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Deliverable:

D4.1 - New curricula and adapted courses (content)

Leading partner: **UL-BF**

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Be curious and open Be determined Team up Develop ideas Use resources responsibly Accept diversity Be innovative Be resilient Imagine Listen actively Think strategically Make the most of your time Guide action Learn by doing Behave ethically Learn from mistakes Don't give up Think sustainably Reflect Assess impact Get support





Introduction

Entrepreneurship **Comp**etence Agri**food** industry



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Introduction

EntreComp project is focused on developing entrepreneurship competences during different levels of study (e.g. BSc, MSc, postgraduate, extracurricular). The idea is to empower students with knowledge and skills that allows them to make easier transition from academic to work environment and to give them the edge in the entrepreneurship. International work groups recognised seven main competences that need to be developed for successful entrepreneur in the agri-food area. Main competences in concern of EntreCompFood are as follow: creativity, vision, ethical and sustainable thinking, motivation and perseverance, mobilizing resources, working with others, and learning through experience.



The objective of WP4 is to develop concrete learning opportunities, contents and support services to be offered to the identified target user groups in appropriate settings. The content developed within WP4 will be the frame for the testing phase implemented in WP5.

The basis for the implementation of WP4 is the General EntreCompFood learning pathway (deliverable D3.2) and the Strategic EntreCompFood learning opportunities action plan (deliverable D3.3). The structuring of the learning pathway, edited in WP3, has helped to contextualise the training in our institutions (UL-BF, AgroParisTech and AE). Following the completion of WP3, it is now





a matter of assessing the entrepreneurial competences using the EntreComp framework described in this deliverable and creating appropriate learning content to complement this deliverable. A self-assessment tool on the basis of the competences and learning outcomes as defined in EntreComp, developed by EC by 2019, was expected to be used for assessment of the entrepreneurship of the learners in the EntreCompFood training. As such a tool hasn't been produced, UL-BF has reviewed different materials on EntreComp framework and tested adequacy of several tools (Autodiagnóstico Campus Emprende; HEInnovate self-assessment tool, Myentrecomp Online, CORAL online self-assessment). Based on the observations a consensus was made to use the evaluation grid built from the EntreComp framework to evaluate and analyse the development of learners' skills individually or in teams during the EntreCompFood training. For the purpose of students' self evaluation, the evaluation grid was transformed into a Questionnaire (Annex 8) and deployed in a format of google forms.

The roll-out of EntreCompFood training in our schools is planned in two stages. In the first stage, teachers (for UL-BF and AgroParisTech) and trainers (for AE) will be familiarised with the framework based on the elements built during the project and the evaluation grid built from the EntreComp framework. In the second stage, teachers and trainers will introduce EntreCompFood to the learners and, using the evaluation grid, they will be able to assess the level of their competences and to follow their evolutions and difficulties. From this first step, the level of the target user groups in terms of entrepreneurial skills will be identified to allow the development of more adapted and personalised contents and services/supports.

The deliverable D4.1 aims to describe the content of new curricula and adapted courses and their implementation plan in our institutions. This deliverable is produced by AgroParisTech and UL-BF and will be adapted accordingly at local level at individual institutions. It describes the new curricula and adapted courses based on EntreComp intended for university studies (T4.2.1) and training for young entrepreneurs (T4.2.3). The third block of the learning contents, related services and support is being produced as separate deliverables (D4.2 Submission dossier — National editions of the EntreCompFood special award, and D4.3 Description of the new award within the national Ecotrophelia Information Students Manual and contest).

The first part of deliverable D4.1 describes the **5 training levels** for testing the EntreCompFood training. The second part presents the **profiles of the learners identified** to test the framework. Following this part, the **modules** in which the institution intends to deploy and offer the training are described and planned in time in preparation for WP5. The fourth part gives information on the **tools** made available to the learners during the training, to complete the writings of the WP3 deliverables. In the last part of this deliverable, we find the **evaluation grid** built from the EntreComp framework. It will be used to evaluate and analyse the development of learners' skills individually or in teams during the EntreCompFood training.

1. Levels of training identified at partner institutions

Integrating learning about entrepreneurship at the beginning of the training cycles is to encourage its implementation by the learners in their professional projects. The idea is to complement engineering training with an apprenticeship on entrepreneurship like the one offered by the EntreCompFood scheme. In the range of AgroParisTech training courses, we have identified those corresponding to





the target area of the EntreCompFood course, i.e. food, and those on 5 learning levels. Similarly, in the range of UL-BF courses those related to food and nutrition have been identified at the bachelor (BSc, level I-III) and masters (MSc, level IV-V) study level.

1.1. AgroParisTech

AgroParisTech offers many multidisciplinary courses, which integrate life and environmental sciences and technologies, engineering sciences, humanities, economics and social sciences.

The **first year** of the engineering cycle (level I) consists of a core curriculum that opens up the learners to issues specific to life science engineering. They learn to mobilise disciplines around key issues, to get to know each other better and to work in groups. The core curriculum consists of scientific and technical disciplines in Life and Environmental Sciences and other disciplines such as Ethics, History and Philosophy of Science, Communication, Languages and Sport. We thought of carrying out the EntreCompFood training in the first year of the engineering cycle as a short module (1 week).

The **second year** (level II) aims to consolidate the common base of engineering skills such as economic, social, management, engineering and mathematical modelling sciences and to deepen a specific field (at choice). The student can choose to follow training sequences abroad in semester 2. At this level of the cycle, EntreCompFood training could be offered in longer projects such as the food innovation project lasting 6 to 8 weeks in order to push the learner to work more closely on his or her entrepreneurial skills

The **third year** (level III) is the year of finalisation of the professional and personal project (bac+5 - Master 2). The student must choose to go deeper into a major, a Master's M2 course or training outside the school (particularly abroad). This is the year of specialisation with a first academic semester (in-depth courses, languages) and a second semester devoted to the end-of-study internship, a real engineering project in a real-life situation, leading to the presentation of a thesis. The courses targeted for testing the system in the 3rd year of the cycle are the specialised majors in Food such as CDP and GPP.

The **Erasmus Mundus Joint Master Degree FIPDes** (level 4) is training a new generation of food professionals capable of working across borders, with an inclusive vision of innovation to create healthy, sustainable and quality food solutions for future generations on this planet.

