T4.3.2 Soft Skills Library – Business model creation

**ORANGE: CREATIVITY, INNOVATION &
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WP4 –INNOVATIVE EDUCATIONAL TOOLKIT

WP nº and title	WP4. Innovative toolkit
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 document	T4.3.2 Technical skills library- Business Model Creation
Short Description	This document presents the Business Model Creation course, which is part of Module 3. Business skills. The aim of the course is that the teacher acquires the technical competences about how to develop a Business Model Canvas , and also to provide him/her with materials and guidance to transmit this knowledge to their students in the classroom. Following the lessons proposed in this course, the students will implement a business model canvas presentation with the most important points of his/her business idea to show them to different stakeholders.
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Contents

Module II Technical Library
Course II.1 Business model creation

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.

This document presents the Business Model Creation course, which is part of Module III. The aim of the course is for the teacher to acquire theoretical foundations and competencies on how to create a business model basic elements of the business model canvas, as well as to provide him / her with materials and guidelines for transferring this knowledge to his / her students in the classroom. After the lessons suggested in this course, students will create their own business model to some natural or cultural heritage of their cities.

The main topics of this course are the Importance of a Business Model, Brand Identity, Strategic brand management, Brand Equity, The New Media Environment, Measuring and Interpreting Brand Performance. With this, students will develop a brand of a cultural heritage in their city, providing us brand elements experience that guarantees its knowledge and subsequent conservation. Finally, the teacher will upload the multimedia produced in his/her classroom to the O-City World platform if they have the required quality.

The course is available in open format in:

https://poliformat.upv.es/portal/site/OCW_CUR1157407_2020/tool/025c0a84-967a-4751-bb79-eba91cffa134

This document is structured as follows. Chapter 2 details the learning objectives of the course. Chapter 3 describes the three types of learning materials developed: T2L-Teacher to learn, T2T- Teacher to teach and S2P- Student to practice. Chapter 4 reports the innovative learning methodologies that are used in the proposed course (project based learning and blended learning) and the ones that teachers can decide to use (flip-teaching, gamification and E-Scrum). Chapter 5 is dedicated to give the contents of the course, which is divided in two topics, the first one has 1 lesson and the second has 8 lessons. For each lesson, all the materials (T2T, T2L and S2P) are linked and recommendations about how to plan the lessons are given. Chapter 6 includes links to some useful tools to develop the multimedia based on photos and, also, some guidelines to implement E-Scrum in this course. Chapter 7 is dedicated to evaluation: teachers will be evaluated through tests about the material T2t; and some rubrics are provided to teacher to facilitate the evaluation of students. Chapter 8 efine the pathway to acquire competences by identifying the DIGICOMP and ENTRECOMP competencies that the students will work with each one of the proposed activities of the photo-video content course. Finally, in Chapter 9 teachers can find more learning materials from other O-City modules with activities business models canvas creation. Teachers can decide which resources to take to their classroom depending of their teaching reality (educational level, subject, …). In this way, teachers will adapt the learning path of their students focusing in technical, culture, intellectual property, business and/or soft skills.

Chapter 2. Learning Objectives

The general objective of O-City project is to provide a series of virtual tools that allow teachers to be trained in multimedia issues, granting technical as well as artistic knowledge to obtain an audio-visual product that is consistent with the project requirements. The final objective is that teachers transmit all this knowledge in the classroom so that their students generate audio visual products that feed the O-City World platform.

After taking the Business model creation course, the teacher (and his/her students when the course is brought to the classroom) will be able to:

1. Develop their business ideas
2. Chose the models that best suits their idea
3. Understand the meaning of the business model canvas
4. Understand the aspects of the business model canvas
5. Create their own business model canvas according to their business idea

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 Branding for Orange economy course (and other related courses: culture, IP, business and soft skills) are useful for them depending of 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

Teacher to learn (T2L): contents (videos, ppts, pdfs, …) to provide teachers with a basic technical knowledge applied to cultural and natural heritage. Teachers will transmit this knowledge to their students (they can use the same contents in the classroom).

Teacher to teach (T2T): contents (videos, ppts, pdfs, …) and activities prepared for teachers to use in the classroom. These activities are prepared to be directly developed by the teacher in the classroom and they can be adapted to the subject and to the educational level. The T2T activities are the ones recommended to get that students create the multimedia based on photos.

Student to practice (S2P): optional extra activities prepared for students to go deep into some topic. Teachers will decide if they propose some S2P activity or not.

