





T4.3.1 Culture Library – Cultural and Natural Heritage course

ORANGE: CREATIVITY, INNOVATION & TECHNOLOGY PROJECT
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SUMMARY TABLE

WP nº and title	WP2. Discovering culture for development			
Task nº and title	T4.3. Compilation of good practices and creation of new training modules until a total amount of 6 validating the process with different cultural elements, processes, or business models.			
Result nº and title	R4.2. TRAINING MODULES			
Full Title of the	T4.3.2 Technical skills library- Cultural and Natural Heritage			
document	course			
Short Description	The purpose of this module is to describe the different types of cultural and natural heritage in order to contribute to their preservation for the identity of social groups and development.			
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Module I. Heritage & Intellectual Property (IP)

Course I.1 Cultural Heritage

Chapter 1. Introduction

The purpose of the O-City project is to discover and promote the natural and cultural heritage of our cities, and, at the same time, to stimulate the orange economy injecting technical and professional knowledge in natural and cultural promotion of the cities involved. On the one hand, the promotion of the natural and cultural heritage of the cities will be achieved by creating creative multimedia items (photo, video, comic, animation, podcast, ...) of each city and upload them into the O-City World platform. On the other hand, with the aim to develop the creative economy of the cities, different courses have been developed for teachers about the creative multimedia items that will be located into the O-City platform. These courses include resources about how to put into practice the contents with their students. In this way, teachers and students will create new creative multimedia items of their own cities that, after being validated, will be uploaded to the O-City World platform.

Additionally, the development of cultural, soft and business skills is also necessary for new practitioners in the orange economy. For this reason, the O-City training plan consists of the following 4 skill modules:

- 1. Module I. Heritage & Intellectual Property (IP): Basic content related to natural and cultural heritage (definition, classification, importance, etc.) and the protection of intellectual property (definition, categories, methods, etc.)
- 2. Module II. Technical: Basic content needed to develop multimedia elements (photography, video, animation, etc.) on heritage.
- 3. Module III. Business: Basic contents related to business and entrepreneurship skills in the orange economy (creation of business models, digital marketing, etc.)
- 4. Module IV. Soft skills: Contents to stimulate creativity, critical thinking and in general interpersonal skills as a tool to improve professional integration.

The Cultural Heritage course is part of Module I. The aim of the course is to provide teachers and students a variety of skills such as the ability to assess the quality of cultural heritage and to identify its characteristics according to the general framework of UNESCO.

The topics that will be developed throughout the course are the definition of cultural and natural heritage according to UNESCO, the different types of cultural and natural heritage, and the need for preservation and dissemination of cultural heritage for the identity of social groups and





The following video introduces the course and explains the importance of cultural heritage in terms of identity, preservation of the coming generations, and development.

Chapter 2. Learning Objectives

After taking this course, the participants are expected to:

- 1. Analyze and understand the concept of cultural heritage and be able to express this understanding through examples.
- 2. Differentiate some of the types of cultural heritage according to the UNESCO guidelines.
- 3. Characterize the types of cultural heritage according to the UNESCO guidelines.
- 4. Analyze the importance and value of cultural heritage to strengthen the identity of different social groups.

Chapter 3. Types of educational materials

One of the purposes of O-City is that teachers use our training program, not only to learn, but also to incorporate the O-City project into their daily academic activities in the classroom, where their students will create multimedia based on photos. In this sense, teachers will choose which contents of the Heritage course are useful for them depending on their previous training; and which contents to take to their classroom, depending on the type of subject or level of their students.

In general, the educational materials developed are classified into three types:

- 1. **Teacher to learn (T2L)**: Pills aimed at teachers to provide them with the basic knowledge that allows them to:
 - 1. understand the matter.
 - 2. transfer this knowledge through pills and prepared activities to his/her students in the classroom.
- 2. **Teacher to teach (T2T)**: Workshops prepared so that the teacher can directly use them in the classroom or customize them in whole or in part before taking them to the classroom.

These pills will usually be:

1. brief explanations about an important concept for the understanding of the matter that is being developed,





- 2. explanations prior to exercises and practical activities in the classroom,
- 3. infographics or other graphic materials to project or print.
- **1. Student to practice (S2P)**: Repository of practical exercises (particularized whenever possible for the different multimedia elements developed in the project) proposed in the classroom aimed at students:
 - 1. to develop individually or as a team,
 - 2. inside the classroom or as homework.

Chapter 4. Innovative learning methodologies

The purpose of this chapter is to provide the different methodological strategies for the development of the Culture and Heritage courses and the Intellectual Property.

These strategies have been designed to work in the virtual mode in such a way that they facilitate the learning process and allow learners and teachers a constant exchange of knowledge and learning products.

Matrix for the selection of strategies in E-learning

Below is a summary table of E-Learning strategies that have been taken from the book "75 e-learning Activities: Making online learning interactive" by Rian Watkins.

This matrix supports the teacher to make better decisions about the most appropriate strategies to develop the students' learning action, based on the criteria of: Group Size (Individual work or in groups of up to more than 16 people), Modality of virtual interaction (Asynchronous or Synchronous) and the time that the activity requires to be developed by the students).

Activity	Group Si	ze		Modality		Require	red time		
	Small	Medium	Large	Asynchronous	Synchronous	1 day	2-3	3-5	6+
	(1-7)	(8-15)	(16+)			or less	days	days	days
Construction of	knowledge	about the co	urse conte	nts		•			
Inquiry resources	✓			✓		√			
Virtual tour			✓		✓	✓			
Story telling	✓			✓			✓		
Online resource evaluation	√	✓		√			✓		





Creation of inquiry questions			✓	✓				√	
Reverse roles		✓		✓	✓	✓	✓	✓	✓
WetQuest collaborative	✓			✓					
In the news	✓			✓					
Variety of reactions	✓			✓		✓			
Creation of case studies	✓			✓					√

*The methodological strategies proposed here have been developed in the Document "Didactic strategies for active learning" (S / D), prepared by the Center of Teaching Excellence of the Universidad del Norte - CEDU- in the contingency for the COVID-19 Pandemic in the first semester of the 2020 academic calendar.

Activity	Group Size			Modality		Require	Required time			
	Small (1-7)	Medium (8-15)	Large (16+)	Asynchronous	Synchronous	1 day or less	2-3 days	3-5 days	6+ days	
Construction of I	knowledge	about the co	ourse cont	ents	•					
Letter from dear ADDIE.	√			✓			✓			
Electronic portfolio			✓	✓			✓			
My reactions			✓	✓			✓			
Annotations in web bibliography		√		✓				✓		
Review, review	✓			✓					✓	
Class book			✓	✓				✓		
Discussion summary			√	✓		√				
Critical incidents			✓	✓			✓			
Class Memories			✓	√					✓	
100 words or less			✓	✓		✓				





The strategies described here are focused on enabling learners to identify and develop the skills necessary to be successful in our virtual course. Success will be sought in learning in a virtual environment, which requires the integration of new strategies to effectively use virtuality with its spaces and strategies, in conjunction with a variety of traditional skills that are acquired in the classroom.

Description of the Strategies Selected to Develop the Heritage and Intellectual Property Modules.

Self-assessment:

Made up of small groups of one to seven students, "Self-Assessment" is a type of asynchronous strategy and should be developed in one day or less. Self-assessment is a tool that learners can use to develop the learning skills and study habits to achieve virtual success. This activity allows learners feedback on their readiness to succeed in a virtual course and gives them the opportunity to discuss strategies to improve their willingness to work with their peers.

Objective: Self-assess strengths and weaknesses to successfully appropriate the contents of

the virtual course.

Activity: Learners will identify virtual learning strategies that could enhance their ability to learn in the virtual classroom. Learners will apply one or more strategies to improve readiness for virtual learning.

- Lessons learned:

In asynchronous mode, this activity must be carried out in a period of two to three days, in medium groups of eight to fifteen students.

Objective: Share with a story the positive and negative experiences as a user and student of the module and its contents. The teacher will use these experiences to develop virtual relationships taking advantage of the guidance between learners.

Activity: The learner will share their understanding of what they have to learn from their positive and negative experiences as a student. The learner will share the lesson they have to learn from their positive and negative experiences as a user of the study platform. Learners will develop relationships with their classmates.

Storytelling:

This activity lasts two to three days, is carried out in asynchronous mode, and with small groups of one to seven members. The Tell a Story activity creates an environment in the virtual course where learners can add their stories to a conversation, thus building a community, engaging learners in the course, and improving retention of course materials.

Objective: Contribute to the story that is told in the course content on a selected topic.

Activity: The learners will work with other learners in the construction of stories with the





topics of the course. Learners will identify the basic elements that can create a story about the course topic.

- Creation of inquiry questions:

This activity must be carried out in a time greater than three days and less than or equal to five, in asynchronous mode, and in groups of sixteen or more students. As a tool to encourage interaction between course learners.

Objective: To introduce the learners to the topics of the course, identifying the essential facts of the topic that occupies them in the virtual world.

Activity: Learners will create probing questions for their peers that allow and compel exploring virtual resources that are related to the course content. Learners will identify and locate virtual resources related to the course. The learners will search the virtual resources to answer the specific questions.

- Collaborative WebQuest:

"Collaborative WebQuest" is an asynchronous activity, which is made up of small groups of one to seven students and lasts from three to five days.

Objective: Promote the commitment and ability of learners in the use of the web to complete a task related to the course in a collaborative way as the teacher provides and guides them through a variety of resources hosted on the WWW.