FIPDes students study, live and gain work experience in four different EU countries. They benefit from the most competitive and innovative learning environments, based on participatory learning, teamwork, R&D projects and practical training in collaboration with pioneering research, culinary and industrial laboratories.

We thought it would be very interesting to test the EntreCompFood training in this type of training. On the one hand the training is European and on the other hand it is specific to food. There are several projects in the training to test the device such as:

- Intercultural Intelligence,
- Project Management and Creativity,
- the Food Hackaton (Sweden) and





- the Junior and Senior R&D Project.

The **MS Masternova** (level IV) is the result of a partnership between AgroParisTech and NEOMA Business School and is located at the interface of life sciences and management disciplines, serving innovative projects in the fields of agri-food, health, biotechnology, plant chemistry, cosmetics, etc. The programme is resolutely business-oriented and involves both academics and professionals. It alternates theoretical contributions, case studies and concrete projects, conferences and company visits. Masternova prepares its students to work at the crossroads of life sciences and managerial disciplines, in the service of innovative projects.

The courses enable students to understand the challenges of the sectors of activity linked to life sciences, to integrate technical and industrial constraints, and to become familiar with the innovations underway in the sectors. It also allows students to acquire skills in corporate strategy, marketing, finance, corporate law, intellectual property, etc. Finally, it allows the integration of the need for dialogue between science, technology, strategy, marketing and sales.

The idea would therefore be to develop the entrepreneurial skills of students at Bac +5 level with the EntreCompFood training during the Masternova course in courses such as Project Marketing or the Innovation Module.

Finally, on the **last level** (level V): the incubator - the entrepreneur. The people who complete the training at this level are therefore entrepreneurs in the process of developing their project and the training would be a support evaluated over a +/- long period depending on the wishes of the learner and the duration of the incubation of the project.

The Food'Inn Lab, AgroParisTech's incubator, is a real place of exchange and innovation in the food sector. It offers spaces adapted to each start-up's needs, such as analysis laboratories, spaces dedicated to virtual reality, or even 3D printers made available.

Entrepreneurial feasibility refers to the degree to which an individual believes he or she can successfully create a business. It depends on the individual's confidence in his or her ability to carry out the tasks deemed critical to the success of an entrepreneurial process (Boissin et al., 2007). This is why EntreCompFood training could contribute to helping entrepreneurs gain confidence in their skills and success.

1.2. University of Ljubljana – Biotechnical faculty

In the area of food UL-BF offers a bachelor study programme Food Science and Nutrition (BSc) and two masters study programmes Food Science (MSc) and Nutrition (MSc). Students of related BSc and MSc study programmes at UL-BF, e.g. Agronomy, Biotechnology, Animal Science, Microbiology, may broaden their knowledge in agri-food by choosing from the list of elective courses on food and nutrition.

The basic aim of the study programme Food Science and Nutrition (BSc) is to train an expert who is able of a broad understanding of the areas of food and nutrition with emphasis on knowledge and skills related to food, i.e. production, processing, quality and marketing of food and nutrition as a





natural continuation of food, for proper, safe and healthy nutrition or normal development and maintenance of human health. The graduate is trained to plan, organise, manage and control food production and human nutrition, as well as some accompanying activities, considering natural, social and environmental principles in food production and the implementation of safe and healthy human nutrition.

Part of the curriculum in the **first year** (level I) is course Introductory Economics, where students get introduced to economics and economics thinking in food production and biotechnology. A short module here could be devoted to the EntreComp framework within EntreCompFood.

The **second year** (level II) is devoted to basics in nutrition and biochemistry along with engineering skills. Here the course Unit Operations in the Food Industry is proposed to integrate EntreCompFood training for a project-based assignment of group work including experiments with food or food-related samples.

The **third year** (level III) is the last year of BSc study. A significant change in the curriculum for study year 2021/22 was made by introduction of Practical Training – internship in a real-life situation (4 weeks) instead of written final work. Further, development of EntreComp key competences will be promoted through learning by doing and project work at the two elective courses, Food Biotechnology and Winemaking.

The basic aim of the Masters study programme **Food Science (MSc)** is to provide in-depth theoretical knowledge of basic natural sciences, food science and food analysis, food safety, food engineering and methods of development and research. The graduate is trained for the most demanding and responsible work in planning, organising, controlling and managing food production, for quality management with a focus on food hygiene and safety, for creating and developing new technological processes and new products, for work in control and analytical laboratories and inspection services, and for research work.

The basic aim of the study programme **Nutrition (MSc)** is to communicate in-depth theoretical knowledge from basic natural science, food science and analysis of food, food safety, nutritional engineering and methods of development and research. The graduate is qualified for the most demanding and most responsible work in planning, organising, controlling and leading the production of food, for creating and developing new technological processes and new products, for work in control and analytical laboratories and inspection services, and for research work.

In the first year of both programmes (level IV) Food Safety course will be used to test the EntreCompFood training within a combination of seminar and laboratory work to check the advancement of sustainable thinking and motivation and perseverance. Project-Based Learning and competition will be used within seminars in Sensory analysis course to develop students' skills and interest in solving issues on development of quality and acceptable food products from alternative food sources. Students will be introduced to peer to peer assessment presented at the EntreCompFood national award workshop in July 2021. Nutrition engineering is an elective course at level IV, where EntreCompFood training was proposed to improve students' ability for creativity, critical thinking and mobilising of resources.





1.3. Andalucía Emprende

Andalucía Emprende is a foundation attached to the Ministry of Employment, Training and Autonomous Work of the Junta de Andalucía, whose mission is to promote entrepreneurial initiative and business development. The general objective is to promote and support the creation and consolidation of companies and employment through the provision of quality services.

The services provided are free and are aimed at both entrepreneurs who want to start a business initiative in Andalusia and already established companies that need support for their expansion, modernization and consolidation in the market.

Training is a key aspect for the development and consolidation of your business project. That is why the training given by the more than 800 AE technicians is non-regulated training, adapted to the knowledge and particular needs of each business project, developed through training sessions that will help exploit the entrepreneurial potential and make the business grow.

This service is provided in two ways:

- Basic business training, for those entrepreneurs who do not have previous knowledge about the management of a company. It contemplates a wide range of training subjects, among which are administrative procedures, legal forms, accounting, taxation or marketing.
- Personalised business training, for entrepreneurs who start with previous business knowledge, but wish to expand it. In this case, we adapt the training subjects to the specific needs of each business project. It includes advanced level content, including innovation, cooperation or internationalisation.