Chapter 4. Innovative learning methodologies

This chapter is dedicated to explain the innovative learning methodologies that are or can be used when developing a business model

Blended learning

This course combines online educational materials (such as T2T videos described in Chapter 5) and traditional place-based classroom methods. Face-to-face classroom practices are combined with computer-mediated activities that student must do at home (some T2L activities described in Chapter 5). This methodology allows students to

work on their own with new concepts, while teachers can support individually students who need individualized attention.

Chapter 5. Contents of the course

At the beginning of the course we show **a video** that introduces main topics, "Importance of business models", "Basic Business model aspects", in order to have a general overview of the course structure.

The table shows the two topics, each one divided into lessons.

TOPIC	LESSON
T1. Importance of a business model	L1. Classification of business models
T2. Basic business model aspects	L1. Key partnerships L2. Key activities L3. Key resources L4. Cost structure L5. Customer relationships L6. Communication Channels L7. Revenue Streams L8. Value propositions

Table 1 Structure of the course in topics and lessons

The first topic of this course refers to the overall understanding of the importance of the business models when starting a business. Furthermore, the topic also presents the classification of the business models in order for a business to create, deliver and to acquire value. By business models we mean the action plan of a company with which it generates revenue and profit. Based on this action plan the company develops products and services, captures the way in which it will create services and products, and how to promote them while capturing the costs of these actions.

The second topic is dedicated to the business model aspects in precise the development of the business model canvas. All the elements for the creation of the business model canvas are described in detail for the better understanding of its structure. The business model canvas is a tool that helps to capture a new or existing business model. It is essentially a visual diagram in the form of a table. The Business Model Canvas is a management strategy model for developing new or documenting existing business models. It is a visualized summary of data that describes the value, infrastructure, customers and financial data of a business or product. It helps companies align their business with visualizing potential compromises or even making strategic decisions.

TOPIC 1: "Importance of a business model"

By business models we mean the action plan of a company with which it generates revenue and profit. Based on this action plan the company develops products and services, captures the way in which it will create services and products, and how to promote them while capturing the costs of these actions. Also, the business model reflects the way a company operates the way it uses resources, the way it creates customer relations, as well as the way in which communication is made between company and customer. The main objectives of the topic are described in a video.

According to Osterwalder and Pigneur (2002) "a business model is defined as the logic that an organization follows in order to create, to deliver and acquire value. (Güemes-Castorena & Toro, 2015)

The importance of the business model is realized due to the fact that it is a tool that helps the organization:
- Clarify the position of the company in the value chain
- Stimulate what the consumer receives from it
- Have an effect on the future of the business – and its success
- Achieve the success of the business
- Creates a foundation for optimizing an innovative technology
- Test our new ideas to see if there is a high chance of success
- Creates a clear statement about the mission and vision of the business
- It creates a set of values that can help guide the business
- Creates a clear visual analysis of the business, including opportunities and threads
- Creates a porter of potential customers
- Creates roadmap and schedules for achieving the goals
- Describes the products and services provided
- Explains marketing strategies
- Creates a handbook for young employees about the company and its activities
- Creates a resume, which can be used to present the business to suppliers, investors and lenders

The following table 1 shows all the materials prepared for the teacher to learn (T2L) and for the teacher to take them to the classroom (T2T,S2P) for Lesson 1 of Topic 1 Importance of Business Models. The description of the different types of materials (T2L, T2T, S2P) can be found here. For each material, teachers can find in this table: its description, the student workload and where the student works. Additionally, recommendations about what to do in the classroom are included (remember that one lesson corresponds to one class of the teacher with her/his students). Follow the links in the table to discover what O-City has prepared for you:

Lesson	Type	Materials	Description	Student workload	Where the student work?	What to do in class
1 Classifications of business models	T2L/T2T	Introduction to the topic business model cration ([lesson content in pdf](), [video](), [video content in pdf]())	Getting to know the business models	15'	at home or in the classroom	Present O-city World platform Explain Video T1.L1 or solve doubts

Table 1. Materials provided for lesson 1. Classification of Business Models of Topic 1. Getting to know the Business Models

TOPIC 2: Basic business model aspects
The business model canvas

The Business Model Canvas is a management strategy model for developing new or documenting existing business models. It is a visualized summary of data and data that describes the value, infrastructure, customers and financial data of a business or product. It helps companies align their business with visualizing potential compromises or even making strategic decisions. The canvas business model was originally proposed by Alexander Osterwalder and since then many small variations of it have appeared.