Activity: The learner will use the web resources to complete the task designed by the teacher, working collectively on a collaborative document.

- In the news:

For this activity, small groups that do not exceed six students will be formed, in the mode of asynchronism and in a duration that ranges from three to five days.

Objective: To review, summarize and use the report of new events on the web on the subject at hand, in such a way that many news available on the web can be used to attract the learner to discussions and many topics of the course.

Activity: The learners will use the web to locate new articles related to the topics of the course. Learners will share virtual resources to expand discussion courses. The learners will develop the ability of virtual communication, developing presentations in different formats (PPT, Prezi, Canvas, etc ...)

Variety of Reactions:

The "Variety of reactions" is found in asynchronous mode, with groups of one to seven students, with a maximum duration of one day.

Objective: To use current events that draw the learner into discussions and examine multiple perspectives on the topics, impressions, or themes of a virtual course.

Activity: The learners will reflect on current events from an individually assigned perspective and will share it with their group. They will then take a stance on new events from various perspectives assigned throughout the course. Learners will design strategies to interact





virtually with their peers.

- Creation of case studies:

It is developed in an asynchronous mode and is developed in small groups of one to seven students; this activity takes six days or more.

Objective: To develop and share case studies that can be an effective technique to attract learners to the ability of analysis, problem solving techniques, collaboration with a partner and the application of course material in the real world.

Activity: The learners will collaborate with the members of their group in the development of a case study. Learners will develop the skills to interact with their peers in a virtual way. Learners will apply course material to real-world problems.

- Review, Review:

It is an asynchronous activity, for small groups of one to seven students and its duration is six or more days. Developing quality papers or essays in almost any course (virtual or classroom) requires guidance and feedback from the facilitator on many preliminary drafts.

Objective: To guide the learner towards many strategies for the effective development of written communication skills focusing on three review cycles: **limit, add and clarify.**

Activity: The apprentices will develop documents and essays with quality in the written expression, based on the revision cycles with the teacher's accompaniment, to produce their documents or essays. Learners will deliver short essays in which they will demonstrate their ability to synthesize written ideas, add content to improve information, and clarify ambiguous or irrelevant ideas.

Class book:

This activity must be carried out within a period of three to five days, with large groups of sixteen or more students and its modality is asynchronous.

Objective: Produce a resource bank that the learner can use after the virtual course has finished. A collection of reports, documents, essays, or presentations provided by learners during a course, which they can use to review course material, future reference material, or share with colleagues.

Activity: The learners will host reports, documents, essays or presentations for the class book in a common collaborative space; and they will contribute in the organization and updating of the contents for the class book.

- Electronic portfolio:

Activity of a large group of sixteen students or more, in asynchronous mode and with a duration ranging from two to three days.

Objective: Evaluate the learning of a virtual course. By having to give a diverse selection of reports, presentations, web resources, drafts, and other files, the teacher can effectively evaluate the development of any topic of the virtual courses.





Activity: The learners will develop various folders with the products of their course work, illustrating their performance, use and improvement of skills. The learners will review the course materials organized in their electronic portfolio and the teacher will review and mark the products and portfolios of each student according to the rubric for each product.

Chapter 5. Contents of the course

The course will begin with an introductory video explaining what cultural and natural heritage are and which are their characteristics. The video will also describe the objectives of the module and will provide examples of all the types of heritage.

Table 1 shows the three topics with its lessons:

TOPIC	LESSON
T1. What is Cultural and Natural Heritage?	L1. Definition of cultural and natural heritage according to UNESCO.
T2. Types of Cultural Heritage	L1. Characteristics of the types of cultural heritage
T3. The Need for Preservation and Dissemination of Cultural Heritage for the Identity of Social Groups and Development	L1. Cultural heritage and the identity of social groups

Table 1. Structure of the course in topics and lessons

The first topic, What is Cultural and Natural Heritage? will be the beginning of this important journey in the world of cultural heritage, we will learn the meaning of cultural and natural heritage and we will mention their types of heritage. This topic will give us the necessary background to start understanding the relevance of cultural and natural heritage in our identity and the development of our communities.

In the second topic, *Types of Cultural Heritage*, we will delve even further into the world of cultural heritage. We will describe and analyze each of the types of cultural heritage in order to identify them and further understand their importance.

In the third and last topic, *The Need for Preservation and Dissemination of Cultural Heritage for the Identity of Social Groups and Development*, we will use the previously acquired knowledge to focus on the need for the preservation and dissemination of cultural heritage for the identity of different social groups and their development. This topic is of vital importance as it will help us understand the importance of cultural heritage in the future of different communities around the world.





Topic 1. What is cultural and natural heritage?

This topic explores the definition of cultural and natural heritage. The main objective of this topic is to let learners become familiar with the general aspects of cultural heritage.

Definition of cultural and natural heritage according to UNESCO: To understand the course, it is necessary to begin by analyzing the concepts of cultural and natural heritage, and in order to do so, we will provide the definition based on the UNESCO guidelines.

Table 2 shows the materials that will be used with educators and learners. The main objectives of this topic are described in the following video.



Lesson	Туре	Materials	Description	Student workload	Where the student work?	What to do in class
	T2L/T2T	Definition of Cultural and Natural Heritage. Lesson content, video content pdf, video.	Teachers will learn the definition of Cultural Heritage and its classification in order to transfer this knowledge to the students.	2h	Home	
1 What is Cultural and Natural Heritage?	Т2Т	Activity 1: Analyze Video 2 referenced in Chapter 6 and make a list of "Keywords" to define cultural heritage and identify its different types. Activity factsheet, video content pdf, video.	Workshops prepared for the teachers to use them in the classroom or customize them in whole or in part before taking them to the classroom.	3h	Classroom	Workshop: Definition of cultural and natural heritage
	S2P	Activity 1: Winning with the Heritage. Activity factsheet.	Practical exercises (particularized whenever possible for the different multimedia elements developed in the project) proposed in the classroom aimed at students: to develop individually or as a team.	2h	Classroom	Activity 1: Winning with the Heritage

Table 2. Materials provided for Lesson 1, What is Cultural and Natural Heritage? Topic 1, What is cultural and natural heritage?





Topic 2. Types of Cultural Heritage

Now that we are familiarized with the term "cultural heritage", we will proceed to explain its types according to UNESCO. This topic delves into the different types of cultural heritage, defining each one of them. By explaining each one of the characteristics, teachers and students will be able to familiarize themselves with this topic and to understand the importance of protecting cultural heritage in order to secure the identity of future generations.

We will be focusing on tangible cultural heritage, intangible cultural heritage, and natural heritage.

As stated in the Convention, there is "interdependence between intangible Cultural Heritage, and tangible cultural and natural heritage, and acknowledges the role of intangible Cultural Heritage as a source of cultural diversity and a driver of sustainable development." ("Tangible and intangible Cultural Heritage | RICHES Resources," n.d.)

Even though natural heritage is defined by UNESCO as "Natural features, geological and physiographical formations and delineated areas that constitute the habitat of threatened species of animals and plants and natural sites of value from the point of view of science, conservation or natural beauty. It includes nature parks and reserves, zoos, aquaria and botanical gardens" ("Natural heritage," 2017) and cultural heritage is directly related to humans, "There is an increasing recognition of strong interconnections between natural and cultural assets and of the need for their integrated management" ("Links between Natural and Cultural heritage," n.d.) since it is a resource of social cohesion and economic development.

Table 3 shows the materials that will be used with educators and learners.

The main objectives of this topic are described in the following video





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Lesson	Туре	Materials	Description	Student workload	Where the student work?	What to do in class
	T2L/T2T	Characteristics of the types of Heritage according to UNESCO. Lesson content, video content pdf, video.	Teachers will learn the characteristics of the types of Cultural Heritage in order to transfer this knowledge to the students.	2h	Home	
1 Types of Cultural Heritage	T2T	Pill: Analyze Video 6 referenced in chapter 6. Activity factsheet, video content pdf, video.	Workshops prepared for the teachers to use them in the classroom or customize them in whole or in part before taking them to the classroom.	3h	School	Workshop: Characteristics of the types of cultural heritage.
nentage	S2P	Activity 2: Winning with the Heritage. Activity factsheet.	Activity to understand the types of cultural heritage.	2h	Classroom	Activity 2- Winning the heritage part 2.

Table 3. Materials provided for Lesson 1, Types of Cultural Heritage. Topic 2, Types of Cultural Heritage.





Topic 3. The Need for Preservation and Dissemination of Cultural Heritage for the Identity of Social Groups and Development.

So far, we have learnt how cultural heritage is our driving force, our identity and what help us build a future for the coming generations. Why don't we stop for a second to analyze what this really means?

We live in a fast-changing world, technology has helped us become globalized and stay connected to people from all over the world. We learn from them; we see what happens to them and we get to know them from the comfort of our house. We also watch the news, and we see how conflict damages all that history, sites and people and jeopardizes the proper development of nations. The only way we can continue learning from others is by protecting them, helping preserve their cultural heritage.

"As a source of identity, heritage is a valuable factor for empowering local communities and enabling vulnerable groups to participate fully in social and cultural life. It can also provide timetested solutions for conflict prevention and reconciliation." ("Preserving our heritage," 2012)

This topic aims to explain the importance of preserving and disseminating cultural heritage regarding the identity of social groups and development.

