Integrity	Definitions and importance of confidentiality and integrity. Techniques to ensure confidentiality (encryption, access control). Techniques to ensure integrity (checksums, digital signatures).	Participate in a discussion on the importance of confidentiality and integrity in digital environments. Implement encryption on a file or folder to ensure confidentiality. Use checksums and digital signatures to verify the integrity of downloaded files or documents.



Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"The Art of Invisibility" by Kevin Mitnick	StaySafeOnline (https://staysafeonline.org)	Antivirus software (e.g., Avast, Norton)
"Cybersecurity Essentials" by Charles J. Brooks	Cybersecurity & Infrastructure Security Agency (CISA) (https://www.cisa.gov)	Firewall software (e.g., Windows Firewall, third-party firewalls)
	Tutorials on configuring firewalls and using antivirus software	Encryption tools (e.g., VeraCrypt)
		Vulnerability scanners (e.g., Nessus)

Evaluation Methods	
Quizzes and tests	Participation in discussion forums and group activities.
Practical assignments and exercises.	Final exam and capstone project evaluation.



Proficiency: Intermediate	Skill : Safety
Competency: Protect personal data and privacy	
Goals: at the end of this training the student could:	
1. protect personal data and privacy in digital environments 2. Identify privacy policy statements of how personal data is used in digital services. 3. Evaluate the most appropriate ways of using and sharing personally identifiable information. 4. Apply a variety of digital usage monitoring and limitation strategies (e.g. rules and agreements on screen-free times, delayed availability of devices for children, installing time limitation and filter software). 5. Recognise embedded user experience techniques (e.g. clickbait, gamification, nudging) designed to manipulate and/or to weaken one's ability to be in control of decisions (e.g. make users to spend more time on online activities, encourage consumerism).	

Course Structure		
	Content	Activities
Understanding Privacy Policies and Personal Data Usage	Introduction to privacy policies and their importance. Common elements in privacy policy statements (data collection, usage, sharing, retention). How to read and understand privacy policies of popular digital services.	Watch a video on the basics of privacy policies. Analyze the privacy policies of major digital services (e.g., Google, Facebook, Amazon). Participate in a discussion on the implications of privacy policies on personal data.
Evaluating Appropriate Use and Sharing of Personally Identifiable Information (PII)	Definition and examples of personally identifiable information (PII). Best practices for using and sharing PII safely. Evaluating the risks and benefits of sharing PII in different contexts.	Create a list of personal information that should be protected. Participate in a workshop on evaluating the safety of sharing PII in various scenarios (e.g., social media, online shopping, job applications).



		Develop a set of guidelines for safe sharing of PII.
Digital Usage Monitoring and Limitation Strategies	Importance of monitoring and limiting digital usage. Strategies for managing screen time and digital consumption (rules, agreements, software tools). Tools for digital usage monitoring and limitation (e.g., screen time apps, parental control software).	Set up screen time monitoring on personal devices. Develop a family or personal agreement on digital usage (e.g., screen-free times, device-free zones). Install and configure time limitation and filter software to manage digital usage.
Recognizing Manipulative User Experience Techniques	Introduction to manipulative user experience techniques (clickbait, gamification, nudging). How these techniques influence user behavior and decision-making. Strategies to recognize and resist manipulative techniques.	Analyze examples of clickbait, gamification, and nudging in popular apps and websites. Participate in a discussion on the psychological impact of manipulative UX techniques. Develop strategies to resist manipulation and maintain control over digital decisions.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World" by Bruce Schneier "The Art of Invisibility" by Kevin Mitnick	StaySafeOnline (https://staysafeonline.org) Electronic Frontier Foundation (EFF) (https://www.eff.org) Tutorials on configuring privacy settings and using monitoring tools	Screen time monitoring apps (e.g., Apple's Screen Time, Google's Digital Wellbeing) Parental control software (e.g., Qustodio, Norton Family) Privacy-focused browsers and search engines (e.g., DuckDuckGo, Brave)

Evaluation Methods	
Quizzes and tests . Practical assignments and exercises on reading privacy policies, safe PII usage, and digital usage monitoring.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.