The business model canvas is a tool that helps to capture a new or existing business model. It is essentially a visual diagram in the form of a table. The table is divided into nine building blocks, each from which a business must make important decisions. The business model canvas borrows tools from other sectors (industrial design, graphic design) in order to create a table that will capture the overall business model and the relationships between its components. The basic idea suggested by its creators (Osterwalder and Pigneur, 2010) is that an overall picture can enable the entrepreneur to innovate more easily at the business model level, producing a new one or evolving an existing one. The following is a detailed description of the nine building blocks of the business model canvas, as developed by Osterwalder and Pigneur (2010).
The main objectives of the topic are described in a [video.](#)

This tool can be used by any business, large or small, new or growing, to design, present or analyze its business model.

Description of a business model canvas.

According to the Business Model Canvas, the logical sequence with which a profit-making business can be represented by a model consisting of 9 fundamental elements.

1. Customer Categories: The individuals or organizations for which the business creates value.

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
	Key Resources		Channels	
Cost Structure		Revenue Streams		
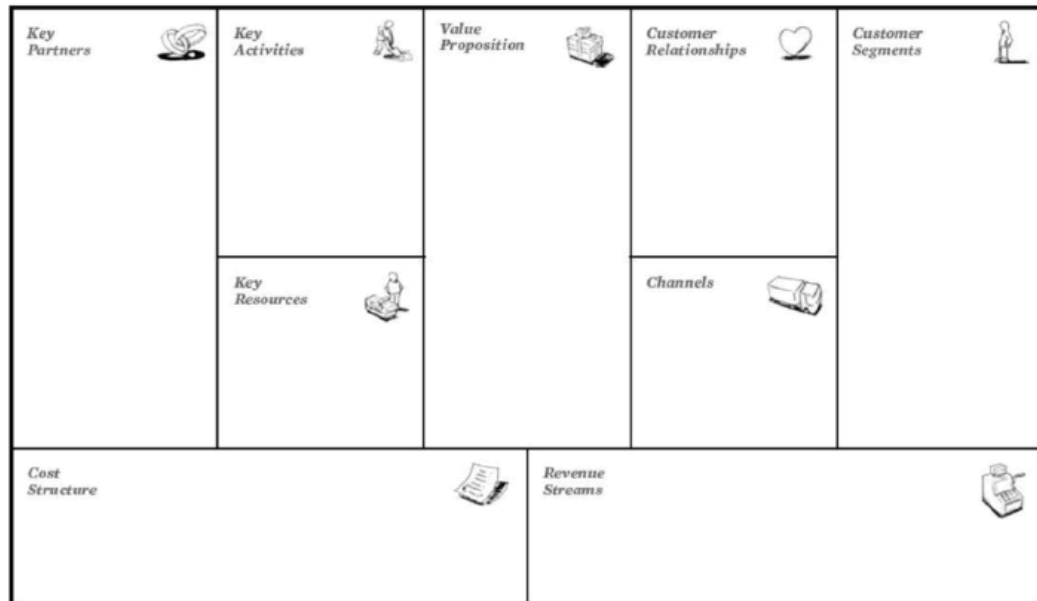
Sources: Osterwalder & Pigneur (2010)

2. Suggested Value for each customer category: product group or services that create value for customers.
3. Customer Communication Channels: the ways in which the business communicates and approaches each category of customers to provide the suggested value.
4. Customer Relations: the type of relationship that the company has with each customer category
5. Revenue streams: the ways and mechanisms of pricing by which the company captures value.
6. Main Resources: the most important resources required to operate the business model.
7. Main Activities: the most important actions that the business to operate its business model.
8. Main Partners: the network of suppliers and partners that support the operation of the business model.
9. Cost Structure: all the costs that burden its operation business model.

Lesson 1 key partnerships

Lesson	Type	Materials	Description	Student workload	Where the student work?	What to do in class
1 **Key partnerships**	T2L/T2T	Introduction to the lesson key partnerships (lesson content in pdf, video, video content in pdf)	Getting to know the business model canvas	15'	at home or in the classroom	Present O-city World platform Explain Video T1.L1 or solve doubts

Table 2. Materials provided for lesson 1. Key partnerships of Topic 2. Getting to know the Business Model Canvas

Lesson 2 Key activities

Lesson	Type	Materials	Description	Student workload	Where the student work?	What to do in class
2 **Key activities**	T2L/T2T	Introduction to the lesson key activities (lesson content in pdf, video, video content in pdf)	Getting to know the business model canvas and the key activities	15'	at home or in the classroom	Explain Video T2.L2 or solve doubts

Table 3. Materials provided for lesson 2. Key activities of Topic 2. Getting to know the Business Model Canvas and Key Activities

Lesson 3 Key resources & lesson 4 cost structure

Lesson	Type	Materials	Description	Student workload	Where the student work?	What to do in class
3 Key resources	T2L/T2T	Introduction to the lesson key resources (lesson content in pdf, video, video content in pdf)	Getting to know the business model canvas and the key resources	15'	at home or in the classroom	Explain Video T2.L3 or solve doubts
4 Cost structure	T2L/T2T	Introduction to the lesson cost structure (lesson content in pdf, video, video content in pdf)	Getting to know cost structure	15'	at home or in the classroom	Explain Video T2.L4 or solve doubts

Table 4. Materials provided for Lessons 3 & 4. Key Resources and Cost Structure of Topic 2.