The main objectives of this topic are described in the following video



Lesson	Туре	Materials	Description	Student workload	Where the student work?	What to do in class
1 The Need for Preservation and Dissemination	T2L/T2T	UNESCO's strategy for dissemination. Lesson content, video content pdf, video.	Teachers will learn UNESCO's strategy for dissemination: - foster cultural and social inclusion of people residing in the regions promote the cultural expressions and participation of all peoples in culture maintain and develop cultural sites, spaces, and infrastructure	2h	Home	
of Cultural Heritage for the Identity of Social Groups and Development	Т2Т	Activity 4: Analyze Video 1 referenced in chapter 6, to define the importance of the Convention for the Preservation of Cultural Heritage. Activity factsheet, video content pdf, video.	This workshop will be about activity 4. It consists of developing audio-visual content and an outdoor activity for the students.	3h	School	Workshop: Preservation and dissemination of cultural heritage and identity of social groups
	S2P	Activity: Assembling the Heritage. Activity factsheet.	Students will solve puzzles of different cities.	2h	Classroom	Activity: Assembling the heritage

Table 4. Materials provided for Lesson 1, The Need for Preservation and Dissemination of Cultural Heritage for the Identity of Social Groups and Development. Topic 1, The Need for Preservation and Dissemination of Cultural Heritage for the Identity of Social Groups and Development





Chapter 6. Useful tools

Video 1. Cultural Heritage in Armed Conflict: The 1954 Hague Convention and its two (1954 and 1999) Protocols

https://www.youtube.com/watch?v=mqdgj1aPHqs

Video 2. World Heritage explained - animated short about the UNESCO World Heritage Convention (English)

https://www.youtube.com/watch?v=IOzxUVCCSug

Video 3. Invitation to Dive into Intangible Cultural Heritage https://www.youtube.com/watch?v=kuTSC9TB5Ds

Video 4. The value of heritage

https://www.youtube.com/watch?v=K1_f-GqaHHo

Video 5. Why many World Heritage sites are at risk | The Economist https://www.youtube.com/watch?v=6-K079txZe8

Video 6. Countries with the Most UNESCO World Heritage Sites 1978-2019 https://www.youtube.com/watch?v=k1KQW0VEdUk

Video 7. Top 10 Amazing Natural World Heritage Sites | Top 10 UNESCO World Heritage Sites https://www.youtube.com/watch?v=RUx7yuIVu44

Video 8. Support to policy development in the field of intangible cultural heritage https://www.youtube.com/watch?v=qSPrqUYcOOA





Chapter 7. Evaluation

This chapter is divided into two sections, teacher evaluation of the teacher and students' evaluation.

Teacher evaluation to obtain the Europass certificate

The Cultural Heritage course is available in open format in $\frac{\text{https://poliformat.upv.es/portal/site/OCW CUR1157407 2020/tool/dc0cec59-ac83-4a68-999c-431c46242a74/ShowPage?sakai.tool.placement.id=dc0cec59-ac83-4a68-999c-431c46242a74}, so teachers have all the resources to implement the project in their classroom.}$

Teachers will be evaluated through tests, ensuring that the contents (T2L) have been assimilated correctly. In this way, teachers can demonstrate the correct understanding of the module materials and obtain the Europass certificate.

Evaluation proposal for students to be used by the teachers

This section includes some rubrics to evaluate the Cultural Heritage course developed by students following the proposed activities (T2T and S2P).

STRATEGY	TEACHER EVALUATION	STUDENT EVALUATION
1. Self-assessment	From a Concept Map, teachers identify their own learning process and appropriation of knowledge on a topic. Concept Maps: drawing or diagram that represents the mental connections that they make between a main concept and other concepts they have learned.	Pros and Cons Grid: Students list pros / cons, costs / benefits, pros / cons of a specific topic on their learning.
2. Lessons learned		Lessons learned ranking and goal matching: Students should list and prioritize 3 to 5 lessons learned on a specific topic and relate them to the goals or objectives of the topic content.
3. Story telling		Profiles of Individuals from the cultural field / Admired Cultural Elements: Students write a brief description of the characteristics of a person from the cultural field / cultural element that they admire and present it based on audiovisual material before their classmates in three minutes.
4. Creation of Inquiry Questions	Teacher Memory Matrix: Teachers complete a course content table in which the row and column headings contain key concepts, topics, or aspects of a reading or class topic and the cells are empty for completion.	Student Memory Matrix: Students complete a course content table in which the row and column headings contain key concepts, topics, or aspects of a reading or class topic and the cells are empty so that they are completed.
5. In the news		RRPC2 Newsletter (Remember, Summarize, Ask, Connect and Comment): Students write





		short affirmations or sentences and short notes from real news on the topic of the class through which they can remember, summarize, ask, connect and make meaningful comments and with them they will develop 3 minutes of news for each group.
6. Collaborative WebQuest		Didactic sheet on the content or topic of a class: following rubric criteria, students must, through a collaborative tool, develop a didactic sheet on a specific topic that can be used by other learners.
7. Variety of Reactions		Problem and Perspective Recognition Tasks: students recognize and identify types of problems and play different roles, according to the problem, assuming different perspectives.
8. Creation of Case Studies	Case Study Design: According to a specific topic of the course, the teacher will build a case study or place it in immediate reality, identifying the key concepts of the content to be analyzed.	Case Analysis: According to a case that will be provided by the teacher, students will apply the concepts developed for their understanding and subsequent explanation.
9. Review, Review, Review		Analytical Memos: students write a one- or two-page analysis of a specific problem or topic that will be given feedback by the teacher three times: In the first they will deal with the student's synthesis capacity; in the second they will request to complement the synthesized ideas and in the third to clarify doubts about the central concepts of the memo.
10. Class book		Resource Bank: Students create a short design plan and resource bank and host them in chapters, based on guiding questions from the teacher.
11. Electronic Portfolio	Models: For each topic of the course, the teacher will develop a model product that serves as an example to students.	Product Development: For each subject of the course, the student will elaborate a product assigned by the professor according to the model.

Table 5. Rubrics to be used by the teacher to evaluate students

Chapter 8. Pathway to acquire competences

In this chapter, the pathway in the Cultural Heritage course to acquire competences is defined. As concluded in WP5, we are working with DIGICOMP and ENTRECOMP competences.

DIGICOMP Competencies





In this section, we identify the DIGCOMP competencies that students will work with, on each of the proposed activities of the Cultural Heritage course. The proposed activities will help students develop these competences through 3 proficiency levels: A (foundation), B (intermediate) and C (advanced). The list of indicators for the development of digital competences are included in Tables A.I.1 and A.I.2, and the list of learning outcome descriptors for each competence and level of proficiency (Tables A.I.3-A.II.5). Using the learning output descriptors of the digital competences, the proficiency level that students can develop by doing the proposed activities has been identified. Table 15 details this information of this course. For each lesson, activities (S2P) are represented in green colour (see the description of the activities in Chapter 5).

ENTRECOMP Competencies

In this section, we identify the ENTRECOMP competencies that students will work with, on each of the proposed activities of the Cultural Heritage course. The proposed activities will help students develop these competences through 3 proficiency levels: A (foundation), B (intermediate) and C (advanced). These proficiency levels are summarized in Annex II (Table A.II.1). ENTRECOMP does not offer a list of indicators for the development of the entrepreneurial competences, but a detailed list of learning outcome descriptors for each competence and level of proficiency (Tables A.II.2-A.II.16). Using these lists of learning outcome descriptors, the proficiency level that students can develop by doing the proposed activities has been identified. Table 16 details this information of this course. For each lesson, (S2P) are represented in green colour (see the description of the activities in Chapter 5).



			Lesson 1	
		T1.L1.1	T1.L1.2	T1.L1.3
INFORMATION	1.1 Browsing, searching, and filtering data, information, and digital content			
AND DATA	1.2 Evaluating data, information, and digital content			
LITERACT	1.3 Managing data, information, and digital content			
	2.1 Interacting through digital technologies			
	2.2 Sharing through digital technologies			
COMMUNICATION AND	2.3 Engaging in citizenship through digital technologies			
COLLABORATION	2.4 Collaborating through digital			
COLLABORATION	technologies			
	2.5 Netiquette			
	2.6 Managing digital identity			
	3.1 Developing digital content			
DIGITAL CONTENT CREATION	3.2 Integrating and re-elaborating digital content			
CREATION	3.3 Copyright and licences			
	3.4 Programming			
	4.1 Protecting devices			
SAFFTY	4.2 Protecting personal data and privacy			
SAFEIT	4.3 Protecting health and well-being			
	4.4 Protecting the environment			
	5.1 Solving technical problems			
	5.2 Identifying needs and technological			
PROBLEM SOLVING	responses			
	5.3 Creatively using digital technologies			
	5.4 Identifying digital competence gaps			

Table 6. DIGICOMP competences developed with the activities proposed in Topic 1. What is Cultural and Natural Heritage?



			Lesson 1	
		T1.L1.1	T1.L1.2	T1.L1.3
	1.1 Browsing, searching, and filtering data, information, and digital content			
INFORMATION AND DATA LITERACY	1.2 Evaluating data, information, and digital content			
	1.3 Managing data, information, and digital content			
	2.1 Interacting through digital technologies			
	2.2 Sharing through digital technologies			
COMMUNICATION AND	2.3 Engaging in citizenship through digital technologies			
COLLABORATION	2.4 Collaborating through digital technologies			
	2.5 Netiquette			
	2.6 Managing digital identity			
	3.1 Developing digital content			
DIGITAL CONTENT CREATION	3.2 Integrating and re-elaborating digital content			
CREATION	3.3 Copyright and licences			
	3.4 Programming			
	4.1 Protecting devices			
SAFETY	4.2 Protecting personal data and privacy			
3/11 211	4.3 Protecting health and well-being			
	4.4 Protecting the environment			
	5.1 Solving technical problems			
PROBLEM SOLVING	5.2 Identifying needs and technological responses			
	5.3 Creatively using digital technologies			
	5.4 Identifying digital competence gaps			

Table 7. DIGICOMP competences developed with the activities proposed in Topic 2. Types of Cultural Heritage.





