CRAFTS 3.0

Supporting the transition of handicraft teachers and trainers to the Digital Age

IO1: European ECVET Curriculum on ICT-based teaching-learning methods in VET for craft sectors

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Intellectual Output 1
European ECVET Curriculum on ICT-based teaching-learning methods in VET for craft sectors

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CONTENT

1. ECVET CURRICULUM

2.1. GENERAL AIM OF THE CURRICULUM

This intellectual output is aimed at creating an ECVET CURRICULUM by means of defining and mapping the competencies, knowledge and skills that handicraft teachers and trainers need in order to use ICT-based innovative teaching-learning methods in VET for craft sectors in Europe.

The European ECVET Curriculum facilitates the recognition of competences in different countries, supporting the mobility of Handicraft teachers and trainers across Europe and promoting lifelong learning, skills certification and training credit.

Furthermore, the expected impact of the European ECVET Curriculum is to set the basis for the future process of recognition, validation and certification of the handicraft teachers and trainers.

The ECVET Curriculum will act as a complimentary tool for the development of the other project outputs. Furthermore, it will be supported with innovative Training Modules (IO2) with a set of educational materials to overcome skills gaps in ICT based teaching methods specifically adapted for handicraft activities.

2.2. COURSE GOALS

The key areas to be addressed by this course for combining traditional craftsmanship with digital age technology are:

- Module A: Introduction to ICT Skills
- Module B: Online & Digital Training for Crafts
- Module C: Digital Tools for Craft Practitioners
- Module D: Digital Tools for Craft Businesses

2.3. TARGET GROUP

The target audience for this course is:

- ✓ **Handicraft teachers & trainers** who wish to improve their vocational training activity with an on-line component. The crafts are varied, ceramic, wood carving, textiles (fashion, patchwork), design, restoration and the objectives of the courses are also very varied, although they are aimed at meeting the students' free time needs, students without a professional interest or with professional interest.
- ✓ Professional **craftsmen**, **mentors or graduates in craft sector** interested also for an education role as trainers/teachers in this field
- ✓ **Organizations that provide Craft VET** and aims to deliver a framework and methodology, which keeps them, updated in terms of technology and latest developments.

2.4. PREREQUISITES FOR PARTICIPATION

Suggested main prerequisites for participation are:

- Some basic pedagogical training experience already in place.
- A minimum ground base level of IT proficiency (in terms of basic work with computers, search engines and software installation, word and image processing programs).
- Knowledge of the use of mobile applications and ability to use mobile applications.
- A positive attitude towards changes and updating of practice.

2. ECVET CURRICULUM FRAMEWORK

TITLE (MODULE / UNIT / Learning Objectives)	EQF (level)	Duration (hours)	ECVET (credits)[1]
Module A: INTRODUCTION TO ICT SKILLS	**5**	**100**	*4*

Unit A.1: THE POTENTIAL FOR USING DIGITAL TECHNOLOGY IN CRAFTS		
Learning Outcome A.1.1	The learner should be able to understand the different aspects involved in the transition to the digital age.	
Knowledge	**Skills**	**Competences**
Have knowledge of the impact and potential of digital technologies in the craft sector	₋ Discover how digital technologies can impact and transform the craft sector ₋ Recognise the elements that facilitate the transition to the digital age in the craft sector	Assume responsibility on improving own competences to initiate the transition to the digital age
Learning Outcome A.1.2	The learner should be able to identify the potential of using technology in teaching crafts.	
Knowledge	**Skills**	**Competences**
Identify the impact and potential of digital technologies in teaching crafts.	Recognise digital technologies applied in teaching crafts	Examine resources and tools to improve own competences in order to facilitate the application of digital technologies in teaching crafts
Learning Outcome A.1.3	The learner should be able to identify the potential of using technology in crafts practice.	
Knowledge	**Skills**	**Competences**
Identify the impact and potential of digital technologies in Crafts Practice	Recognise digital technologies applied in Crafts Practice	Examine resources and tools to improve own competences in order to facilitate the application of digital technologies in Crafts Practice
Learning Outcome A.1.4	The learner should be able to identify the potential of using technology in crafts business.	
Knowledge	**Skills**	**Competences**
Identify the impact and potential of digital technologies in Crafts Business	Recognise digital technologies applied in Crafts Business	Examine resources and tools to improve own competences in order to facilitate the application of digital technologies in Crafts Business