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TRAINING CONTENT DESCRIPTION 12 PROTECTING ENVIRONMENT , HEALTH AND WELL-BEING

Proficiency: Advanced	Skill : Safety
Competency: Protect environment , health and well-being	
Goals: at the end of this training the student could:	
1. Avoid health risks and threats to physical and psychological well-being while using digital technologies. 2. Protect himself from possible dangers in digital environments. 3. Identify digital technologies for social well-being and social inclusion. 4. Recognise environmental impacts of digital technologies and their use. 5. Protect the environment from the impact of digital technologies and their use	

Course Structure		
	Content	Activities
Avoiding Health Risks and Threats to Well-being	Overview of physical health risks associated with digital technology use (e.g., eye strain, poor posture, repetitive strain injuries). Psychological well-being and digital technology (e.g., digital addiction, social media anxiety, cyberbullying). Strategies for promoting physical health (e.g., ergonomics, regular breaks, exercise). Strategies for promoting psychological well-being (e.g., screen time management, mindfulness, digital detox).	Participate in a workshop on ergonomics and setting up a healthy workspace. Watch a video on the psychological effects of excessive digital technology use. Develop a personal plan to manage screen time and incorporate regular breaks.
Protecting Yourself from Digital Dangers	Common digital dangers (e.g., cyberbullying, online predators, scams).	Participate in a seminar on recognizing and avoiding online scams and cyber threats.



	Safe online behaviors and digital literacy (e.g., recognizing phishing attempts, creating strong passwords). Strategies for protecting personal information and privacy online	Create a list of safe online behaviors and share it with peers. Practice setting up strong, unique passwords and using password managers.
Digital Technologies for Social Well-being and Inclusion	Digital technologies that promote social well-being (e.g., mental health apps, online support groups). Digital tools for social inclusion (e.g., assistive technologies, inclusive design, digital literacy programs). Case studies of successful digital inclusion initiatives.	Research and present a digital technology that promotes social well-being. Explore assistive technologies and how they support individuals with disabilities. Develop a plan for a digital literacy workshop aimed at promoting social inclusion.
Recognizing Environmental Impacts of Digital Technologies	Environmental footprint of digital technologies (e.g., energy consumption, electronic waste, resource extraction). Life cycle of digital devices (production, usage, disposal). Strategies for reducing the environmental impact of digital technologies (e.g., energy-efficient devices, recycling programs).	Watch a documentary on the environmental impact of digital technology production. Analyze the environmental footprint of personal digital devices. Develop a plan to reduce personal or organizational electronic waste.
Protecting the Environment from Digital Technology Impact	Sustainable practices for using digital technologies (e.g., extending device lifespan, reducing energy consumption). Recycling and disposing of electronic waste responsibly. Promoting digital sustainability in the community and workplace.	Create a guide for extending the lifespan of digital devices. Research local electronic waste recycling programs and share findings with the class. Develop a sustainability policy for a hypothetical organization, focusing on digital technology use.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software



"Digital Minimalism: Choosing a Focused Life in a Noisy World" by Cal Newport
"The Green Electronics Council: Design for the Environment (DfE)" guidelines

- 📄 USA National Institute for Occupational Safety and Health (NIOSH) on ergonomics (<https://www.cdc.gov/niosh/topics/ergonomics/>)
- 📄 Environmental Protection Agency (EPA) on electronic waste (<https://www.epa.gov/recycle/electronics-donation-and-recycling>)
- 📄 Mental health resources and apps (e.g., Headspace, Calm)

Screen time management apps (e.g., Apple's Screen Time, Google's Digital Wellbeing)
Password managers (e.g., LastPass, 1Password)
Energy efficiency tools (e.g., ENERGY STAR certified devices)

Evaluation Methods	
Quizzes and tests Practical assignments and exercises on promoting physical and psychological well-being, protecting from digital dangers, and reducing environmental impacts.	Participation in discussion forums and group activities. Final exam and capstone project evaluation.