			Lesson 1	
		T1.L1.1	T1.L1.2	T1.L1.3
	1.1 Browsing, searching, and filtering data, information, and digital content			
INFORMATION AND DATA LITERACY	1.2 Evaluating data, information, and digital content			
	1.3 Managing data, information, and digital content			
	2.1 Interacting through digital technologies			
	2.2 Sharing through digital technologies			
COMMUNICATION AND	2.3 Engaging in citizenship through digital technologies			
COLLABORATION	2.4 Collaborating through digital technologies			
	2.5 Netiquette			
	2.6 Managing digital identity			
	3.1 Developing digital content			
DIGITAL CONTENT CREATION	3.2 Integrating and re-elaborating digital content			
CREATION	3.3 Copyright and licences			
	3.4 Programming			
	4.1 Protecting devices			
SAFFTY	4.2 Protecting personal data and privacy			
SALLII	4.3 Protecting health and well-being			
	4.4 Protecting the environment			
	5.1 Solving technical problems			
PROBLEM SOLVING	5.2 Identifying needs and technological responses			
FRODLEIVI SOLVING	5.3 Creatively using digital technologies			
	5.4 Identifying digital competence gaps			

Table 8. DIGICOMP competences developed with the activities proposed in Topic 3. The Need for Preservation and Dissemination of Cultural Heritage for the Identity of Social Groups and Development.



			Lesson 1	
		T1.L1.1	T1.L1.2	T1.L1.1
	1.1 Spotting opportunities			
	1.2 Creativity	В	В	
IDEAS AND	1.3 Vision	В		
OPPORTUNITIES	1.4 Valuing ideas			
	1.5 Ethical and sustainable thinking			
		В		
	2.1 Self- awareness and self- efficacy			
			В	
	2.2 Motivation and perseverance			
RESOURCES	2.3 Mobilizing resources			
	2.4 Financial and economic literacy			
	2.5. Mobilizing others			
	3.1 Taking the initiative			
	3.2 Planning and management			
INTO ACTION	3.3 Coping with uncertainty, ambiguity, and risk			
	3.4 Working with others			
	3.5. Learning through experience			

Table 9. ENTRECOMP competences developed with the activities proposed in Topic 1. What is Cultural and Natural Heritage?



			Lesson 1	
		T1.L1.1	T1.L1.2	T1.L1.1
	1.1 Spotting opportunities	В		
	1.2 Creativity		В	
IDEAS AND	1.3 Vision	В	В	
OPPORTUNITIES	1.4 Valuing ideas			
	1.5 Ethical and sustainable thinking			
		В		
	2.1 Self- awareness and self- efficacy			
	2.2 Motivation and perseverance			
RESOURCES	2.3 Mobilizing resources			
	2.4 Financial and economic literacy			
	2.5. Mobilizing others			
	3.1 Taking the initiative			
	3.2 Planning and management			
INTO ACTION	3.3 Coping with uncertainty, ambiguity,			
INTO ACTION	and risk			
	3.4 Working with others			
	3.5. Learning through experience		В	

Table 10. ENTRECOMP competences developed with the activities proposed in Topic 2. Types of Cultural Heritage.





			Lesson 1	
		T1.L1.1	T1.L1.2	T1.L1.1
	1.1 Spotting opportunities			
	1.2 Creativity	В	В	
IDEAS AND	1.3 Vision	В	В	
OPPORTUNITIES	1.4 Valuing ideas			
	1.5 Ethical and sustainable thinking			
		В		
	2.1 Self- awareness and self- efficacy			
	2.2 Motivation and perseverance			
RESOURCES	2.3 Mobilizing resources			
	2.4 Financial and economic literacy			
	2.5. Mobilizing others			
	3.1 Taking the initiative			
	3.2 Planning and management			
INTO ACTION	3.3 Coping with uncertainty, ambiguity, and risk			
	3.4 Working with others			
	3.5. Learning through experience		В	

Table 11. ENTRECOMP competences developed with the activities proposed in Topic 3. The Need for Preservation and Dissemination of Cultural Heritage for the Identity of Social Groups and Development.





Chapter 9. Other training related to Intellectual Property

In this chapter, teachers will find more learning materials from other O-City modules with activities that can be implemented in the classroom while implementing intellectual property concepts. Teachers will decide which resources to take to their classroom depending on their teaching reality. In this way, teachers will adapt the learning path of their students focusing in technical, culture, intellectual property, business and/or soft skills.

Module II. Technical

In this section teachers will find learning and teaching resources about basic contents related to multimedia. This module is divided into 6 courses, which can be opened using their link:

- II.1 <u>Photography</u>
- II.2 <u>Video</u>
- II.3 Animation
- II.4 Comic
- II.5 <u>Podcast</u>
- II.6 Infographic

Module III. Business

In this section teachers will find learning and teaching resources about basic contents related to business and entrepreneurship skills. The module is divided into 6 courses, which can be opened using their link:

- III.1 Business Models
- III.2 <u>Digital Marketing</u>
- III.3 <u>Branding</u>
- III.4 Entrepreneurial Finances
- III.5 Testing Business Ideas
- III.6 <u>Business Pitch</u>

Module IV. Soft Skills

In this section teachers will find learning and teaching resources to stimulate creativity, critical thinking, and interpersonal skills as a tool to improve professional integration. These are the three courses of the module, which can be opened using their link:

- IV.1 Interpersonal Skills
- IV.2 Creativity
- IV.3 Critical Thinking





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Annex I. DIGCOMP: framework to develop and understand digital competences

DIGCOMP (Ferrari, 2013) defines a list of 5 competence areas (Dimension 1: Information, communication, content creation, safety and problem solving), each one with several competences as a framework for developing and understanding digital competences in Europe. DIGCOMP provide us with indicators for the development of digital competence, shown in Tables A.I.1 and A.I.2., with three proficiency levels: A (foundation level), B (intermediate level) and C (advanced level). Moreover, DIGCOMP also describes learning outcome descriptors for each competence, which are collected in Tables A.I.3, A.I.4 and A.I.5.





	Getting to A	Moving from A to B	Moving from B to C
Information	 Understanding what a search engine is Finding out how to do searches with simple words Understanding how to save content and information Understanding which information is covered by Copyright Understanding that how to trust online information 	 Finding out about and using effective search methods. Finding out how to judge information and using these strategies. Finding out how to maintain files and content regularly and implementing practices. Understanding terms as copyright, copy left and creative commons. 	 Finding out about and trying a wider range of search techniques and strategies. Finding out about how to cross-check and filter information and using these strategies. Finding out about and trying a wider range of methods and tools to organise information. Understanding about different types of licences and how to apply them.
Communication	Finding out about different digital communication channels Understanding how to use a few communication tools Becoming aware of basic principles for communicating through digital means Becoming aware of how to use technologies for cooperating with others	 Finding out about and trying more ways to communicate with others. Finding out about and regularly using ways to shares files and content with others. Ensuring that cooperative tools are used as regularly as possible and seeing opportunities when needs arise. Finding out about online services Finding out about netiquette 	 Finding out and trying a wide range of communication tools and devices. Finding out about and trying these in the context of their match to needs and purpose. Finding out about a wide range of information sharing devices and tools and identifying which of these tools and devices best matches different needs and purposes. Becoming engaged in civic online participation Understand cultural differences
Content-creation	 Finding out about different tools, software and packages to produce content Understanding how to use some simple tools Understanding how to modify content 	 Finding out about and using different ways that ICT can produce content. Become familiar with multimedia tools Understanding how to apply licences to the content one has produced Finding out about tools that support creating new programmes or applications 	 Selecting ways to produce content that are not so familiar and using these in contexts appropriate to needs and purpose. Finding out about and using ways to edit and refine content. Finding out about and using expert ways of combining existing content such as mash-up. Becoming familiar with different types of licences. Learning how to code and programme.

Table A.I.1. Indicators for the development of digital competence: Information, Communication, Content Creation.





	Getting to A	Moving from A to B	Moving from B to C
Safety	 Finding out simple means of protections (passwords, anti-viruses, avoid sharing information) Understanding how to protect self from addiction or cyber bullying 	 Finding details of the information that should not be shared online and having opportunities to put this into practice. Finding out about and using a range of tools to protect digital devices. Finding out about the impact of technologies on the environment 	 Finding out about and using a wide range of protection strategies and how these apply to online identities. Knowing how to change online security and privacy settings, and monitoring and adjusting these regularly as needed, checking them against expert practice. Having access to expert sources that detail the different privacy issues, and how to address these in practice. Finding out about the impact of technologies on society
Problem-solving	 Finding out simple means of protections (passwords, anti-viruses, avoid sharing information) Understanding how to protect self from addiction or cyber bullying 	 Having access to sources or centres that demonstrate digital technologies and having chance to explore their use according to personal needs. Having access to sources or centres that offer technical advice and enable the individual to gain personal experience in solving technical problems. Creating own network of experts to recur to for help 	 Having access to a range of expert advice relating to new tools, devices, applications, software, and services, to provide opportunities to review these in terms of current or future personal needs and purpose. Having access to expert technical advice that demonstrates how to solve technical problems that arise and being able to use this in practice. Having access to a means to check personal competence and being directed to sources to update competence areas that are identified as weak. Finding out about the potential of technologies in the resolution of complex or cognitive problems

Table A.I.2. Indicators for the development of digital competence: Safety, Problem-solving.