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[1] *Relative weight of units*

Unit A.2: ESSENTIAL SKILLS FOR THE DIGITAL AGE		
Learning Outcome A.2.1	The learner should be able to use online ways for communication, networking and collaboration	
Knowledge	**Skills**	**Competences**
Identify the available online communication ways and social networks	– Explain what online communication is – Illustrate by example the available applications for mobile devices	Willingness to communicate online through several online ways (e.g., emails, forums, social networks)
Learning Outcome A.2.2	The learner will be able to distinguish between online storage solutions with the aim of quick and easy access to information.	
Knowledge	**Skills**	**Competences**
Have knowledge of online document sharing and emphasise document ownership rights	Select adequate solutions for storing, sharing and managing data online (e.g. clouds)	Use available online sharing solutions, clouds and collaboration tools
Learning Outcome A.2.3	The learner should be able to implement security measures Intellectual Property, GDPR	
Knowledge	**Skills**	**Competences**
Have knowledge of security measures, GDPR and safety procedures	– Clarify the notion of intellectual property – Recognise and apply safety procedures and data protection tools	– Assume responsibility for safety procedures – Self-confidence to act independently
Learning Outcome A.2.4	The learner should be able to achieve continuous professional development in a digital age	
Knowledge	**Skills**	**Competences**
Have knowledge of continuous professional development in the context of the Digital Age	Discover and demonstrate learning modalities, updating technologies and tools	Willingness to act independently, to update existing skills, learning modalities, technologies and tools

TITLE (MODULE / UNIT / Learning Objectives)	EQF (level)	Duration (hours)	ECVET (credits)[2]
Module B: ONLINE AND DIGITAL TRAINING FOR CRAFTS	**5**	**100**	*4*

Unit B.1: IMPROVING THE LEARNING EXPERIENCE THROUGH DIGITAL LEARNING TOOLS		

Learning Outcome B.1.1	The learner should be able to identify a set of digital tools to support and enhance digital learning for a specific programme of study	
Knowledge	**Skills**	**Competences**
Have knowledge of the key features between different types of digital tools that can be used for teaching and learning	Select and use digital tools appropriate for supporting specific teaching and learning requirements	Act independently digital tools to support and enhance digital learning.

Learning Outcome B.1.2	The learner should be able to operate learning management systems.	
Knowledge	**Skills**	**Competences**
_ Define LMS _ List properties of a LMS. _ List requirements for deploy the tool. _ Have knowledge of Instructional Tools, what they do and what they don't	_ Choose and evaluate the current LMS available, producing appropriate reports to the Team. _ Use installation systems, and create proposals for IT staff to deliver a LMS _ Plan Instructional content. _ Install and test Instructional Apps	Be able to manage at least 1 LMS (we recommend Moodle or the CRAFT 3.0 Proposed one).

Learning Outcome B.1.3	The learner should be able to identify, select and apply a set of digital tools to facilitate assessment and evaluation for a specific programme of study	
Knowledge	**Skills**	**Competences**
Have knowledge of key elements related to digital assessment and some digital tools that can be used for assessment and evaluation.	Choose and evaluate digital tools appropriate for facilitating assessment and evaluation	Act independently with digital tools to facilitate assessment and evaluation

Learning Outcome B.1.4	The learner should be able to use Online Communication, networking and collaboration tools.	
Knowledge	**Skills**	**Competences**
Recognise the methods and tools applied to online communication, networking and collaboration	Select the tools applied to online communication, networking and collaboration	Act independently with the tools applied to online communication, networking and collaboration

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[2] *Relative weight of units*