Lesson 5 Customer relationships & lesson 6 communication channels

Lesson	Type	Materials	Description	Student workload	Where the student work?	What to do in class
5 Customer relationships	T2L/T2T	Introduction to the lesson customer relationships (lesson content in pdf, video, video content in pdf)	Getting to know customer relationships	15'	at home or in the classroom	Explain Video T2.L5 or solve doubts
6 Communication channels	T2L/T2T	Introduction to the lesson communication channels (lesson content in pdf, video, video content in pdf)	Getting to know the communication channels	15'	at home or in the classroom	Explain Video T2.L6 or solve doubts

Table 5. Materials provided for lessons 5 & 6. Customer Relationships and Communication Channels of topic 2.

Lesson 7 Revenue Streams

Lesson	Type	Materials	Description	Student workload	Where the student work?	What to do in class
7 Revenues streams	T2L/T2T	Introduction to the lesson key partnerships (lesson content in pdf, video, video content in pdf)	Getting to know the revenues streams	15'	at home or in the classroom	Explain Video T2.L7 or solve doubts

Table 6. Materials provided for lesson 7. Revenue Streams of topic 2.

Lesson 8 Value propositions

Lesson	Type	Materials	Description	Student workload	Where the student work?	What to do in class
8 Values propositions	T2L/T2T	Introduction to the lesson value propositions (lesson content in pdf, video, video content in pdf)	Getting to know the value proposition	15'	at home or in the classroom	Explain video T2.L8 or solve doubts
	S2P	Business model Canvas Activity 1	help the students understand the different functions and steps of the business model canvas and the way they interconnect with each other	60'	classroom	
	S20	Business model canvas Activity 2	students develop their own business model canvas in an interactive way	60'	classroom or at home	

Table 7. Materials provided for lesson 8. Value Propositions of Topic 2.

Chapter 6. Useful tools

This chapter incorporates complementing resources and recommended tools for the two topics of this course:

- [Business model Canvas explained](#)
- [The Business Model Canvas - 9 Steps to Creating a Successful Business Model](#)
- [Creative project canvas](#)

Chapter 7. Evaluation

This chapter is divided into two sections, the evaluation of the teacher and the evaluation of his/her students.

Teacher evaluation to obtain the Europass certificate and evaluation proposal for students to be used by the teachers.

The Business Model Creation course can be found in this [link](#), so teachers have all resources to implement the project in their classroom.

If Teachers are interested in obtaining a certificate, they need to register for one of the editions of the course offered by CFP UPV (Permanent Formation Center of Universitat Politècnica de València http://www.cfp.upv.es/), which will be announced in our [web](#).
Teachers will be evaluated through the test that we include in Annex III, which ensure 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. The same test will use for the evaluation of students.

Chapter 8. Pathway to acquire competences

In this chapter, the pathway in the photo-video content 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 each one of the proposed activities of the business pitch course. The proposed activities will help students to 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 (T2T) are represented in blue colour and extra activities (S2P) are represented in salmon 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 each one of the proposed activities of the business pitch course. The proposed activities will help students to 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 dos 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).

		Topic 2 Lesson 8	Topic 2 Lesson 2
		T2.L8 activity 1	T2.L8 activity 2
INFORMATION AND DATA LITERACY	1.1 Browsing, searching and filtering data, information and digital content	A	B
	1.2 Evaluating data, information and digital content	A	B
	1.3 Managing data, information and digital content		B
COMMUNICATION AND COLLABORATION	2.1 Interacting through digital technologies		
	2.2 Sharing through digital technologies		
	2.3 Engaging in citizenship through digital technologies		
	2.4 Collaborating through digital technologies		
	2.5 Netiquette		
	2.6 Managing digital identity		
DIGITAL CONTENT CREATION	3.1 Developing digital content		
	3.2 Integrating and re-elaborating digital content		
	3.3 Copyright and licences		
	3.4 Programming		
SAFETY	4.1 Protecting devices		
	4.2 Protecting personal data and privacy		
	4.3 Protecting health and well-being		
	4.4 Protecting the environment		
PROBLEM SOLVING	5.1 Solving technical problems		
	5.2 Identifying needs and technological responses	A	B
	5.3 Creatively using digital technologies	A	B
	5.4 Identifying digital competence gaps	A	B