In Andalucía Emprende, internal personnel are also trained so that their knowledge is constantly updated and contribute to improving the skills and development of entrepreneurs. For this purpose, Internal Training Plans are developed annually that allow us to offer an adequate service to the real demands of society.

In addition, a specialised training service is provided for unemployed people, in order to facilitate their insertion into the labour market. Through this service, theoretical-practical training is offered to students of all levels of the educational system, so that they acquire from their first years, knowledge related to business management, through an innovative and eminently practical methodology for the development of skills in unemployed people; all under the EntreComp framework.

INNICIA Entrepreneurial Culture, is an educational innovation program with which it is intended Stimulate in students the acquisition and development of entrepreneurial skills, considering entrepreneurship as a fundamental strategy in the training of people throughout life. The recipients are the students of Andalusian educational centres, of all educational levels, adapting the use from the resources and tools to the characteristics of each level and teachings.

- ✓ A tool for educational innovation.
- ✓ A response to stimulate students and teachers the need for training and adaptation to new social demands.
- ✓ A mechanism to stimulate the acquisition and development of entrepreneurial skills.

During the first semester of 2021, work has been carried out on two lines of action in the execution of the Program for the Promotion of Entrepreneurial Culture, giving entrepreneurship workshops,





visits to companies, collaborating with mentors and as a jury in three Hackathons organised by FP Dual and the University of Malaga.

In addition, work has been done on the design and planning of a new Comprehensive Entrepreneurship Strategy for the next academic year, which contemplates giving the program a spin to adapt it to active methodologies: challenge-based learning, design thinking, collaborative learning, Lean Startup, etc. that enhances personal skills, using the EntreComp framework. To do this, seven guides have been designed:

- 1. the framework guide for the Comprehensive Entrepreneurship Strategy,
- 2. three guides with the Entrepreneurship Kit animation, preparation and activation,
- 3. the Hackathon for Teachers guide,
- 4. that of the Ideas for the Future initiative and
- 5. that of the Entrepreneurship Classrooms for the centres.

The objectives of this program are embodied in "a way of thinking and acting" in which the three dimensions of entrepreneurship are necessarily addressed:

- ✓ Personal entrepreneurship: Make one's life project an active reality. Deepen the knowledge and experience of the entrepreneurial self, discovering and reinforcing their own entrepreneurial skills.
- ✓ Social entrepreneurship: Make a group project a reality through the participation of all the agents involved. Stimulate initiatives that contribute to the improvement of the quality of life, solidarity and the common good.
- ✓ Productive entrepreneurship: Promote the creation of wealth and prosperity for yourself and for others in a respectful and sustainable framework with the environment, stimulating the acquisition of basic skills for employability (soft skills) to face the dynamics of the labour market.

The recipients of the call are the educational centres of Andalusia supported with public funds, with the exception of the university ones, adapting the use of the resources to the characteristics of each level and education.

The objectives of the implementation of the entrepreneurial project are:

- ✓ Support teachers in the development of the curriculum and entrepreneurial skills from an innovative approach. Promote methodologies linked to the promotion of the entrepreneurial spirit.
- ✓ Specify entrepreneurial action from the selection of entrepreneurial assets, integrating the three dimensions of entrepreneurship.
- ✓ Connect the educational system with the environment, valuing experiences and enterprising people.

Participating in the Innicia program requires the preparation and approval of an entrepreneurial project, which will emerge after a process of analysis of reality. With this analysis, needs will be detected, solutions will be proposed and entrepreneurial assets will be evaluated at the educational centre level. Through the entrepreneurial project, the centre will seek to transform its ideas into





actions, explaining the challenge to be achieved, the entrepreneurial assets to be developed and the final product to be achieved.

Number of actions and participants

612 workshops:

• Early childhood education-ESO-Baccalaureate: 5,807 minors

• CFGm + CFGs: 4,837 young people

• University students: 2,094 young people





2. Profile of learners targeted for testing the EntreCompFood integrated curricula



LEVELS 1, 2, 3

3-year engineering cycle

STUDENT

The student profile is a junior profile in entrepreneurship. Young people who are not yet in the labour market and in the learning period have to start preparing themselves for tomorrow, but also to be proactive today. The EntreCompFood training is to be implemented in the course of a project within the learning pathway, the duration and evaluation of which varies with the level of experience.



LEVEL 4

Masternova, FipDES

BACHELOR DEGREE

The profile of the learners in the Mastere is different from the student. These learners have an initial level of basic skills related to entrepreneurship. Practical and theoretical knowledge as well as the internships they have taken during their studies have enabled them to build up this base of skills related to entrepreneurship. The EntreCompFood training should be considered for longer year projects to further develop entrepreneurial skills and to refine the assessment of personal and peer skills.



LEVEL 5

Food'Inn Lab

SELF-EMPLOYED

The self-employed profile is the one with the highest level of entrepreneurial skills in relation to the EntreCompFood scheme. The approach to this profile differs from the previous ones because the learner is already in an entrepreneurial process and in a phase of concretising his project. The entrepreneurial learner will be able to follow the EntreCompFood training course and improve his or her skills over a period of time to be determined according to his or her objectives, incubation period and level of progress in the 7 skills identified in the EntreCompFood scheme.





3. Planning of EntreCompFood training sessions according to training levels

During the year 2021-2022, it will be a question of testing the EntreCompFood system within our existing training courses in our establishments, starting in September 2021 in Paris, and October 2021 in Ljubljana and in Andalusia. It has been estimated that about 120 students from Levels 1-4 at both academic institutions will participate in courses subjected to testing the EntreCompFood system; additionally, about 12 students from AgroParisTech and UL-BF will be involved in the course for Ecotrophelia contest. Andalucía Emprende provides courses for different types of learners (students, start-ups, industry, and educators); it has been estimated that about 100 students, 30 start-ups and 20 educators will attend their courses.