Unit B.2: CONTENT CREATION

Learning Outcome B .2.1	The learner should be able to deliver content for a learning platform.	
Knowledge	**Skills**	**Competences**
Recognise the different audiovisual materials needed to devise Learning Content, including Open educational resources.	- Plan learning material, e learning content and activities for online learning platforms - Produce learning material, e learning content and activities for online learning platforms.	Assume responsibility to make a plan and produce e learning content accordingly. Assume responsibility to deliver your own e-learning material for a specific training programme, according to a given learning platform.
Learning Outcome B.2.2	The learner should be able to select and use free tools for creating learning resources.	
Knowledge	**Skills**	**Competences**
₋ Explain which audio and video formats are the most common and their properties ₋ Identify which text and hypertext formats are the most common and their properties ₋ List existing tools for creating interactive learning resources	- Use recording and editing tools for audio and video - Apply online shared text and hypertext editing tools - Use interactive content creation tools - Use online platforms for storing and retrieving resources	Act independently to create multimedia learning resources using audio, video, text, and hypertext, and interactive learning resources - Assume responsibility to combine learning resources with online platforms for publishing
Learning Outcome B.2.3	The learner should be able to collect, curate, and organize learning resources	
Knowledge	**Skills**	**Competences**
₋ Explain the concept of content curation for personal learning ₋ Describe stages of content curation: collection, synthesizing, commenting, connecting	₋ Apply relating content curation stages to actions upon learning content ₋ Discover tools for content curation ₋ Find appropriate tools for content curation ₋ Select and apply content curation tools for each stage of content curation	Act independently to construct and develop curated content learning spaces for the crafts sector

Unit B.3: TRAINING METHODS		
Learning Outcome B.3.1	The learner should be able to apply a range of methods for Online Training.	
Knowledge	**Skills**	**Competences**
Outline and recognize a range of methods of online training:	Use at least two different methods and two platforms for online training.	- Be able to select and the most appropriate online training method for a given content or module. - Assume responsibility for devising a blended learning strategy for a given content or module
Learning Outcome B.3.2	The learner should be able to customize digital training systems and adapt didactic materials	
Knowledge	**Skills**	**Competences**
- Outline the process of customization of digital training systems - Have knowledge about the principles and methodologies for adapting didactic materials to online training environments	- Plan the customization of a digital training system - Identify tools and methods to adapt didactic materials to an online training environment	- Assume responsibility to customize an online digital training system - Assume responsibility to adapt didactic materials to an online training environment
Learning Outcome B.3.3	The learner should be able to prepare and develop a digital teaching and learning plan relevant to a specific programme of study	
Knowledge	**Skills**	**Competences**
Have knowledge of the process and requirements needed to develop an effective digital teaching and learning plan	Apply teaching and learning requirements and key pedagogical and strategic elements for a specific set of stakeholders	Act independently to develop a digital teaching and learning plan relevant to a specific programme of study
Learning Outcome B.3.4	The learner should be able to articulate methods and tools to gather feedback and practice continuous improvement	
Knowledge	**Skills**	**Competences**
Have knowledge of the evaluation systems and principles applied in an online training environment	Identify methodologies and tools for the evaluation and continuous improvement in an online training environment	Assume responsibility to apply evaluation tools to gather feedback and facilitate continuous improvement in an online training environment

TITLE *(MODULE / UNIT / Learning Objectives)*	EQF (level)	Duration (hours)	ECVET (credits)[3]
Module C: DIGITAL TOOLS FOR CRAFT PRACTITIONERS	**5**	**125**	*5*

Unit C.1: DIGITAL TOOLS OVERVIEW FOR DIGITAL CRAFT		

Learning Outcome C.1.1	The learner should be able to identify Open Source and Open Hardware Solutions, Pros, Cons and common deployment aspects	
Knowledge	**Skills**	**Competences**
– Have knowledge the free software and hardware for computer systems for digital tools craft. – Recognize the advantages and problems in the use of software and hardware of free use for digital craft.	– Select the free hardware or software for use in digital tools craft taking into account the advantages and disadvantages in craft.	Implement free use software and hardware into account the advantages and disadvantages.

Learning Outcome C.1.2	The learner should be able to use 3D formats, Frameworks and Industry standards	
Knowledge	**Skills**	**Competences**
– Have knowledge the different formats in 3D design, the frameworks and the industrial patterns for their use.	Indicate the different 3D formats and performance frameworks in 3D design	Create order files for 3D printing

Learning Outcome C.1.3	The learner should be able to use 2D formats, Frameworks and Industry Standards	
Knowledge	**Skills**	**Competences**
– Have knowledge the different formats in 2D design, the action frames and the industrial patterns for their use.	Designate the different 2D formats and the frames of action in the 2D design	Use the different 2D formats

Learning Outcome C.1.4	The learner should be able to use Open Hardware Vs Proprietary solutions, Industry Standards	
Knowledge	**Skills**	**Competences**
Have knowledge the hardware of open use and the industrial hardware.	Differentiate the advantages and disadvantages of use open and industrial hardware	Select the optimal resources between the use of hardware from open use and industrial use.