Table 8. DIGICOMP competences developed with the activities proposed in Topic 1. importance of business models

		Topic 2 Lesson 8	Topic 2 Lesson 8
		T2.L8. activity 1	T2.L8.activity 2
IDEAS AND OPPORTUNITIES	1.1 Spotting opportunities	A	B
	1.2 Creativity	A	B
	1.3 Vision	A	B
	1.4 Valuing ideas	A	B
	1.5 Ethical and sustainable thinking		
RESOURCES	2.1 Self- awareness and self-efficacy		
	2.2 Motivation and perseverance		
	2.3 Mobilizing resources		
	2.4 Financial and economic literacy	A	B
	2.5. Mobilizing others		
INTO ACTION	3.1 Taking the initiative		
	3.2 Planning and management		
	3.3 Coping with uncertainty, ambiguity and risk		
	3.4 Working with others	A	B
	3.5. Learning through experience	A	B

Table 9. ENTRECOMP competences developed with the activities proposed in the Module.

Chapter 9. Other training related to business models creation course

In this chapter, teachers can find more learning materials from other O-City modules with activities related to business models creation course. Teachers will decide which resources to take to their classroom depending of 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 I. Heritage & Intellectual Property
In this section teachers will find learning and teaching resources about basic contents related to heritage and intellectual property. This module is divided into two courses, which can be opened using their link:
- I.1 [Heritage](#)
- I.2 [Intellectual Property](#)

Module II: Technical
In this section teachers will find learning and teaching resources about basic contents related to technical competences. This module is divided into six courses, which can be opened using their link:
- II.1 [Photo-video Concept](#)
- II.2 [Video](#)
- II.3 [Animation](#)
- II.4 [Comic](#)
- II.5 [Podcast](#)
- 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.2 [Digital marketing](#)
- III.3 [Branding](#)
- III.4 [Entrepreneurial finances](#)
- III.5 [Testing business ideas](#)
- III.6 [Pitch](#).

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
Information	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).
	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.
	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.
Communication	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, micro-blogs, 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.
	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.
	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
Content creation	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
	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.
Safety	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.
	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
Problem solving	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 tasks 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.
	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.
	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
Ideas and opportunities	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.
Ideas and 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.
Ideas and opportunities	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.
Ideas and opportunities	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 and opportunities	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.
Resources	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.
Resources	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.
Resources	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.
Resources	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.
Into action	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.
Into action	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.
Into action	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.
Into 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 action	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	Identify and seize opportunities to create value by exploring the social, cultural and economic landscape. Identify needs and challenges that need to be met. Establish new connections and bring together scattered elements of the landscape to create opportunities to create value.			

Levels of proficiency		
A - Foundation	**B - Intermediate**	**C - Advanced**
I can find opportunities to help others/ I can recognise opportunities to create value in my community and surroundings. I can find different examples of challenges that need solutions/ I can recognise challenges in my community and surroundings that I can contribute to solve. I can find examples of groups who have benefited from a solution to a given problem/ I can identify needs in my community and surroundings that have not been met. I can tell the difference between different areas where value can be created (for example, at home, in the community, in the environment, or in the economy or society)/ I can recognise the different roles the public, private and third sectors play in my region 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.	I can describe different analytical approaches to identify entrepreneurial opportunities/I can use my knowledge and understanding of the context to make opportunities to create value. I can take apart established practices and 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 stake-holders/ I can identify challenges related to the contrasting needs and interests of different stakeholders. I can identify the boundaries of the system that are relevant to my (or my team's) value-creating activity/ I can analyse an existing value- creation activity by looking at it as a whole and identifying opportunities to develop it further.

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

Area	Ideas and opportunities	Competence	Creativity

Hint	Develop creative and purposeful ideas

Descriptor	Develop several ideas and opportunities to create value, including better solutions to existing and new challenges. Explore and experiment with innovative approaches. Combine knowledge and resources to achieve valuable effects.