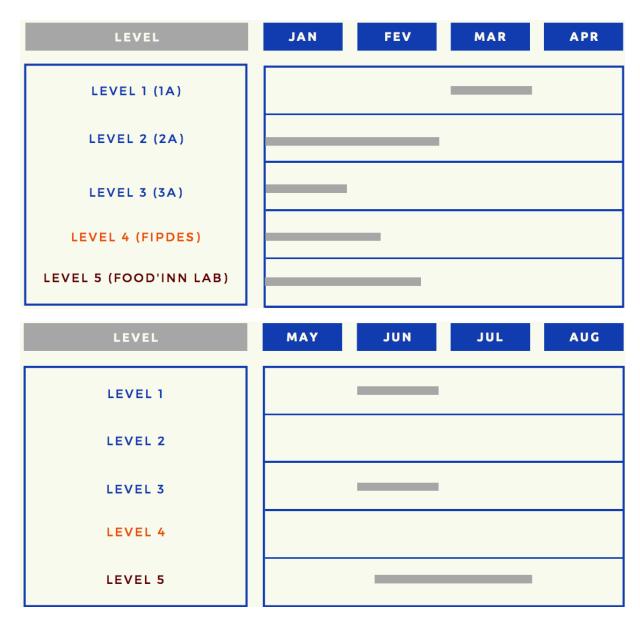
3.1. Planning of EntreCompFood training sessions according to training levels at AgroParisTech

In the case of AgroParisTech, the courses directly related to food have been identified (see Part 1.1). The modules were referenced for each course and only those conducted in the form of a group project were selected for testing within the EntreCompFood project.

LEVEL	SEPT		ост	NO	V	DEC
LEVEL 1 (1A)						
LEVEL 2 (2A)				_	_	
LEVEL 3 (3A)		-		_		
LEVEL 4 (FIPDES)						
LEVEL 5 (FOOD'INN LAB)					-	







In the first year of the engineering cycle, the EntreCompFood system could be tested in a module on entrepreneurship or in micro innovation competitions (lasting one week in the AgroParisTech modules).

In addition, there is an optional module in our institution in which the training could be tested: the integrative module on the theme of "Management and projects in agri-food companies: from agricultural products to food products".





In the 2nd year of the engineering cycle, the system would be evaluated in a longer project like the integrative project, carried out at AgroParisTech. This project is built in 3 phases and lasts between 6 and 8 weeks:

- Design and development of a food,
- Innovation process in the food and cosmetics industry: from the development of the idea to the production of models,
- Valorisation of functional bio-sourced molecules for food, chemistry, cosmetics and materials.

During the 3rd year of the Design and Product Development (CDP) and Process and Production Engineering (GPP) engineering courses, in line with our aim to evaluate the student more and more closely during the course of his or her cycle, we plan to test him or her in the individual cross-disciplinary project carried out during this final year. There are also modules in our institution such as innovation engineering with the use of Vianeo, a promising tool in the Business Design approach.

At level 4, the FIPDes course presents several interesting projects to test the EntreCompFood course such as:

- The Transversal Innovation Project (I) module from September to January (31h-5 months) which aims to provide theoretical and practical support for R&D projects and the ideation of innovative concepts while teaching international students project management, group management and intercultural intelligence which enriches creativity.
- The Junior R&D Project from September to January (90h-5 months); This module deals with the different stages and issues of R&D projects.

Groups of 5 students are given a precise mission to answer a specific industrial question on product/process issues (e.g. reformulation issues, eco-design of products or processes, etc.). The students' work is divided between the literature review, the experimental part (if applicable), the technical and scientific report (oral and written).

- The senior project from September to November (60h-3 months). This module makes the students think about the new problems generated by the change of scale when going from a "kitchen prototype" to an industrial scale. It enables them to:
 - Plan, carry out and evaluate a scaling up process on concrete cases from the DIT food prototype showcase.
 - Put students in a project management situation by working on a practical case.
 Enable students to develop and improve their project management skills, particularly in the context of a research and innovation project and teamwork.)

Or other projects or events such as the Food Hackathon in Sweden.

In addition to the above timetable, Annex 1 contains a complete list of all the modules, in which the EntreCompfood training could potentially be applied in the future: the persons responsible and the dates during the school year are indicated. In between this list, the AgroParisTech team will select a limited number of modules during which the training will be implemented in the school year 2021/22.





3.2. Planning of EntreCompFood training sessions according to training levels at UL-BF

Revision of curricula at UL-BF study courses related to food and nutrition revealed room for improvements in the development of the entrepreneurship competences, therefore changes were implemented in UL-BF courses' curricula to accommodate development of EntreComp competences. The identified courses are listed in Part 1.2.

In adaptation of courses curriculum Canvas (Annex 5) was considered to address and brainstorm different elements of the study activities within courses.

The study year at UL-BF is divided into four blocks, the first two blocks represent the winter semester, and the last two the summer semester. The majority of courses are conducted within one block (7 weeks), with exemption of larger ones, stretching over two blocks.

Examples of course curricula with integrated EntreCompFood training are presented below, while the persons responsible and the dates of the course in the UL-BF study calendar are included in Annex 2.

Examples of course curricula with integrated EntreComp framework at BSc study programme (level I – III)

COURSE TITLE: Unit Operations in the Food Industry

STUDY PROGRAM (YEAR): Food science and technology BSc (2nd year)

COURSE STRUCTURE: Lectures / Laboratory tutorials (6 ECTS)

SEMESTRE: 2nd (summer semester)

DESCRIPTION OF PEDAGOGIC ACTIVITY AND METHODS/TOOLS:

Unit Operations in the Food Industry requires a lot of mathematics, physics and chemistry and is considered among students as a challenging subject. Often the physical principles underlying the basic concepts taught are too complicated, so students don't gain a deep understanding of anything - they lose enthusiasm, memorise equations and move on.

<u>Teaching</u> involves ex cathedra lectures using blackboard to explain engineering equations and solve problems. Excel or Calc are also used as a popular and effective computational tool for performing engineering calculations. By using Excel or Calc for calculation and data visualisation students can perform alternative design and analysis and can better understand and interpret the solution. To better understand the course material, gain more practical experience and learn how to apply theory to practise, students have to complete project-based assignments. They are asked to divide themselves into groups of 4 and they have to submit the solution by a given deadline. Afterwards they are invited to give a 5-minute presentation about their work followed by a question-answer session.