	Competence	A-Foundation	B-Intermediate	C-Advanced
	Browsing, searching and filtering information	I can do some online searches through search engines. I know that different search engines can provide different results.	I can browse the internet for information, and I can search for information online. I can articulate my information needs and I can select the appropriate information I find.	I can use a wide range of search strategies when searching for information and browsing on the Internet. I can filter and monitor the information I receive. I know whom to follow in online information sharing places (e.g., micro-blogging).
L.	Evaluating information	I know that not all online information is reliable.	I can compare different information sources.	I am critical about the information I find, and I can cross-check and assess its validity and credibility.
Information	Storing and retrieving information	I know how to save files and content (e.g., texts, pictures, music, videos, and web pages). I know how to go back to the content I have saved.	I can save, store or tag files, content and information and I have my own storing strategy. I can retrieve and manage the information and content I have saved or stored.	I can apply different methods and tools to organise files, content, and information. I can deploy a set of strategies for retrieving the content I or others have organised and stored.
	Interacting through technologies	I can interact with others using basic features of communication tools, (e.g., mobile phone, VoIP, chat or email).	I can use several digital tools to interact with others using more advanced features of communication tools (e.g. mobile phone, VoIP, chat, email).	I am engaged in the use of a wide range of tools for online communication (emails, chats, SMS, instant messaging, blogs, microblogs, SNS). I can adopt digital modes and ways of communication that best fit the purpose. I can tailor the format and ways of communication to my audience. I can manage the different types of communication I receive.
	Sharing information and content	I can share files and content with others through simple technological means (e.g., sending attachments to emails, uploading pictures on the internet, etc.)	I can participate in social networking sites and online communities, where I pass on or share knowledge, content, and information.	I can actively share information, content, and resources with others through online communities, networks and collaboration platforms.
	Engaging in online citizenship	I know that technology can be used to interact with services, and I passively use some (e.g.: online communities, government, hospital or medical centres, bank).	I can actively use some basic features of online services (e.g.: government, hospital or medical centres, bank, eGovernment services, etc).	I am actively participating in online spaces. I know how to get actively engaged in online participation and I can use several different online services.
	Collaborating through digital channels	I can collaborate with others using traditional technologies (e.g., email).	I can create and discuss outputs in collaboration with others using simple digital tools.	I frequently and confidently use several digital collaboration tools and means to collaborate with others in the production and sharing of resources, knowledge, and content.
Communication	Netiquette	I know basic behaviour norms that apply when communicating with others using digital tools	I know the principles of online etiquette and I am able to apply them in my own context.	I can apply the various aspects of online etiquette to different digital communication spaces and contexts. I have developed strategies to discover inappropriate behaviour.
Commu	Managing digital identity	I am aware of the benefits and risks related to digital identity.	I can shape my online digital identity and keep track of my digital footprint.	I can manage several digital identities according to the context and purpose, I can monitor the information and data I produce through my online interaction, I know how to protect my digital reputation.

Table A.I.3. Learning outcome descriptors for competences in areas Information and Communication.





	Competence	A-Foundation	B-Intermediate	C-Advanced
	Developing content	I can create simple digital content (e.g. text, or tables, or images, or audio, etc.).	I can produce digital content in different formats, including multimedia (e.g. text, tables, images, audio, etc.).	I can produce digital content in different formats, platforms and environments. I can use a variety of digital tools for creating original multimedia outputs.
	Integrating and re- elaborating	I can make basic changes to the content that others have produced.	I can edit, refine and modify the content I or others have produced.	I can mash-up existing items of content to create new ones.
_	Copyright and licences	I know that some of the content I use can be covered by copyright.	I have basic knowledge of the differences about copyright, copy left and creative commons and I can apply some licences to the content I create.	I know how different types of licences apply to the information and resources I use and create
Content creation	Programming	I can modify some simple function of software and applications (apply basic settings).	I can apply several modifications to software and applications (advanced settings, basic programme modifications).	I can interfere with (open) programmes, modify, change or write source code, I can code and programme in several languages, I understand the systems and functions that are behind programmes.
	Protecting devices	I can use basic steps to protect my devices (for instance: using anti-viruses, passwords, etc.).	I know how to protect my digital devices, I update my security strategies.	I frequently update my security strategies. I can take action when the device is under threat.
	Protecting personal data	I know that I can only share certain types of information about myself or others in online environments.	I can protect my and others online privacy. I have a general understanding of privacy issues and I have basic knowledge of how my data is collected and used.	I often change the default privacy settings of online services to enhance my privacy protection. I have an informed and wide understanding of privacy issues and I know how my data is collected and used.
	Protecting health	I know how to avoid cyber bullying. I know that technology can affect my health, if misused.	I know how to protect myself and others from cyber bullying and I understand the health risks associated with the use of technologies (from ergonomics aspects to addiction to technologies).	I am aware of the correct use of technologies to avoid health problems. I know how to find a good balance between online and off-line worlds.
Safety	Protecting the environment	I take basic measures to save energy.	I understand the positive and negative aspects of the use of technology on the environment.	I have an informed stance on the impact of technologies on everyday life, online consumption, and the environment.

Table A.I.4. Learning outcome descriptors for competences in areas Content Creation and Safety.



	Competence	A-Foundation	B-Intermediate	C-Advanced
	Solving technical problems	I can ask for targeted support and assistance when technologies do not work or when using a new device, programme or application.	I can solve easy problems that arise when technologies do not work.	I can solve a wide range of problems that arise from the use of technology
	Identifying needs and technological responses	I can use some technologies to solve problems, but for limited tasks. I can make decisions when choosing a digital tool for a routine practice.	I understand what technology can do for me and what it cannot. I can solve a non-routine task by exploring technological possibilities. I can select appropriate tool according to the purpose and I can evaluate the effectiveness of the tool	I can make informed decisions when choosing a tool, device, application, software, or service for the task I am not familiar with. I am aware of new technological developments. I understand how new tools work and operate. I can critically evaluate which tool serves my purposes the best.
ing	Innovating and creatively using technology	I know that technologies and digital tools can be used for creative purposes, and I can make some creative use of technologies.	I can use technologies for creative outputs, and I can use technologies to solve problems (i.e. visualizing a problem). I collaborate with others in the creation of innovative and creative outputs, but I don't take the initiative.	I can solve conceptual problems taking advantage of technologies and digital tools, I can contribute to the knowledge creation through technological means, I can take part in innovative actions through the use of technologies. I proactively collaborate with others to produce creative and innovative outputs.
Problem solving	Identifying digital competence gaps	I have some basic knowledge, but I am aware of my limits when using technologies.	I know how to learn to do something new with technologies.	I frequently update my digital competence needs.

Table A.I.5. Learning outcome descriptors for competences in area Problem Solving.





Annex II. EntreComp: the entrepreneurship competence framework

EntreComp (Bacigalupo, Kampylis, Punie, & Van den Brande, 2016) defines a list of 3 competence areas (Ideas and opportunities, resources, into action), each one with several competence as a framework with learning outcome descriptors to promote the entrepreneurship competence in education and work.

The EntreComp progression model consist of four main levels, Foundation, Intermediate, Advanced and Expert, each one divided into two sub-levels. However, O-City courses will develop only the three first levels, as in DIGCOMP: A (foundation level), B (intermediate level) and C (advanced level). Table A. II. I shows an overview of the learning outcome descriptors provided by EntreComp, which are detailed in Tables A.II.2 – A.II.16.





	Competence	A-Foundation	B-Intermediate	C-Advanced
ies	Spotting opportunities	Learners can find opportunities to generate value for others.	Learners can recognise opportunities to address needs that have not been met.	Learners can seize and shape opportunities to respond to challenges and create value for others.
opportunities	Creativity	Learners can develop multiple ideas that create value for others.	Learners can test and refine ideas that create value for others.	Learners can transform ideas into solutions that create value for others.
oddo	Vision	Learners can imagine a desirable future.	Learners can build an inspiring vision that engages others.	Learners can use their vision to guide strategic decision-making.
and c	Valuing ideas	Learners can understand and appreciate the value of ideas.	Learners understand that ideas can have different types of value, which can be used in different ways.	Learners can develop strategies to make the most of the value generated by ideas.
Ideas	Ethical and sustainable thinking	Learners can recognise the impact of their choices and behaviours, both within the community and the environment.	Learners are driven by ethics and sustainability when making decisions.	Learners act to make sure that their ethical and sustainability goals are met.
	Self-awareness and self-efficacy	Learners trust their own ability to generate value for others.	Learners can make the most of their strengths and weaknesses.	Learners can compensate for their weaknesses by teaming up with others and by further developing their strengths.
	Motivation and perseverance	Learners want to follow their passion and create value for others.	Learners are willing to put effort and resources into following their passion and create value for others.	Learners can stay focused on their passion and keep creating value de-spite setbacks.
	Mobilising re- sources	Learners can find and use resources responsibly.	Learners can gather and manage different types of resources to create value for others.	Learners can define strategies to mobilise the resources they need to generate value for others.
Resources	Financial and economic literacy	Learners can draw up the budget for a simple activity.	Learners can find funding options and manage a budget for their value-creating activity.	Learners can make a plan for the financial sustainability of a value-creating activity.
Res	Mobilising others	Learners can communicate their ideas clearly and with enthusiasm.	Learners can persuade, involve and inspire others in value-creating activities.	Learners can inspire others and get them on board for value- creating activities.
	Taking the initiative	Learners are willing to have a go at solving problems that affect their communities.	Learners can initiate value-creating activities.	Learners can look for opportunities to take the initiative to add or create value.
	Planning and management	Learners can define the goals for a simple value- creating activity.	Learners can create an action plan, which identifies the priorities and milestones to achieve their goals.	Learners can refine priorities and plans to adjust to changing circumstances.
	Coping with uncertainty, ambiguity and risk	Learners are not afraid of making mistakes while trying new things.	Learners can evaluate the benefits and risks of alternative options and make choices that reflect their preferences.	Learners can weigh up risks and make decisions despite uncertainty and ambiguity.
action	Working with others	Learners can work in a team to create value.	Learners can work together with a wide range of individuals and groups to create value.	Learners can build a team and networks based on the needs of their value-creating activity.
Into	Learning through experience	Learners can recognise what they have learnt through taking part in value-creating activities.	Learners can reflect and judge their achievements and failures and learn from these.	Learners can improve their abilities to create value by building on their previous experiences and interactions with others.