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[3] *Relative weight of units*

Unit C.2: CREATION AND USE OF PRINTABLE FILES 3D, NUMERICAL CONTROL SYSTEM AND LASER CUTTING		
Learning Outcome C.2.1	The learner should be able to identify types of files and their conversion, orders in laser cutting files	
Knowledge	**Skills**	**Competences**
‒ Recognise the types of laser cutting files and their conversion to export them to the laser machine. ‒ Know the types of files to send laser cutting orders.	‒ Indicate laser cutting files and conversion forms for export to laser cutting machines. ‒ Recognize file types to send laser cutting orders.	‒ Create laser cutting files. ‒ Convert the files for export to laser machines. ‒ Send cut orders to laser machines
Learning Outcome C.2.2	The learner will be able to discover the potential of using a 3D printer for crafts production	
Knowledge	**Skills**	**Competences**
‒ Define the types of 3D printing files and their conversion to export them to the 3D printer. ‒ Know the types of files to send to the 3D printer.	‒ Recognize 3D printing files and conversion forms for export to 3D printer. ‒ Recognize file types to send 3D printing orders.	‒ Create 3D printing files. ‒ Convert the files for export to printers. ‒ Send print orders to the 3D printer.
Learning Outcome C.2.3	The learner should be able to use numerical control system archives	
Knowledge	**Skills**	**Competences**
‒ Recognize the types of numerical control files and their conversion to export them to the numerical control machines. ‒ Know the types of files to send to the numerical control machines.	‒ Identify the order files for numerical control machines and the conversion forms for the export to the numerical control machine. ‒ Recognize file types to send numerical control commands.	‒ Create numerical control files. ‒ Convert the files for export to numerical control machines. ‒ Send work orders to numerical control machines.

Unit C.3: DIGITALIZATION OF IMAGES		
Learning Outcome C.3.1	Digitalization of objects in 2 dimensions and their file	
Knowledge	**Skills**	**Competences**
Have knowledge the systems of digitalization of images in 2D and their types of files.	Use the digitalization processes in 2D and archive the images.	Scan and archive 2D images.
Learning Outcome C.3.2	Digitalization of objects in 3 dimensions and their file	
Knowledge	**Skills**	**Competences**
Have knowledge the systems of digitalization of objects in 3D and their types of files.	Use the digitalization processes in 3D and archive the objects files.	Scan and archive 3D objects files.

Unit C.4: USE OF DIGITAL TOOLS
The learner will be able to discover the potential of specialist tools for crafts production, i.e. 3D printer, numerical control systems, laser cutting or other.

Learning Outcome C.4.1	The learner should be able to use of a 3D printer	
Knowledge	**Skills**	**Competences**
Have knowledge of 2D and 3D production with application in the crafts sector	Compare the most common applications of 3D printing and discover the crafts' sector 3D printing capacities	Produce concepts for the introduction of new digital solutions to the crafts sector

Learning Outcome C.4.2	The learner should be able to use of numerical control machine	
Knowledge	**Skills**	**Competences**
Have knowledge of the types of numerical control machine operations in the crafts sector	Conclude craft sector programming capacities in respect to numerical control systems	Produce concepts for the introduction of new digital solutions to the crafts sector

Learning Outcome C.4.3	The learner should be able to use of laser cutting	
Knowledge	**Skills**	**Competences**
Have knowledge of laser cutting application in the crafts sector	Compare different methods of laser cutting solutions and present crafts' sector laser cutting capacities	Produce concepts for the introduction of new digital solutions to the crafts sector

Learning Outcome C.4.4	The learner should be able to use other specialist tools and software for Crafts Production	
Knowledge	**Skills**	**Competences**
Express tool modernization in the crafts sector and outline future concepts for producing crafts	Shape decisions with the use of digitally-controlled innovative tools	Adapt innovative ICT tools to the craft production

Unit C.5: MEASURES TO PREVENT OCCUPATIONAL AND ENVIRONMENTAL RISK

Learning Outcome C.5.1	The learner should be able to plan and promote environment and safety management system	
Knowledge	**Skills**	**Competences**

– Explain concepts related to safety, hygiene and health at work.
– Define
  o Danger
  o Accident
  o Damage
  o Occupational disease and risk
	– Apply standards and procedures to act in emergency situations
	– Recognise the importance of safety, hygiene and health at work.
		– Plan and promote the implementation stages of Individual protection, Environment and Safety management system.
		– Implement procedures to act in emergency situations.