Before <u>laboratory tutorials</u> students prepare themselves by watching introductory movies and reading instructions on Moodle (self-learning). In the laboratory students perform experiments which emphasise the place of food engineering in the real world in contrast to context-free experiments. To make experiments more relevant to everyday life, students are exploring laws of food engineering by analysing food and food-related samples. Group work (groups of maximum 4 students) and use of





computer tools are encouraged during lab exercises. At the end of each laboratory tutorial students are obliged to write and submit a research report describing aim, methods and findings/results.

ASSESSMENT / SELF-ASSESSMENT TOOL(S) APPLIED:

At the end of the course students will be given a questionnaire to assess their reaction to revised Unit Operations in the Food Industry Program.

ENTRECOMP COMPETENCES DEVELOPED / ADVANCED BY THIS ACTIVITY

By introducing a project-based assignment in a traditionally taught engineering course and performing experiments with food or food-related samples will, students will be able to further develop their competences:

<u>Learning through experience</u>

Students learn valuable lessons from working on project-based assignments and relevant laboratory experiments and they believe this knowledge will be useful in the future.

Creativity

Typically, project-based assignments do not have a single correct answer and various processes and methods have to be used. Students are forced to connect ideas from different fields of knowledge and produce new ideas which enhances creativity.

Motivation and perseverance

Learning about food and performing experiments which emphasise the place of food engineering in the real world in contrast to context-free experiments will make students more motivated and enthusiastic to gain a deep understanding of food engineering.

Working with others

During lectures and laboratory tutorials collaboration is encouraged by dividing students into groups of 3-4. Group activity increases discussion, experimentation, enthusiasm and generation of new ideas. Teacher becomes a facilitator instead of a lecturer because he/she is guiding students through posing and answering questions.

COURSE TITLE: Practical Training (Internship)

STUDY PROGRAM (YEAR): Food Technology and Nutrition BSc

COURSE STRUCTURE: Other (3 ECTS)

SEMESTRE: 1st semester (winter semester)

DESCRIPTION OF PEDAGOGIC ACTIVITY AND METHODS/TOOLS:

Practical training is first real contact for students with existing workplaces in the field of Food Technology and Nutrition. Aim of practical training is to familiarise the students with laboratory work in the field of food analysis or food development or with the work in the food industry. Practical training in the field of Nutrition aims to familiarise the students with skills for nutrition counselling, dietary planning and nutritional needs of patients in a clinical environment. Practical training is





based on project work, where students perform the whole process that is required from them e.i. organise and carry out analysis, actively perform tasks in processes of the food industry etc.

Activity: work in the real work environment under the supervision of a mentor: cooperate in the planning phase of work, independently carry out work tasks, cooperate with mentor in result evaluation and writing a report.

ASSESSMENT / SELF-ASSESSMENT TOOL(S) APPLIED: In the report students report and assess their work experience. Development of their competences is also assessed. Whole experience is analysed by using SWOT analysis.

ENTRECOMP COMPETENCES DEVELOPED / ADVANCED BY THIS ACTIVITY: **creativity** (searching for the optimization of work, searching for new approaches in specific problem solving), **working with others** (learning to communicate with others about specific problem and reporting about work, also learning to cooperate in bigger projects), **learning through experiences** (acquiring the know-how of preformed tasks and developing the understanding behind work process), **motivation and perseverance.**

COURSE TITLE: Winemaking

STUDY PROGRAM (YEAR): Food science and technology BSc (3rd year, elective subject)

COURSE STRUCTURE: Lectures / Seminars / Laboratory tutorials / Field work (6 ECTS)

SEMESTRE: 2nd semester (summer semester)

DESCRIPTION OF PEDAGOGIC ACTIVITY AND METHODS/TOOLS:

Slovenia as a wine-growing country has a long tradition, which represents not only winemaking, but also viticulture. We produce wine in three wine-growing countries and within them in nine wine-growing districts. Just under 15,500 ha are entered in the register of grape and wine processors. The wine production is between 800,000 and 900,000 hl per year. In each of the wine-growing districts, there is at least one larger cellar that buys grapes. Among the 48 cultivated grape varieties, white grape varieties predominate. Our vineyards are located on steep slopes, which on the one hand means expensive production, and on the other hand it allows for a quality grape harvest. The share of quality wine therefore represents as much as 70% of production. Given the declining consumption of wine in Slovenia, winemakers have to sell more wine on foreign markets.

Within 35 hours of <u>lectures</u>, students learn about the theoretical basis of wine production. They upgrade their knowledge from a basic subject that deals only with grape processing. With or on the variability of the year, weather conditions and the specifics of the field, they learn the basic differences that an oenologist must consider in his decisions. A wrong or too late decision always leads to a deterioration in quality, which is not according to the wishes of either the grower or the expectations of the consumer. Understanding and consolidation of knowledge is checked during lectures with various surveys, quizzes, and questions.

A special feature of the course are <u>seminars</u> (15 hours) in the framework of theoretical lectures, where students choose a narrower topic, which they present to classmates who come from different study programs and consequently different prior knowledge. The latter comment, ask questions, look





for solutions, evaluate themselves, and the lecturer in the discussion merely directs them in the right direction of thinking and connecting.

In <u>laboratory tutorials</u>, students in pairs perform physico-chemical analyzes, cleaning and stabilisation experiments, and sensory analysis of samples. They are pre-prepared for the exercises as they write quick 5-minute tests that are graded until the next exercise and represent the final grade of the colloquium. At the end of each individual exercise, students also write a report - calculations, results and especially a comment on the results with a discussion.

The connection between theory and practice is finally represented by the most desired and expected <u>field works</u> (visit to the wine cellar), where students are also involved in the production process, and the conclusion is the tasting of a large number of samples.

ASSESSMENT / SELF-ASSESSMENT TOOL(S) APPLIED:

At the end of the course students will be given a questionnaire to assess their reaction to the revised Winemaking Program.

ENTRECOMP COMPETENCES DEVELOPED / ADVANCED BY THIS ACTIVITY

Learning through experience

In theoretical and practical work, students learn about the basic agronomic differences in grape varieties and in Slovenian wine-growing districts (visually, by composition, technological and sensory).

Creativity

In seminars, the creativity of both individual students and the whole group is absolutely demonstrated when we comprehensively discuss certain presented content from different angles: when, what, why, ...? The greatest contribution to this is made by the interest of students in various study programs, topicality, problems and possible solutions from idea to realisation.