Levels of proficiency		
A - Foundation	B - Intermediate	C - Advanced
I can show that I am curious about new things/ I can explore new ways to make use of existing resources. I can develop ideas that solve problems that are relevant to me and my surroundings/ Alone and as part of a team, I can develop ideas that create value for others. I can approach open-ended problems (problems that can have many solutions) with curiosity/ I can explore open-ended problems in many ways so as to generate multiple solutions. I can assemble objects that create value for me and others/I can improve existing products, services and processes so that they better meet my needs or those of my peers and the community. I can find examples of innovative products, services and solutions/I can describe how some innovations have transformed society.	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 proto-types 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, incremental versus disruptive innovation)/ I can judge if an idea, product or process is innovative or just new to me.	I can actively search for new solutions that 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 stake-holders 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 with the core features of my (or my team's) idea and progressively adding more. I can describe how innovations diffuse in society, culture and the market/I can describe different levels of innovation (for example, incremental, breakthrough or transformation-al) and their role in value-creating activities.

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

Area	Ideas and opportunities		Competence	Vision
Hint	Work towards your vision of the future			
Descriptor	Imagine the future. Develop a vision to turn ideas into action. Visualise future 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 inspiring vision for the future that involves others/ I can build future scenarios around my value-creating activity. I can explain what a vision is and what purpose it serves/ I am aware of what is needed to build a vision. My vision for creating value drives me to make the effort to turn ideas into action/ I can decide what type of vision for creating value I would like to contribute to.		I can use my understanding of the context to identify different strategic visions for creating value/ I can discuss my (or my team's) strategic vision for creating value. I can explain the role of a vision statement for strategic planning/ I can prepare a vision statement for my (or my team's) value-creating activity that guides internal decision-making throughout the whole process of creating value. I can identify the changes needed to achieve my vision/ I can promote initiatives 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		Competence	Valuing ideas
Hint	Make the most of ideas and opportunities			
Descriptor	Judge what value is in social, cultural and economic terms. Recognise the potential an idea has for creating value and identify			
Levels of proficiency				
A - Foundation	B - Intermediate		C - Advanced	
I can find examples of ideas that have value for myself and others/ I can show how different groups, such as firms and institutions, create value in my community and surroundings. I can clarify that other people's ideas can be used and acted on, while respecting their rights/ I can explain that ideas can be shared and circulated for the benefit of every-one or	I can tell the difference between social, cultural and economic value/ I can decide which type of value I want to act on and then choose the most appropriate pathway to do so. I can tell the difference between types of licences that can be used to share ideas and protect rights/ can choose the most appropriate licence for the purpose of		I recognise the many forms of value that could be created 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 com-mons/ When creating ideas with others, I can outline a	

can be protected by certain rights, for example, copy-rights or patents.	sharing and protecting the value created by my ideas.	dissemination and exploitation agreement that benefits all partners involved.

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

Area	Ideas and opportunities	Competence	Ethical and 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 on the target community, the market, society and the environment. Reflect on how sustainable long-term social, cultural and economic goals are, and the course of action chosen. Act responsibly.		

Levels of proficiency		
A - Foundation	B - Intermediate	C - Advanced
I can recognise behaviours that show integrity, honesty, responsibility, courage and commitment/ I can describe in my own words the importance of integrity and ethical values. I can list examples of environmentally friendly behaviour that benefits a community/ I can recognise examples of environmentally friendly behaviour by companies that creates value for society as a whole. I can find and list examples of changes caused by human action in social, cultural, environmental or economic contexts/ I can tell the difference between the impact of a value-creating activity on the target community and the broader impact on society.	I can apply ethical thinking to consumption and production processes/ I am driven by honesty and integrity when taking decisions. I can identify practices that are not sustainable and their implications for the environment/ I can produce a clear problem statement when faced with practices that are not sustainable. I can identify the impact that taking up opportunities will have on me and my team, on the target group and on the surrounding community/ I can identify stakeholders who are affected by the change brought about by my (or my team's) value-creating activity, including stakeholders who cannot speak up (for example, future generations, climate or nature). I can tell the difference between accounting for use of re-sources and accounting for the impact of my value-creating activity on stakeholders and the environment.	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, out-comes 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	Self-awareness and self-efficacy
Hint	Believe in yourself and keep developing			
Descriptor	Reflect on your needs, aspirations and wants in the short, medium and long term Identify and assess your individual and group strengths and weaknesses. Believe in your ability to influence the course of events, despite uncertainty, setbacks and temporary failures			
Levels of proficiency				
A - Foundation	B - Intermediate			C - Advanced
I can identify my needs, wants, interests and goals/ I can describe my needs, wants, interests and goals. I can identify things I am good at and things I am not good at. I believe in my ability to do what I am asked successfully/ I believe in my ability to achieve what I intend to. I can list different types of jobs and their key functions/ I can describe which qualities and abilities are needed for different jobs, and which of these qualities and abilities I have.	I can commit to fulfilling my needs, wants, interests and goals/ I can reflect on my individual and group needs, wants, interests and aspirations in relation to opportunities and future prospects. I can judge my strengths and weaknesses and those of others in relation to opportunities for creating value/ I am driven by the desire to use my strengths and abilities to make the most of opportunities to create value. I can judge the control I have over my achievements (compared with any control from outside influences)/ I believe I can influence people and situations for the better. I can describe my skills and competences relating to career options, including self- employment/ I can use my skills and competences to change my			I can translate my needs, wants, interests and 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, relationships with other people and quality of life/