Table A.II.1. EntreComp overview.





Area	Ideas and opportunities	Competence Spotting	opportunities		
Hint	Use your imagination and abilities to identify opportunities for creating value.				
Descriptor		reate value by exploring the social, cultural and ecor ctions and bring together scattered elements of the	nomic landscape. Identify needs and challenges that andscape to create opportunities to create value.		
		Levels of proficiency			
	A - Foundation	B - Intermediate	C - Advanced		
recognise of community I can find of need solution community to solve. I can find exfrom a solutineeds in maken not be I can tell the where valuation the econdifferent rolution community to solve.	opportunities to help others/ I can opportunities to create value in my and surroundings. Ifferent examples of challenges that ons/ I can recognise challenges in my and surroundings that I can contribute camples of groups who have benefited tion to a given problem/ I can identify y community and surroundings that en met. e difference between different areas e can be created (for example, at e community, in the environment, or omy or society)/ I can recognise the es the public, private and third sectors egion or country.	I can explain what makes an opportunity to create value/I can proactively look for opportunities to create value, including out of necessity. I can identify opportunities to solve problems in alternative ways/ I can redefine the description of a challenge, so that alternative opportunities address it may become apparent. I can recognise the different roles the public, private and third sectors play in my region, or country/ I can establish which user group, and which needs, I want to tackle through creating value. I can tell the difference between contexts for creating value (for example, communities and informal networks, existing organisations, the market)/ I can identify my personal, social and professional opportunities for creating value, both in existing organisations or by setting up new ventures.	challenge mainstream thought to create opportunities and look at challenges in different ways/ I can judge the right time to take an opportunity to create value. I can carry out a needs analysis involving relevant stakeholders/ I can identify challenges related to the contrasting needs and interests of different stakeholders. I can identify the boundaries of the system that		

Table A.II.2 Learning outcome descriptors for competence Spotting Opportunities (Area Ideas and Opportunities).





Area	Ideas and opportunities	Competence Creativit	у				
Hint	Develop creative and purposeful idea	Develop creative and purposeful ideas					
Descriptor	Develop several ideas and opportun with innovative approaches. Combine	xisting and new challenges. Explore and experiment					
	with innovative approaches. Combine	Levels of proficiency					
	A - Foundation	B - Intermediate	C - Advanced				
can explore resources. I can develor relevant to as part of a value for ot I can approach that can have explore ope to generate I can assemand others services and my needs community I can find services and services are services and service	each open-ended problems (problems we many solutions) with curiosity/ I can en-ended problems in many ways so as multiple solutions. The objects that create value for me, soll can improve existing products, d processes so that they better meet or those of my peers and the	I can experiment with my skills and competences in situations that are new to me/ I can actively search for new solutions that meet my needs. I can experiment with different techniques to generate alternative solutions to problems, using available resources in an effective way/ I can test the value of my solutions with end users. I can take part in group dynamics aimed at defining open-ended problems/ I can reshape open-ended problems to fit my skills. I can identify the basic functions that a prototype should have to illustrate the value of my idea/I can assemble, test, and progressively refine prototype that simulate the value I want to create. I can tell the difference between types of innovations (for example, process versus product innovation and social innovation, incrementativersus disruptive innovation)/ I can judge if an ideal product, or process is innovative or just new to me	improve the value-creating process/ I can combine my understanding of different contexts to transfer knowledge, ideas, and solutions across different areas. I can describe different techniques to test innovative ideas with end users/ I can set up processes to involve stakeholders in finding, developing, and testing ideas. I can describe and explain different approaches to shaping open-ended problems and different problem-solving strategies/ I can help others create value by encouraging experimentation and using creative techniques to approach problems and generate solutions. I can create (alone or with others) products or services that solve my problems and my needs/I can develop and deliver value in stages, launching				

Table A.II.3 Learning outcome descriptors for competence Creativity (Area Ideas and Opportunities).





Area Ideas and op	pportunities	Competence	Vision
Hint Work towar	ds your vision of the future		
Descriptor Imagine the	future. Develop a vision to turn ideas into action	n. Visualise futu	re scenarios to help guide effort and action
	Levels	of proficiency	
A - Foundation	B – Intermediate		C - Advanced
I can imagine a desirable future/ I can develop simple future scenarios where value is created for my community and surroundings	I can develop (alone or with others) an inspiri for the future that involves others/ I can bui scenarios around my value-creating activity. I can explain what a vision is and what puserves/ I am aware of what is needed to build My vision for creating value drives me to meffort to turn ideas into action/ I can decide wo of vision for creating value I would like to contribute.	Id future vision vision vision vision. I car a vision. I car active procession via type vibute to. I car	use my understanding of the context to identify different strategic ons for creating value/ I can discuss my (or my team's) strategic on for creating value. Explain the role of a vision statement for strategic planning/ I can pare a vision statement for my (or my team's) value-creating vity that guides internal decision-making throughout the whole tess of creating value. In identify the changes needed to achieve my vision/ I can promote actives for change and transformation that contribute to my vision.

Table A.II.4 Learning outcome descriptors for competence Vision (Area Ideas and Opportunities).

Area	Ideas and opportunities	Ideas and opportunities		Valuing ideas
Hint	Make the most of ideas and oppo	rtunities		
Descriptor	Judge what value is in social, cult	ural and economic terms. F	Recognise the poten	tial an idea has for creating value and identify
		Levels	of proficiency	
	A - Foundation	B - Interme	ediate	C - Advanced
myself, and groups, such value in my I can clarify used and a rights/ I can and circulate can be pr	amples of ideas that have value for others/ I can show how different as firms and institutions, create community and surroundings. that other people's ideas can be acted on, while respecting their explain that ideas can be shared ad for the benefit of every-one or otected by certain rights, for pyrights or patents.	I can tell the difference cultural, and economic which type of value I wan choose the most appropso. I can tell the difference licences that can be used protect rights/ can dappropriate licence for sharing and protecting the my ideas.	value/ I can decide at to act on and then riate pathway to do be between types of to share ideas and choose the most r the purpose of	through entrepreneurship, such as social, cultural, or economic value/ I can break down a value chain into its different parts and identify how value is added in each part. I can tell the difference between trademarks, registered design rights, patents, geographical indications, trade secrets, confidentiality agreements and copyright licences, including open, public-domain licences such as creative commons/ When creating ideas with others, I can outline a

Table A.II.5 Learning outcome descriptors for competence Valuing ideas (Area Ideas and Opportunities).





Area	Ideas and opportunities		Competence	Ethical a	nd sustainable thinking	
Hint	Assess the consequences and impact of ideas, opportunities, and actions					
Descriptor	Assess the consequences of ideas that bring value and the effect of entrepreneurial action the environment. Reflect on how sustainable long-term social, cultural and economic responsibly.					
		Levels	of proficiency			
	A - Foundation	B - Ir	ntermediate		C - Advanced	
honesty, commitmer importance I can list e behaviour recognise e behaviour I society as a I can find ar human actic economic of between the	nise behaviours that show integrity, responsibility, courage and at/I can describe in my own words the of integrity and ethical values. xamples of environmentally friendly that benefits a community/I can examples of environmentally friendly by companies that creates value for whole. Ind list examples of changes caused by on in social, cultural, environmental or contexts/I can tell the difference impact of a value-creating activity on ommunity and the broader impact on	I can apply ethical the production processes integrity when taking I can identify practice and their implication produce a clear product with practices that ar I can identify the opportunities will hat the target group community/ I can identify the community/ I can identify the community/ I can identify the chan my team's) value-continues who can future generations, color I can tell the difference of re-sources and my value-creating act environment.	I am driven by hor decisions. The ses that are not sugar for the environment of the statement where not sustainable. The impact that the very on me and my and on the surentify stakeholders ge brought about be creating activity, annot speak up (for limate, or nature). The control of the sure of the sure of the state of the sure of the sur	ustainable ent/ I can nen faced aking up team, on rrounding who are by my (or including example, unting for impact of	I can argue that ideas for creating value should be supported by ethics and values relating to gender, equality, fairness, social justice and environmental sustainability/ I can take responsibility for promoting ethical behaviour in my area of influence, (for example, by promoting gender balance highlighting inequalities and any lack of integrity). I can discuss the impact an organisation has on the environment (and vice versa)/ I can discuss the relationship between society and technical developments, relating to their implications for the environment. I can analyse the implications of my value-creating activity within the boundaries of the system I am working in/ I can define the purpose of the impact assessment, impact monitoring, and evaluation of impact. I can tell the difference between input, output, outcomes and impact/ I can discuss a range of accountability methods for both functional and strategic accountability.	