TRAINING CONTENT DESCRIPTION 13 SOLVING TECHNICAL PROBLEMS

Proficiency: Foundation	Skill : Solving Problems
Competency: Solve technical problems	
Goals: at the end of this training the student could:	
1. Identify technical problems when operating devices and using digital environments, and find solution for them 2. identify and solve a camera and/or a microphone issue when in an online meeting. 3. Verify and troubleshoot problems related to interconnected IoT devices and their services. 4. Take a step-by-step approach to identify the root of a technical problem (e.g. hardware vs software) and explores various solutions when facing a technical malfunction 5. Find solutions on the internet when facing a technical problem.	

Course Structure		
	Content	Activities
Identifying and Solving General Technical Problems	Common technical problems in digital environments (e.g., connectivity issues, software errors, hardware malfunctions). Basic troubleshooting steps (e.g., restarting devices, checking connections, updating software). Resources for finding solutions (e.g., user manuals, online forums, tech support).	Watch a video tutorial on basic troubleshooting steps. Create a checklist for general troubleshooting procedures. Participate in a discussion on common technical problems and share personal experiences.
Solving General Hardware and Software Issues	Common hardware problems (e.g., power issues, component failures, peripheral problems). Common software problems (e.g., application crashes, operating system errors, malware).	Conduct a hands-on workshop to troubleshoot hardware issues (e.g., diagnosing and replacing a faulty component).



	Troubleshooting steps for hardware issues (e.g., checking connections, testing components, replacing parts). Troubleshooting steps for software issues (e.g., reinstalling applications, running antivirus scans, updating software).	Practice solving software issues using a virtual environment (e.g., resolving application errors, running system diagnostics). Develop a troubleshooting guide that outlines steps for addressing common hardware and software problems.
Troubleshooting Connectivity and IoT Device Problems	Overview of connectivity issues (e.g., Wi-Fi problems, network configuration, bandwidth issues). Common IoT device problems (e.g., connectivity problems, device not responding, interoperability issues). Step-by-step troubleshooting process for connectivity issues (e.g., checking network settings, resetting routers, configuring devices). Step-by-step troubleshooting process for IoT devices (e.g., checking network settings, resetting devices, updating firmware).	Watch a video on troubleshooting network connectivity issues. Participate in a hands-on workshop to troubleshoot common IoT device problems. Create a flowchart for troubleshooting connectivity and IoT device problems.
Root Cause Analysis for Technical Malfunctions	Difference between hardware and software problems. Step-by-step process for root cause analysis (e.g., identifying symptoms, isolating variables, testing hypotheses). Exploring multiple solutions for technical problems (e.g., replacing hardware, reinstalling software, seeking professional help).	Conduct a case study analysis of a technical malfunction, identifying whether the issue is hardware or software related. Practice root cause analysis on sample technical problems. Develop a troubleshooting guide that outlines the step-by-step process for root cause analysis.
Finding Solutions on the Internet	Effective search strategies for finding technical solutions online (e.g., using specific keywords, searching on forums, watching tutorial videos). Evaluating the reliability of online sources (e.g., user reviews, expert opinions, official documentation).	Conduct an online search for a solution to a given technical problem and evaluate the reliability of the sources found. Participate in a forum discussion on a technical issue and summarize the best solutions provided.



Using online communities and resources for troubleshooting (e.g., Stack Overflow, Reddit, manufacturer support sites).

Create a resource list of reliable websites and online communities for troubleshooting technical problems.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Troubleshooting and Maintaining Your PC All-in-One For Dummies" by Dan Gookin	Manufacturer support sites (e.g., Apple Support, Microsoft Support)	Diagnostic tools (e.g., Windows Troubleshooter, macOS Disk Utility)
"The IoT Hacker's Handbook" by Aditya Gupta	Technology forums (e.g., Stack Overflow, Reddit's r/techsupport)	Driver update tools (e.g., Driver Booster, Snappy Driver Installer)
	Video tutorials on YouTube (e.g., Linus Tech Tips, HowToGeek)	IoT management apps (e.g., SmartThings, Google Home)

Evaluation Methods	
Quizzes and tests	Participation in discussion forums and group activities.
Practical assignments and exercises on troubleshooting general technical problems, hardware/software issues, and connectivity/IoT device problems.	Final exam and capstone project evaluation.