Motivation and perseverance

Theoretical knowledge is verified by appropriate experimental work, and above all, objective sensory analysis as confirmation of the desired "result". It is necessary to learn about the defects, faults and diseases of wine, as well as how to get and know high-quality wines with a pronounced variety, multi-layered aroma and harmony.

Maintaining contacts with students and the basics of wine sensory analysis we continue with regular annual organised meetings (Basic 45-hour training program for wine, must and other grape and wine products; Additional training of wine tasters (this year 3 master students participated in sample preparation), otherwise lectures at sommelier courses in collaboration with employees of the Department of Food Science and Technology.

• Working with others

During lectures, seminars (or projects) and laboratory tutorials collaboration is encouraged by dividing students into smaller groups of 2-5. The independent work of students in groups of different fields of study at Biotechnical Faculty encourages discussion, collaboration, and the generation of new — amazing ideas that turn out to be even realistic in practice.





COURSE TITLE: Food biotechnology

STUDY PROGRAM (YEAR): Biotechnology BSc (elective subject)

COURSE STRUCTURE: Lectures / Seminars / Laboratory tutorials / Field work (3 ECTS)

SEMESTRE: 2nd semester (summer semester)

DESCRIPTION OF PEDAGOGIC ACTIVITY AND METHODS/TOOLS:

Laboratory tutorials will be performed as a project work (Isolation of pigment from natural source and its integration in food product). Students will be divided in three groups of 5.

Each group – literature reading, collecting ideas how to carry out a project, presentation of the project plan to other groups (Jamboard), discussion between groups, preparing a timetable for the project performance (**creativity**, **working with others**).

Each group – performing calculations for preparation of all reagents and solutions, experiment setup, different assays for the pigment characterization, preparation of food product including the pigment (working with others, learning through experiences, motivation and perseverance to isolate the pigment and prepare an interesting food product).

Each group – presenting results to other groups (Jamboard, Cisco webex), discussion between groups (creativity, working with others, learning through experiences).

ASSESSMENT / SELF-ASSESSMENT TOOL(S) APPLIED: quizzes (Exam.net).

ENTRECOMP COMPETENCES DEVELOPED / ADVANCED BY THIS ACTIVITY: creativity, working with others, learning through experiences, motivation and perseverance.

Examples of course curricula with integrated EntreComp framework at MSc study programmes Food Science, and Nutrition (level IV)

COURSE TITLE: Food Safety

STUDY PROGRAM (YEAR): Food science and technology MSc (1nd year)

COURSE STRUCTURE: Lectures 55 h / Seminars 20 h / Seminar tutorials 10 h / Laboratory tutorials 20 h/ Field work 10 h (6 ECTS)

SEMESTRE: 1st semester (winter semester)

DESCRIPTION OF PEDAGOGIC ACTIVITY AND METHODS/TOOLS:

Laboratory tutorials - students will be divided in groups of 3. The work for Seminar tutorials will be connected to the work of Laboratory tutorials. Seminar tutorials as a work project - students will be divided in groups of 6; online/live panels; Miro and Trello will be used for idea visualisation and development; project evaluation and presentation in front of other students

ASSESSMENT / SELF-ASSESSMENT TOOL(S) APPLIED: For this purpose, quizzes will be used.





ENTRECOMP COMPETENCES DEVELOPED / ADVANCED BY THIS ACTIVITY

First, we will focus on RESOURCES - motivation and perseverance: this will be achieved by combining seminar exercises with laboratory exercises. Seminar exercises will familiarise the students with the topic and thus they will get more motivated for the lab work. We will use Miro and Trello to present the topic: Antimicrobial Resistance, Biofilm and methods used in practical work.

Second, we will focus on INTO ACTION- Working with others: This will be achieved by (i) working in pairs in practical lab work and (ii) working in groups of 4 in individual work where students will have to collect and analyse the lab results obtained. We will use Miro and Trello to present the lab results.

The third part will focus on OPPORTUNITIES -sustainable thinking: this will be achieved by evaluating the results of the (i) lab work and (ii) scientific literature. The group of students will have to present the results and novelty of the research literature on the specific topics. We will use Miro and Trello and presentation programs to present the results.

COURSE TITLE: Nutrition engineering

STUDY PROGRAM (YEAR): Food Science and Nutrition, MSc (elective, 1st and 2nd year) (6 ECTS)

SEMESTRE: 2nd semester (summer semester)

COURSE STRUCTURE: Laboratory tutorials

DESCRIPTION OF PEDAGOGIC ACTIVITY AND METHODS/TOOLS: Nutrition engineering is an elective subject at MSc study program and is based on food production and quality control, new products development, use of fat substitutes, additives, meat analogue properties, etc. Laboratory tutorials include a variety of topics, for example preparation and evaluation of various ready meals, rheological properties of emulsions, preparation of meat analogue, evaluation of sponge cake with increased protein content. The implementation of tutorials is based on independent and creative work.

Activity: development of a new product – sponge cake with increased protein content: Students will be divided into small groups (3 or 4). The task of each group is to prepare an appropriate recipe and implementation plan.

ASSESSMENT/SELF-ASSESSMENT TOOL(S) APPLIED: After sponge cake preparation each group of students will share their recipe, production procedure, photos and calculated nutritional value on google Jamboard. In this way, students will get all information about prepared products. This will make it easier to discuss the results.

ENTRECOMP COMPETENCES DEVELOPED / ADVANCED BY THIS ACTIVITY: Developed competences at this tutorial: **working with others** (small groups of students), **creativity** (developing recipes for sponge cake with increased protein content), **mobilising resources** (google Jamboard for sharing recipes, procedures...).





3.3. Planning of EntreCompFood training sessions according to training levels at Andalucía Emprende

Training is a key aspect for the development and consolidation of a business project. The training given by the AE is non-regulated training, adapted to the knowledge and particular needs of each business project, developed through training sessions that will help exploit the entrepreneurial potential and make the business grow. AE training sessions will be both, Basic business training, for those entrepreneurs who do not have previous knowledge about the management of a company; and Personalised business training, for entrepreneurs who start with previous business knowledge, but wish to expand it. Further, specialised courses will be aimed at young students (i.e. primary and secondary school) and for unemployed people. Through AE service, theoretical-practical training is offered to students of all levels of the educational system, so that they acquire from their first years, knowledge related to business management, through an innovative and eminently practical methodology for the development of skills in unemployed people. The content of AE courses is organised according to the EntreComp framework (EntreComp levels). A full list of anticipated courses is provided in Annex 3.