Table A.II.6 Learning outcome descriptors for competence Ethical and sustainable thinking (Area Ideas and Opportunities).





Area	Resources	Competence S	elf-awareness and self-efficacy				
Hint	Believe in yourself and keep develop	Believe in yourself and keep developing					
Descriptor		d wants in the short, medium and long term influence the course of events, despite unce	Identify and assess your individual and group strengths and ertainty, setbacks and temporary failures				
		Levels of proficiency					
	A - Foundation	B - Intermediate	C - Advanced				
goals/ I can and goals. I can identif not good at. I believe in successfully, what I inten I can list difunctions/ abilities are	my ability to do what I am asked / I believe in my ability to achieve	I can commit to fulfilling my needs, interests and goals/ I can reflect on my ind and group needs, wants, interests and aspir in relation to opportunities and future prost I can judge my strengths and weaknesse those of others in relation to opportunitic creating value/ I am driven by the desire to ustrengths and abilities to make the moopportunities to create value. I can judge the control I have over achievements (compared with any control outside influences)/ I believe I can influence influences for the better. I can describe my skills and competences reto career options, including self-employmer can use my skills and competences to chancareer path, as a result of new opportunity from necessity.	aspirations into goals that help me reach them/ I can help others to reflect on their needs, wants, interests and aspirations and how they can turn these into goals. I can team up with others to compensate for our weaknesses and add to our strengths/ I can help others identify their strengths and weaknesses. I believe in my ability to carry out what I have imagined and planned, despite obstacles, limited re-sources and resistance from others/ I believe in my ability to understand and take the good out of experiences that others may label as failures. I can discuss how a realistic understanding and evaluation of my personal attitudes, skills and knowledge can influence my decision-making,				

Table A.II.7 Learning outcome descriptors for competence Self-awareness and self-efficacy (Resources).





Area	Resources	Competence	Motivation and perseverance		
Hint	Stay focused and don't give up				
Descriptor		on and satisfy your need to achieve. Be prep under pressure, adversity, and temporary fa	pared to be patient and keep trying to achieve your long-terr failure.		
		Levels of proficiency			
	A - Foundation	B - Intermediate	C - Advanced		
to somethin am motivate myself and of I see tasks motivated by I can recognized for a show passing goals / I am trying to ach I do not give	as challenges to do my best/ I am y challenges. gnise different ways of motivating others to create value. sion and willingness to achieve my a determined and persevere when sieve my (or my team's) goals. e up and I can keep going even when alties/ I am not afraid of working hard	I can anticipate the feeling of achieving m and this motivates me/ I can regulate m behaviour to stay driven and achieve the b of turning ideas into action. I can set challenges to motivate myself willing to put effort in and use resour overcome challenges and achieve my (team's) goals. I can reflect on the social incentives asse with having a sense of initiative and creating for myself and others/ I can tell the difficult between personal and external factor motivate me or others when creating value I can overcome simple adverse circumstatican judge when it is not worth continuing value. I can delay achieving my goals in order to the service of the servi	and belief in my ability to achieve/ I can coach others to stay motivated, encouraging them to commit to what they want to achieve. If / I am curces to (or my progress)/ I can use strategies to stay motivated (for example set goals, monitor performance, and evaluate motivated and focused on creating value. I can persevere in the face of adversities whe trying to achieve my goals/ I can devise strategies to overcome standard adverse circumstances. I can celebrate short-term achievements, in order to stay motivated/ I can inspire others to work har on their goals by showing passion and a strong swith an on their goals by showing passion and a strong sense of ownership.		
		greater value, thanks to prolonged effort maintain effort and interest, despite setba			

Table A.II.8 Learning outcome descriptors for competence Motivation and perseverance (Resources).





Area	Resources	Competence Mobilizing	ng resources		
Hint	Get and manage the re-sources you need.				
Descriptor					
		Levels of proficiency			
	A - Foundation	B - Intermediate	C - Advanced		
appreciate with others I value my p I can descri reuse, repai I can recog example, st time as a sc I can look achieving v identify soi	that resources are not unlimited/ I can the importance of sharing resources ossessions and use them responsibly/ be how resources last longer through r and recycling. nise different uses for my time (for udying, playing, resting)/ I value my arce resource. For help when I am having difficulty that I have decided to do/ me can arces of help for my value-creating example, teachers, peers, mentors).	I can experiment with different combinations of resources to turn my ideas into action/ I can get and manage the necessary resources to turn my idea into action. I can discuss the principles of circular economy and resource efficiency/ I use resources responsibly and efficiently (for example, energy, materials in the supply chain or manufacturing process, public spaces). I can discuss the need for investing time in different value-creating activities/ I can use my time effectively to achieve my goals. I can describe the concepts of division of labour and job specialisation/ I can find and list public and private services to support my value-creating activity (for example, incubator, social enter-prise advisors, start-up angels, chamber of commerce).	I can develop a plan for dealing with limited resources when setting up my value-creating activity/ I can get together the necessary resources to develop my value-creating activity. I take into account the non-material cost of using resources when taking decisions about my value-creating activities/ I can choose and put in place effective resource- management procedures (for example, life-cycle analysis, solid waste). I can manage my time effectively, using techniques and tools that help make me (or my team) productive/ I can help others manage their time effectively. I can find digital solutions (for example, free, paid for, or open-source) that can help me manage my value- creating activities efficiently/ I can find support to help me take advantage of an opportunity to create value (for example, advisor or consultancy services, peer or mentor support).		

Table A.II.9 Learning outcome descriptors for competence Mobilizing resources (Resources).





Area	Resources		Competence	Financial	and economic literary
Hint	Develop financial and economic know-how				
Descriptor	Estimate the cost of turning an idea into a value-creating activity. Plan, put in place and evalue to make sure my value-creating activity can last over the long term			ace and eva	luate financial decisions over time. Manage financing
		Levels	of proficiency		
	A - Foundation	B - In	termediate		C - Advanced
to money/	pasic terminology and symbols related I can explain simple economic for example, supply and demand, e, trade).	I can use the concep comparative advantag happen between indiv I can read income stat	ge to explain why e viduals, regions and	exchanges d nations/	I can explain the difference between a balance sheet and a profit-and-loss account/ I can build financial indicators (for example, return on investment).
I can judge what to use my money for/ I can draw up a simple household budget in a responsible manner. I can identify the main types of income for families, businesses, non-profit organisations and the state/ I can describe the main role of banks in the economy and society. I can outline the purpose of taxation/ I can explain how taxation finances the activities of a country and its part in providing public goods and services.		I can draw up a bu activity/ I can judge value-creating activity I can explain that value different forms (a bus non-profit organisation different structures company, limited coron)/ I can identify put funding for my value example, prizes, crow I can estimate the obligations I need to requirements for my a	the cash-flow new control of the cash-flow new control of the cash-flow new control of the cash of the	s can take er-prise, a can have individual we and so ources of ivity (for res).	I can apply the financial planning and forecasting concepts that I need to turn ideas into action (for example, profit or not for profit)/ I can judge the cash-flow needs of a complex project. I can choose the most appropriate sources of funding to start up or expand a value- creating activity/ I can apply for public or private business support programmes, financing schemes, public subsidies or calls for tender. I can estimate how my financial decisions (investments, buying assets, goods and so on) affect my tax/ I can make financial decisions based on current taxation schemes.

Table A.II.10 Learning outcome descriptors for competence Financial and economic literary (Resources).





Area	Resources	Competence	Mobilizing others			
Hint	Inspire, engage, and get others on board					
Descriptor	Inspire and enthuse relevant stake persuasion, negotiation and leaders	cholders. Get the support needed to achieve valuable ship.	e outcomes. Demonstrate effective communication,			
		Levels of proficiency				
	A - Foundation	B - Intermediate	C - Advanced			
involved in or I can persua arguments. I can communican communican can procommunican communican communican communican communican can procommunican can proco	usiasm for challenges/ I am actively creating value for others. Ide others by providing a number of unicate my ideas clearly to others/ I inicate my team's ideas to others by using different methods (for sters, videos, role-play). Irovide examples of inspiring tion campaigns/ I can discuss how edia can be used to reach audiences ways.	I do not get discouraged by difficulties/ I can lead by example. I can persuade others by providing evidence for my arguments/I can persuade others by appealing to their emotions. I can communicate imaginative design solutions/ I can communicate the value of my (or my team's) idea to stakeholders from different backgrounds effectively. I can use various methods, including social media, to communicate value-creating ideas effectively/ I can use media appropriately, showing that I am aware of my audience and purpose.	I can get endorsement from others to support my value-creating activity/ I can inspire others, despite challenging circumstances. I can pitch effectively in front of potential investors, or donors/ I can overcome resistance from those who will be affected by me or my (team's) vision, innovative approach, and value-creating activity. I can communicate the vision for my (or my team's) venture in a way that inspires and persuades external groups, such as funders, partner organisations, volunteers, new members, and affiliate supporters/ I can produce narratives and scenarios that motivate, inspire and direct people. I can influence opinions in relation to my value-creating activity, through a planned approach to social media/ I can design effective social- media campaigns to mobilize people in relation to my (or my team's) value-creating activity.			