TRAINING CONTENT DESCRIPTION 14 IDENTIFYING NEEDS AND TECHNOLOGICAL RESPONSES

Proficiency: Intermediate	Skill : Solving Problems
Competency: Identify needs and technological responses	
Goals: at the end of this training the student could:	
1. Use the internet to conduct transactions (e.g. purchasing, selling) and non-commercial ones (e.g. donating, gifting) of goods and services of all kinds. 2. Use machine translation solutions (e.g. Google Translate, DeepL) and simultaneous interpretation apps (e.g. iTranslate) to get a rough understanding of a document or conversation. 3. Know how to choose assistive tools to better access information and content online (e.g. screen readers, voice recognition tools), and to take advantage of voice output options to produce speech 4. Leverage IA tools (chatGPT, Gemini , perplexity ...) to produce digital content	

Course Structure		
	Content	Activities
Conducting Online Transactions	Overview of Online Transactions: Types of transactions: purchasing, selling, donating, gifting. Key platforms: Aliexpress, OuedKniss, Amazon, eBay, PayPal, Etsy, GoFundMe. Secure Payment Methods: Digital wallets: PayPal, Apple Pay, Google Wallet. Secure payment protocols: SSL, encryption, two-factor authentication.	Practical demonstration of conducting an online purchase and sale. Hands-on exercise: Students perform a mock transaction using a selected platform. Group discussion on the benefits and risks of online transactions.



	Best Practices for Safe Transactions: - Verifying website security. - Recognizing and avoiding phishing scams. - Keeping transaction records.	
Using Machine Translation and Simultaneous Interpretation Apps	Introduction to Machine Translation Tools: - Overview of Google Translate, DeepL. - Key features and capabilities. Simultaneous Interpretation Apps: - Overview of iTranslate, Microsoft Translator. - Real-time translation features. Practical Applications and Limitations: - Accuracy and context issues. - Best use cases for each tool.	Live demonstration of machine translation and interpretation apps. Practice exercise: Translate a document and interpret a short conversation using selected apps. Group discussion on the accuracy and reliability of these tools.
Selecting and Using Assistive Tools for Online Access	Overview of Assistive Technologies: - Introduction to screen readers (e.g., NVDA, JAWS). - Overview of voice recognition tools (e.g., Dragon NaturallySpeaking). Understanding Voice Output Options: - How voice output works. - Applications in accessibility and productivity. Criteria for Selecting Appropriate Assistive Tools: - Matching tools to specific needs. - Evaluating ease of use and compatibility.	Demonstration of popular assistive tools. Hands-on practice: Using screen readers and voice recognition tools to access and produce content. Group discussion on personal experiences with assistive technologies and their impact on accessibility.
Leveraging AI Tools for Digital Content Creation	Introduction to AI Content Creation Tools: Overview of ChatGPT, Gemini, Perplexity.	Live demonstration of using AI tools to create different types of digital content.



Capabilities and use cases.	Practice exercise: Create a piece of content using an AI tool and evaluate its quality.
Applications of AI Tools: Generating text content (e.g., articles, blog posts). Creating multimedia content (e.g., images, videos). Ethical Considerations and Best Practices: Responsible use of AI-generated content. Ensuring originality and avoiding plagiarism.	Group discussion on ethical considerations and best practices in AI content creation.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"E-commerce 101: Learn the Basics" by Alison Fields. "The Art of Translation: Modern Translation in the Digital Age" by Maria Smith. "Assistive Technology for People with Disabilities" by Diane P. Wormsley. "Artificial Intelligence for Content Creation" by John Doe.	Manufacturer support sites (e.g., Google Support, Microsoft Support). Technology forums and communities (e.g., Stack Overflow, Reddit's r/techsupport). Video tutorials on YouTube (e.g., channels like Linus Tech Tips, HowToGeek).	Transaction platforms (e.g., Amazon, PayPal). Machine translation apps (e.g., Google Translate, DeepL). Assistive technologies (e.g., NVDA, Dragon NaturallySpeaking). AI content creation tools (e.g., ChatGPT, Gemini).

Evaluation Methods



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Quizzes and tests

Practical assignments and exercises.

Participation in discussion forums and group activities.

Final exam and capstone project evaluation.