	career path, as a result of new opportunities or from necessity.	I can choose professional development opportunities with my team and organisation based on a clear understanding our strengths and weaknesses.

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	Be determined to turn ideas into action and satisfy your need to achieve. Be prepared to be patient and keep trying to achieve your long-term individual or group aims. Be resilient under pressure, adversity, and temporary failure.			

Levels of proficiency		
A - Foundation	**B - Intermediate**	**C - Advanced**
I am driven by the possibility to do or contribute to something that is good for me or for others/ I am motivated by the idea of creating value for myself and others.	I can anticipate the feeling of achieving my goals and this motivates me/ I can regulate my own behaviour to stay driven and achieve the benefits of turning ideas into action.	I drive my effort by using my desire for achievement and belief in my ability to achieve/ I can coach others to stay motivated, encouraging them to commit to what they want to achieve.
I see tasks as challenges to do my best/ I am motivated by challenges.	I can set challenges to motivate myself/ I am willing to put effort in and use resources to overcome challenges and achieve my (or my team's) goals.	I can use strategies to stay motivated (for example, set goals, monitor performance and evaluate my progress)/ I can use strategies to keep my team motivated and focused on creating value.
I can recognise different ways of motivating myself and others to create value.	I can reflect on the social incentives associated with having a sense of initiative and creating value for myself and others/ I can tell the difference between personal and external factors that motivate me or others when creating value.	I can persevere in the face of adversities when trying to achieve my goals/ I can devise strategies to overcome standard adverse circumstances.
I show passion and willingness to achieve my goals/ I am determined and persevere when trying to achieve my (or my team's) goals.	I can overcome simple adverse circumstances/ I can judge when it is not worth continuing with an idea.	I can celebrate short-term achievements, in order to stay motivated/ I can inspire others to work hard on their goals by showing passion and a strong sense of owner-ship.
I do not give up and I can keep going even when facing difficulties/ I am not afraid of working hard to achieve my goals.	I can delay achieving my goals in order to gain greater value, thanks to prolonged effort/ I can maintain effort and interest, despite setbacks.	

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

Area	Resources	Competence	Mobilizing resources
Hint	Get and manage the re-sources you need.		
Descriptor	Get and manage the material, non-material and digital resources needed to turn ideas into action. Make the most of limited resources. Get and manage the competences needed at any stage, including technical, legal, tax and digital competences (for example through suitable partnerships, networking, outsourcing and crowd-sourcing).		

Levels of proficiency		
A - Foundation	**B - Intermediate**	**C - Advanced**
I recognise that resources are not unlimited/ I can appreciate the importance of sharing resources with others.	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 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 value my possessions and use them responsibly/ I can describe how resources last longer through reuse, repair and recycling.	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 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 recognise different uses for my time (for example, studying, playing, resting)/ I value my time as a scarce resource.	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 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 look for help when I am having difficulty achieving what I have decided to do/ I can identify sources of help for my value-creating activity (for example, teachers, peers, mentors).	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 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 sup-port).

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 evaluate financial decisions over time. Manage financing to make sure my value-creating activity can last over the long term			

Levels of proficiency		
A - Foundation	**B - Intermediate**	**C - Advanced**
I can recall basic terminology and symbols related to money/ I can explain simple economic concepts (for example, supply and demand, market price, trade). 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 use the concept of opportunity costs and comparative advantage to explain why exchanges happen between individuals, regions and nations/ I can read income statements and balance sheets. I can draw up a budget for a value- creating activity/ I can judge the cash-flow needs of a value-creating activity. I can explain that value-creating activities can take different forms (a business, a social enter-prise, a non-profit organisation and so on) and can have different structures of ownership (individual company, limited company, co-operative and so on)/ I can identify public and private sources of funding for my value-creating activity (for example, prizes, crowd-funding, and shares). I can estimate the main accountancy and tax obligations I need to fulfil to meet the tax requirements for my activities.	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 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 stakeholders. Get the support needed to achieve valuable outcomes. Demonstrate effective communication, persuasion, negotiation and leadership.			