Escape room is an example of innovative methodology that has been employed for the development of skills in different target groups of learners, in a non formal way. The methodology may seem like a game, and this is how we want participants to feel, but the goal is to detect and analyse competencies to improve their skills and abilities. With the design of the Escape Room Emprendedor, an instrument is offered to generate learning in the field of entrepreneurship, working on cooperation, critical thinking, and shared creativity.

The activity is based on an escape game in which you must solve puzzles, solve riddles, look for information in a document and other tests in order to escape from somewhere in the shortest possible time. The story is about some high school students who hide in the CADE (Work centres and business accommodation) after learning about a secret project of a leading company from which they want to get the know-how. They are locked up and must escape so that they are not discovered. It can also be performed online.

- The duration of the activity will be 90 minutes (Estimated 25' of introduction / explanation, 45' of game and 20' of closing and delivery of diplomas).
- The game is performed in groups of at least 2 people.
- The game is done in person or on a computer through the internet, it is not recommended on a small mobile device
- If any group is blocked in any test, there is the possibility to ask for clues.
- The instructions of the game will be given by the technical staff, who will provide the code to start the game.







4. The tools made available to our EntreCompFood learners

Tools and methods for entrepreneurs such as entrepreneurial platforms or networks can have a profound impact on the development of individual entrepreneurial will and motivation. This type of support plays an important role in individuals' abilities to identify business opportunities, validate business ideas and access resources such as customers, business partners, suppliers and advisors.

It is therefore important to provide tools to empower them to **strengthen** their projects and networks. Firstly, during the EntreCompFood project, the excel table was developed for easy navigation through the Entrepreneurship competences, to familiarise learners with them (**Competence map**, https://www.gzs.si/entrecompfood/vsebina/Educators/Spice-up-the-lecture). Further, for a basing understanding of EntreComp framework with definition of competence and giving practical examples for understanding of EntreComp competences, **Supporting materials for learners** - Students (Annex 6) as well as for Teachers "Train the Trainer" (Annex 7) were developed within the EntreCompFood project and disseminated among partners.

Besides simple tools like Google Jamboard, there are certain other relevant tools that will help entrepreneurs to **structure the project** and **disseminate**, like Vianeo and Linkedin. Below additional details on these tools are given as a complement to deliverable 3.1 previously produced in the EntreCompFood project.

Vianeo (https://www.vianeo.com/?lang=en) is a Business Design method, it is a systemic strategic marketing approach composed of 5 steps that validate the project's value evidence:

- Value 1 Legitimacy: What is the DNA and the anchoring of the project in reality?
- Value 2 Desirability: Who are the people expressing needs that are not satisfied by the current solutions?
- Value 3 Acceptability: How is the existing ecosystem organised? Which customers, which potential partners? Which competitors?
- Value 4 Feasibility: What innovative offer to solve users' problems? With which partners?
- Value 5 Viability: Who are the customers? What are the products/services? What is the value proposition?

To test developing idea as early and as frequent as possible, important competence is to know how to make a good pitch. Therefore, a good <u>pitch template</u> for any idea is necessary.

In any process of innovation and exploration, a project leader has the choice of an increasing number of methods and tools to guide his or her investigations. But a common thread was missing to find his way. Like a meta-method, Vianeo synthesises the different approaches: Design Thinking, Lean Startup, Business Model Canvas, Blue Ocean, and gives each its most relevant place.

Vianeo also uses patented methods such as:





- The effectuation theory, theorised by Professor Saras Sarasvathy describes the decision process specific to the entrepreneurial posture in the context of launching a project in an uncertain context.
- The ISMA360® method, developed by Dominique Vian, Professor at Skema Business School in Sophia Antipolis, is the first systematic method in the world of innovation marketing. Vianeo is the only company to offer digital and training tools integrating this method.

During the EntreCompFood project, a group was created on the **Linkedin** platform to bring together French food, innovation and ecodesign networks on a common page. The topics discussed are only related to entrepreneurship: seminar, webinar, call for tender, calendar...

This type of Linkedin can help to develop a network and interact with contacts to keep your professional network alive. It can also help to get information. For the learners it can help to push them to write a personal and professional Linkedin and thus establish their credibility and notoriety but also control their professional digital identity.

5. Evaluation grid

The evaluation grid below was constructed by Ania and AgroParisTech in the framework of the EntreCompFood project. This evaluation grid is based on the 2016 "The Entrepreneurship Competence Framework" - table in annex "The full EntreComp framework". It will be used to assess the entrepreneurial teams and learners.

The competency assessment grid, shown in table 1, based on the EntreComp framework, presents the 3 domains of EntreComp, i.e. Ideas and Opportunities, Resources and finally the In Action domain. Each domain includes 2 or 3 competences to be developed in EntreCompFood. Each skill is assessed in 3 activities to which a level is assigned: beginner (I), intermediate (II), advanced (III) and expert (IV). These levels are described to enable the assessor to better understand the context of the level.





Table 1: The competency assessment grid based on the EntreComp framework

	TEAM NAME		XXXX				Т	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4				
	University			XXXX				\neg	1pts	2pts	3pts	4pts	1		
	Description of the pro			2000 carac	ters			\neg	Beginner	Intermediate	Advanced	Expert	1		ľ
	COMPETENCES								With reduced support from others, some autonomy and with my peers.	Take responsibility for making decisions and working with others.	Take and share some responsibility.	Make a substantial contribution to the development of a specific field.	SUB-TOTAL	TOTAL	COMMENTS
		The team develop	s several ic	leas and op	portunit	ies to crea	ate value,								
	Creativity	The team explore	s and expe	riments with	n innova	tive appro	paches								
		The team combin			ources to	achieve v	valuable	_							
Ideas &	Vision	The team imagine						\rightarrow							
Opportunities		The team is able to develop a vision to turn ideas into action The team visualises future scenari-os to help guide effort and action		_											
								-							
	Ethical & Sustainable thinking	The team assess the consequences of ideas that bring value and the		-											
		The team reflects on how sustainable long-term social, cultural and		_						4					
		The team acts responsibly The team is determined to turn ideas into action and satisfy their need													
	Motivation and							_							
	perseverance	The team is resilie					to achieve their							4	
Resources		The team gets and					_	e							
	Mobilising resources	The team makes t	_			aterial aric	u uigitai	+						1	
	HODIISH & TESOGIOES	The team gets and				ariari at a	nu stana	+						-	
		The team member						_							
	Working with others	The team is able to			о орол			\dashv						1	
		The team is able to			ace up to	competi	ition	\top							
In action	1 ttt-	The team uses any	initiative	for value cn	eation as	a learning	g	一							
	Learning through	The team learns w	ith others	, including p	eers and	mentors		\neg						1	
	experience	The team reflects	and learns	from both	success a	and failure	e							1	
	TOTAL												0		
													Max	84	100