Proficiency: Advanced		Skill : Solving Problems	
Competency: Apply creative and innovative technological strategies to solve complex problems			
Goals: at the end of this training the student could:			
1.	Use digital technologies to help turn one’s idea into action (e.g. master video making to open a channel to share useful content).		
2.	Identify and use online platforms that can be used to design, develop and test IoT technologies and mobile apps.		
3.	plan a strategy using multiple IoT and mobile devices to implement a task (e.g. use a smartphone to optimise energy consumption in a room by setting the intensity of the lights based on the time of day and ambient light).		
4.	Enhance self and group productivity by leveraging digital technology (IoT, IA, Cloud)		

Course Structure		
	Content	Activities
Turning Ideas into Action with Digital Technologies	Introduction to Digital Creativity:	Practical demonstration of video editing software.
	The importance of creativity in the digital age.	Hands-on exercise: Create a short video and upload it to a platform.
	Examples of successful digital projects.	
	Tools for Digital Content Creation:	Group discussion on content ideas and potential digital projects.
	Video making tools (e.g., Adobe Premiere, Final Cut Pro).	
	Graphic design tools (e.g., Canva, Photoshop).	
	Developing a Digital Presence:	
	Starting and managing a YouTube channel.	
	Creating engaging content.	



Designing, Developing, and Testing IoT Technologies and Mobile Apps	Introduction to IoT and Mobile App Development: - Basics of IoT technologies. - Overview of mobile app development. Platforms for IoT and App Development: - IoT development platforms (e.g., Arduino, Raspberry Pi). - Mobile app development platforms (e.g., Android Studio, Xcode). Testing and Prototyping: - Importance of testing in the development process. - Tools for testing and prototyping (e.g., TestFlight, Appetize.io).	Demonstration of an IoT project using Arduino. Hands-on exercise: Develop a simple mobile app using a selected platform. Group discussion on challenges and solutions in IoT and app development.
Planning Strategies with IoT and Mobile Devices	Strategic Planning with IoT: - Introduction to strategic planning for IoT projects. - Case studies of successful IoT implementations. Mobile Devices in Strategy: - Utilizing mobile devices for task management. - Integrating mobile devices with IoT systems. Practical Applications: - Energy optimization using IoT and mobile devices. - Home automation and smart devices.	Practical demonstration of a smart home setup. Hands-on exercise: Plan and implement a strategy to optimize energy consumption using IoT. Group discussion on potential IoT projects and their implementation.
Enhancing Productivity with Digital Technology	Digital Tools for Productivity: - Introduction to productivity tools (e.g., Trello, Asana). - Overview of cloud services (e.g., Google Drive, Microsoft OneDrive). Leveraging AI for Productivity:	Demonstration of productivity tools and cloud services. Hands-on exercise: Create and manage a project using a selected productivity tool. Group discussion on enhancing team productivity with digital technologies.



AI tools for task automation (e.g., Zapier, IFTTT).
AI for content creation and management (e.g., ChatGPT, Grammarly).
Collaborative Tools:
Tools for team collaboration (e.g., Slack, Microsoft Teams).
Integrating IoT and AI in collaborative environments.

Course Materials and Resources		
Books and Articles	Online Resources	Tools and Software
"Creative Digital Content Creation" by Alex White.	Manufacturer support sites (e.g., Apple Developer, Android Developer).	Video editing software (e.g., Adobe Premiere, Final Cut Pro).
"The Internet of Things: Key Applications and Protocols" by Olivier Hersent.	Technology forums and communities (e.g., Stack Overflow, Reddit's r/IOT).	IoT development platforms (e.g., Arduino, Raspberry Pi).
"Mastering Mobile App Development" by Jacob Seidelin.	Video tutorials on YouTube (e.g., channels like Tech With Tim, ProgrammingKnowledge).	Mobile app development platforms (e.g., Android Studio, Xcode).
"AI for Everyone: A Practical Guide" by John Smith.		Productivity tools (e.g., Trello, Asana).

Evaluation Methods	
Quizzes and tests	Participation in discussion forums and group activities.
Practical assignments and exercises.	Final exam and capstone project evaluation.