Table A.II.11 Learning outcome descriptors for competence Mobilizing others (Resources).





Area	Into action	Competence	Taking the initiative
Hint	Go for it		
Descriptor	Initiate processes that create value tasks.	Take up challenges. Act and work independently to achieve	e goals, stick to intentions and carry out planned
		Levels of proficiency	
	A - Foundation	B - Intermediate	C - Advanced
am comfort activities. I show some am given/ value-creati I can have a surrounding	out the tasks I am given responsibly/ lable in taking responsibility in shared e independence in carrying out tasks I can work independently in simpling activities. I go at solving problems that affect many solving problems that affect many solving with the affect many community.	out simple tasks in value-creating activities/ I can take individual and group responsibility in value-creating activities. I can initiate simple value-creating activities/ I am driven by the possibility of being able to initiate value-creating activities independently.	I can delegate responsibility appropriately/ I can encourage others to take responsibility in value-creating activities. I can initiate value-creating activities alone and with others/ I can help others work independently. I take action on new ideas and opportunities, which will add value to a new or existing value-creating venture/ I value others taking the initiative in solving problems and creating value.

Table A.II.12 Learning outcome descriptors for competence Taking the initiative (Into action).





Area Into action		Competence	Planning and management
Hint Prioritise, organise a	d follow up.		
Descriptor Set long-, medium-	nd short-term goals. Define priorities an	d action plans. Adapt to	unforeseen changes
	Levels	of proficiency	
A - Foundation	B – Interme	ediate	C - Advanced
I can clarify what my goals are in value-creating activity/ I can alternative goals to create value in context. I can carry out a simple plan for creating activities/ I can deal with of simple tasks at the same time feeling uncomfortable. I can recall the order of steps needed in a simple value-creating took part in/ I can identify the bathat are needed in a value activity. I can recognise how much progremade on a task/ I can monitor watask is going to plan. I am open to changes/ I can confideal with changes in a constructive.	strengths, ambitions, interest can set short-term goals that I can create an action plate necessary steps to achieve methods the possibility of changes to mediate was define the key elements that model necessary to deliver the I can prioritise the basic streating I can identify different ty necessary for monitoring the value-creating activity/ I can adapt my plans to achieve my can adapt my plans to achieve my can set support and changes that are outside my	ts, and achievements/ I I can act on. In which identifies the pay goals/ I can allow for my plans. In the property of the pay idea/ I can at make up the business to a value I have identified. It is and act on them, person of data that are the progress of a simple can describe different and impact monitoring. It is a property of the	I can define long-term goals arising from the vision for my (or my team's) value-creating activity/I can match short-term, mid-term and long-term goals to the vision for my (or my team's) value-creating activity. I can summarise the basics of project management/ I can apply the basics of project management in managing a value- creating activity. I can develop a business plan based on the model, describing how to achieve the value identified/ I can organise my value-creating activities using planning methods such as business and marketing plans. I can define the priorities to meet my (or my team's) vision/ I can stay focused on the priorities set, despite changing circumstances. I can describe different methods for performance and impact monitoring/ I can define what data is needed to monitor how effective my value-creating activities are and an appropriate way to collect them. I can embrace change that brings new opportunities for value creation/ I can anticipate and include change along the value-creating process.

Table A.II.13 Learning outcome descriptors for competence Planning and management (Into action).





Area	Into action	Competence	Coping with uncertainty, ambiguity, and risk
Hint	Make decisions dealing with u	ncertainty, ambiguity, and risk.	
Descriptor	unintended outcomes. Withir	·	vailable is partial or ambiguous, or when there is a risk of f testing ideas and prototypes from the early stages, to
		Levels of proficiency	
	A - Foundation	B - Intermediate	C - Advanced
trying new to achieve to a chieve to a chi	raid of making mistakes while things/ I explore my own ways hings. tify examples of risks in my gs/ I can describe risks related value-creating activity in which	I can discuss the role that information plays in reducing uncertainty, ambiguity and risk/ I can actively look for, compare and contrast different sources of information that help me reduce ambiguity, uncertainty, and risks in making decisions. I can tell the difference between acceptable and unacceptable risks/ I can weigh up the risks and benefits of self-employment with alternative career options and make choices that reflect my preferences. I can critically evaluate the risks associated with an idea that creates value, taking into account a variety of factors/ I can critically evaluate the risks related to the formal set-up of a value-creating venture in the area in which I work.	I can find ways of making decisions when the information is incomplete/ I can pull together different viewpoints to take informed decisions when the degree of uncertainty is high. I can apply the concept of affordable losses to make decisions when creating value/ I can compare value-creating activities based on a risk assessment. I can demonstrate that I can make decisions by weighing up both the risks and the expected benefits of a value-creating activity/ I can outline a risk management plan for guiding my (or my team's) choices while developing my value-creating activity.

Table A.II.14 Learning outcome descriptors for competence Coping with uncertainty, ambiguity and risk (Into action).





Area	Into action	Competence	Working with others
Hint	Team up, work together, and networ	k.	
Descriptor	Work together and cooperate with opositively when necessary.	others to develop ideas and turn them into action	on. Network. Solve conflicts and face up to competition
		Levels of proficiency	
	A - Foundation	B - Intermediate	C - Advanced
and situation can bring to I can show recognise the behaviours and behavior I can show the benefits for achievin I am open to playing diresponsibility working in a I am open to activities/ creating act I can expassociation, support (ficommunities)	o involving others in my value- creating I can contribute to simple value-ivities. Iain the meaning and forms of cooperation, and peer-to-peer for example, family and other s)/ I am open to establishing new d cooperation with others (individuals	I can combine different contributions to create value/ I can value diversity as a possible source of ideas and opportunities. I can express my (or my team's) value-creating ideas assertively/ I can face and solve conflicts. I can listen to other people's ideas for creating value without showing prejudice/ I can listen to my end users. I can work with a range of individuals, and teams/ I share the ownership of value-creating activities with the members of my team. I can contribute to group decision- making constructively/ I can create a team of people who can work together in a value-creating activity. I can use the relationships I have to get the support I need to turn ideas into action, including emotional support/ I can establish new relationships to get the support I need to turn ideas into action, including emotional support (for example, joining a mentor network).	I can support diversity within my team or organisation. I can compromise where necessary/ I can deal with non-assertive behaviour that hinders my (or my team's) value -creating activities (for example, destructive attitudes, aggressive behaviour and so on)/ I can manage conflicts effectively. I can describe different techniques for managing relationships with end users/I can put in place strategies to actively listen to my end users and act on their needs-I can build a team based on the individual knowledge, skills, and attitudes of each member/I can contribute to creating value by teaming up with distributed communities through digital technologies. I can use techniques and tools that help people to work together/I can give people the help and support they need to perform at their best within a team. I can use my network to find the right people to work on my (or my team's) value-creating activity/I proactively make contact with the right people inside and outside my organisation to support my (or my team's) value-creating activity (for example, at conferences or on social media).

Table A.II.15 Learning outcome descriptors for competence Working with others (Into action).





Area	Into action	Competence	Learning through experience
Hint	Learn by doing		
Descriptor	Use any initiative for value creation	as a learning opportunity. Learn with others, inc	luding peers and mentors. Reflect and learn from both
	success and failure (your own and otl	ner people's).	
		Levels of proficiency	
	A - Foundation	B - Intermediate	C - Advanced
created va temporary achievemen I can provide and compet I can anticip will grow successes ar I can recogn in value- cre experience	e examples that show that my abilities tence have increased with experience/pate that my abilities and competence with experience, through both	I can reflect on failures (mine and other people's), identify their causes, and learn from them/ I can judge if and how I have achieved my goals, so that I can evaluate my performance and learn from it. I can reflect on the relevance of my learning pathways for my future opportunities, and choices/ I am always looking for opportunities to improve my strengths and reduce or compensate for my weaknesses. I can reflect on my interaction with others (including peers and mentors) and learn from it/ I can filter the feedback provided by others and keep the good from it.	I can reflect on my (or my team's) achievements and temporary failures as things develop so as to learn and improve my ability to create value/ I can help others reflect on their achievements and temporary failures by providing honest and constructive feedback. I can find and choose opportunities to over-come my (or my team's) weaknesses and to develop my (or my team's) strengths/ I can help others develop their strengths and reduce or compensate for their weaknesses. I can integrate lifelong learning into my personal development strategy and career progress/ I can help others reflect on their interaction with other people and help them learn from this interaction.

Table A.II.16 Learning outcome descriptors for competence Learning through experience (Into action).





Annex III. Letter of invitation template to include a city in O-City

Request for permission to incorporate the city of	
to the digital world O-City.org	

Exmo. Mr. Mayor:

D. Jose Marin-Roig Ramon,
Project Manager
O-CITY (Orange: Creativity, Innovation & Technology)
Erasmus + (600963-EPP-1-2018-1-ES-EPPKA2-KA)
http://o-city.webs.upv.es

O-CITY

EXPOSES:

That the O-CITY project, funded by the European Commission, within the Erasmus Plus (Knowledge Alliances) program, develops an online application to visualize the natural and cultural heritage of the world's towns and cities. On this platform, cities can represent not only their monuments and natural spaces, but also their culture and traditions through videos, photographs, animations and other multimedia elements produced as educational projects in the classrooms of training centers and institutions.

REQUEST:

That the Polytechnic University of Valencia be authorized to incorporate ______ into the O-City.org application, to enhance the city's heritage in the online world, and stimulate digital skills in local training centers.

in the city of, on202_,

AUTHORISATION

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