Levels of proficiency		
A - Foundation	B - Intermediate	C - Advanced
I show enthusiasm for challenges/ I am actively involved in creating value for others. I can persuade others by providing a number of arguments. I can communicate my ideas clearly to others/ I can communicate my team's ideas to others persuasively by using different methods (for example posters, videos, role-play). I can provide examples of inspiring communication campaigns/ I can discuss how different media can be used to reach audiences in different 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 my 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. Take up challenges. Act and work independently to achieve goals, stick to intentions and carry out planned tasks.			

Levels of proficiency		
A - Foundation	**B - Intermediate**	**C - Advanced**
I can carry out the tasks I am given responsibly/ I am comfortable in taking responsibility in shared activities. I show some independence in carrying out tasks I am given/ I can work independently in simple value-creating activities. I can have a go at solving problems that affect my surroundings/ I show initiative in dealing with problems that affect my community.	I can take individual and group responsibility to carry 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 actively face challenges, solve problems and seize opportunities to create value. I can describe my goals for the future in line with my strengths, ambitions, interests and achievements/ I can set short-term goals that I can act on.	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 and follow up.			
Descriptor	Set long-, medium- and short-term goals. Define priorities and action plans. Adapt to unforeseen changes			
Levels of proficiency				

A - Foundation	B - Intermediate	C - Advanced
I can clarify what my goals are in a simple value-creating activity/ I can identify alternative goals to create value in a simple context.

I can carry out a simple plan for value-creating activities/ I can deal with a range of simple tasks at the same time without feeling uncomfortable.

I can recall the order of steps that was needed in a simple value-creating activity I took part in/ I can identify the basic steps that are needed in a value-creating activity.

I can recognise how much progress I have made on a task/ I can monitor whether a task is going to plan.

I am open to changes/ I can confront and deal with changes in a constructive way. | I can describe my goals for the future in line with my strengths, ambitions, interests and achievements/ I can set short-term goals that I can act on.

I can create an action plan which identifies the necessary steps to achieve my goals/ I can allow for the possibility of changes to my plans.

I can develop a business model for my idea/ I can define the key elements that make up the business model necessary to deliver the value I have identified.

I can prioritise the basic steps in a value-creating activity/ I can set my own priorities and act on them.

I can identify different types of data that are necessary for monitoring the progress of a simple value-creating activity/ I can describe different methods for performance and impact monitoring.

I can adapt my plans to achieve my goals in light of changes that are outside my control/ I can adapt my plans to achieve my goals in light of changes that are outside my control. | 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 uncertainty, ambiguity and risk.			
Descriptor	Make decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes. Within the value-creating process, include structured ways of testing ideas and prototypes from the early stages, to reduce risks of failing. Handle fast-moving situations promptly and flexibly.			

Levels of proficiency		
A - Foundation	B - Intermediate	C - Advanced
I am not afraid of making mistakes while trying new things/ I explore my own ways to achieve things. I can identify examples of risks in my surroundings/ I can describe risks related to a simple value-creating activity in which I take part.	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 network.		
Descriptor	Work together and cooperate with others to develop ideas and turn them into action. Network. Solve conflicts and face up to competition positively when necessary.		

Levels of proficiency		
A - Foundation	B - Intermediate	C - Advanced
I can show respect for others, their background and situations/ I am open to the worth that others can bring to value- creating activities. I can show empathy towards others/ I can recognise the role of my emotions, attitudes and behaviours in shaping others people's attitudes and behaviours and vice versa. I can show empathy towards others/ I can discuss the benefits of listening to other people's ideas for achieving my (or my team's) goals. I am open to working alone as well as with others, playing different roles and taking some responsibility/ I am willing to change my way of working in a group. I am open to involving others in my value- creating activities/ I can contribute to simple value-creating activities. I can explain the meaning and forms of association, cooperation and peer-to-peer support (for example, family and other communities)/ I am open to establishing new contacts and cooperation with others (individuals and groups).	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 relation-ships 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, including peers and mentors. Reflect and learn from both success and failure (your own and other people's).			

Levels of proficiency		
A - Foundation	**B - Intermediate**	**C - Advanced**
I can find examples of great failures that have created value/ I can provide examples of temporary failures that have led to valuable achievements. I can provide examples that show that my abilities and competence have increased with experience/ I can anticipate that my abilities and competence will grow with experience, through both successes and failures. I can recognise what I have learnt from taking part in value- creating activities/ I can reflect on my experience in taking part in value-creating activities and learn from it.	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 IV. 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

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.

En the city of_____, on _____202_,