- Recognise
  - o Individual elements of protection
  - o Protection risk / function and rules of use
  - o Collective protection elements of protection

Learning Outcome C.5.2		The learner should be able to assess risk and safety conditions for safe use of materials	
Knowledge		**Skills**	**Competences**

- Recognise:
  o Risks and safety conditions
  o Rules of personal hygiene, safety and health at work
  o Product Handling Precautions
- Identify the obligations of the employer and the employee in accordance with the legislation in force.
- Explain the importance of collective protection equipment and individual protection
		Refer to and apply the legislation, regulations and standards of intervention in craft sector.	- Assume responsibility of prepare technical and specific documentation for safe use of materials
			- Monitor risk and safety conditions

Learning Outcome C.5.3		The learner should be able to apply good practices and norms of security, hygiene, health and environmental protection	
Knowledge		**Skills**	**Competences**

Recognise today's major environmental problems
  o Defining Waste
  o Identifying the Management entities of specific waste streams
		- Apply the norms of security, hygiene, health and environmental protection related to the professional activity.
		- Apply Environmental regulatory compliance relevant for crafts sector
			- Assume responsibility to plan good practices for the environment
			- Act independently to develop and implementing Waste Management strategies of action

TITLE *(MODULE / UNIT / Learning Objectives)*	EQF (level)	Duration (hours)	ECVET (credits)[4]
Module D: DIGITAL TOOLS FOR CRAFT BUSINESSES	**5**	**80**	*3*

Unit D.1: BUSINESS DEVELOPMENT, FROM THE IDEA TO THE SCALE UP		
Learning Outcome D.1.1	The Candidate should be aware of the business needs and be able to apply and follow Lean Methodologies.	
Knowledge	**Skills**	**Competences**
₋ Understand the needs identification process ₋ Understand Lean Methodologies.	Complete a Lean Canvas Template for your own business	Advice and support trainees on the creation of a Complete Lean Canvas.
Learning Outcome D.1.2	The candidate must be able to use a sufficient range of Digital tools for business development ,management & Productivity Tools.	
Knowledge	**Skills**	**Competences**
Know a range of tools for business development-- Understand: - Time management - Time tracking - Project management - Task management	Use a range of digital tools for: - Time management - Time tracking - Project management - Task management	Instruct trainees on use at least one tool for: - Time management - Time tracking - Project management - Task management

Unit D.2: ONLINE DIGITAL MARKETING SKILLS FOR CRAFTS PROFESSIONALS		
Learning Outcome D.2.1	The learner should be able to use digital marketing for the Crafts Sector	
Knowledge	**Skills**	**Competences**
₋ Define what digital marketing is ₋ Identify the components of digital marketing	Provide examples of digital marketing	Willingness to use the digital marketing in the craft sectors
Learning Outcome D.2.2	The learner should be able to use e-commerce for the Crafts Sector	
Knowledge	**Skills**	**Competences**

[4] *Relative weight of units*

– Describe what ecommerce is about – List the common types of e-commerce	Provide examples of ecommerce platforms	Willingness to use the e-commerce platforms

Unit D.3: DIGITAL COMMUNICATION FOR CRAFT PRACTITIONERS. COMMUNITY AND PARTICIPATION		
Learning Outcome D.3.1	The learner should be able to identify digital Landscape (clients, competitors, markets)	
Knowledge	Skills	Competences
Identify the digital landscape, the competitors and the structure of the market	Compare and analyse competitors, markets	Willingness to adapt the practice facing the challenges of the digital Landscape
Learning Outcome D.3.2	The learner should be able to find your customer channel	
Knowledge	Skills	Competences
Identify the adequate channels for customers	Make use of customers channel	Willingness to use available channels in relation with the community, customers, etc.