6. Conclusion

Deliverable 4.1 aims to describe the implementation of the EntreCompFood training in the three institutions participating in the EntreCompFood project, from the three countries. This deliverable is produced by AgroParisTech, AE and UL-BF and will be adapted by the partner institutions at the local level.

The analysis puts into perspective the numerous training courses in which we could implement the EntreCompFood system. The description of the levels and profiles of the learners targeted by the EntreCompFood project curricula and adapted courses content allows us to individualise the training according to the learner.

This deliverable is complemented by an introductory presentation on entrepreneurial skills and will serve as a basis for the creation of appropriate learning content for the EntreCompFood device.









Annex

Annex 1: AgroParisTech persons responsible and the dates in school year 2021/22 of all the modulus in which the EntreCompFood training could potentially be tested

	Levels / Course	Module	Training Manager	Date
Level 1	1A	Integrative module: Management and project in agri-food companies: from agricultural manager to food manager (optional module)	Gwenola YANNOU LE BRIS Catherine LECOMTE	June 2022– 3 weeks
	1A	UC Opening Entrepreneurship (optional) - Vianeo	Catherine LECOMTE	March 2022 (S12 de 2022)
	2A	LUTECE week - ATHENS programme - Introduction to entrepreneurship in life sciences	Catherine LECOMTE	November – 1 week
Level 2	2A Domaine 2 parcours ingénierie des aliments	UC project: -Design and development of a food -Innovation approach in the food and cosmetics industry: from the development of the idea to the production of models -Valorisation of functional biosourced molecules for food, chemistry, cosmetics and materials	Gwenola YANNOU LE BRIS Marie-Noelle MAILLARD	6-8 weeks
	2A	Case study - Case study, TD on LCA (EU sustainability of agro-industrial chains)	Gwenola YANNOU LE BRIS Et Benoit GABRIELLE	





Level 3	3A - CDP	Innovation engineering Vianeo tools	Gwenola YANNOU LE BRIS Véronique BOSC, Julien DELARUE Anne SAINT-EVE (SPAB)	
	3A - GPP	Project	Giana ALMEIDA PERRE (SPAB), Stéphanie PASSOT (SPAB)	
		Module Transversal Innovation Project (I): Intercultural Intelligence, Project Management and Creativity		Sept-Jan (31h)
	FipDes	Junior R&D Project	Barbara REGA Marwen	Sept-Jan (90h)
		Senior project	MOUSSA	Sept-Nov (60h)
		Statistics Applied to Food Science and Technology (construction de la base de donnée)		Sept - Jan
Level 4		Food Hackaton (Suède)		1 week
	Masternova	Proj'innov		
		- Serious game (NEOMA) - Online MarketPlace business simulation game.	Maryvonne ASSALLE DE SALINS (changement en	
		UE Marketing projet	cours)	
		Module innovation et resultats de la recherche		





	Contest	Creativity Jury (1A, 2A, 3A, all students)		Jan 2022
Level 1, 2, 3, 4, 5		Entreprendre Prize (1/2 J – 2 sessions)	Catherine LECOMTE	Dec / Jan 2022 June 2022
Level 1, 2, 3, 4, 3		Maturation Prize (1/2 J – 2 sessions)		Dec /Jan 2022 June 2022
		Ecotrophélia	Paul MENUT	June 2022
Level 5	Food'in Lab	Selection Committee	Salomé FALISE	July 2022





Annex 2: UL-BF persons responsible and the dates in school year 2021/22 for test of the EntreCompFood training

Level	Туре	Course	Training Manager	Date
Level 1	compulsory	Introductionary Economics	Aleš KUHAR	March/April 2022
Laval 2	compulsory	Unit Operations in the Food Industry	Iztok PRISLAN	March/April 2022
Level 2	elective	Food Biotechnology	Polona JAMNIK	May 2022
Level 3	compulsory	Practical Training – internship		October 2021/February 2022
	elective	Winemaking	Tatjana KOŠMERL	April/May 2022
	compulsory	Food Safety	Anja KLANČNIK	October/November 2021
Level 4	compulsory	Sensory analysis	Mojca KOROŠEC	December 2021/January 2022
	elective	Nutrition engineering	Mateja LUŠNIC POLAK	April/May 2022
Level 1, 2, 3, 4	Contest	Ecotrophélia	Aleš KUHAR	June 2022





Annex 3: Andalucía Emprende persons responsible and the dates in school year 2021/22 for test of the EntreCompFood training

Entre Comp Level	Туре	Course	Training Manager	Date
Level 5-6	International benchmark event in the sector and face-to-face and virtual meeting point where you can find partners, increase financing and internationalization channels, as well as publicize new products, services and innovative projects.	Working day SMART AGRIFOOD	CADE Málaga	30 September- 1 October
Level 3-4	Aimed at launching a reflective process that guides educational practice to address in a planned way the treatment of entrepreneurial skills in students	I Andalusian Congress on Educational Entrepreneurship: an international perspective	CADE Sevilla	7-10 October
Level 1-6	Online workshop to analyse and discuss the training needs and skills in entrepreneurship of the food and beverage industry	ECF national workshop	FIAB/AE	14 October
Level 1-2	Entrepreneurship Camps, initiative to promote entrepreneurship in young people aged 18 to 30, through sports activities and other activities to work on entrepreneurial skills with Lean Startup methodologies and learn by doing	Entrepreneurship Camp	CADE Torremolinos (Málaga)	15-17 October
Level 5-6	Star day of innovation in the agri-food sector in which ideas are identified, projects are shown, results are shared under a participatory and collaborative environment in order to advance and	Alibetopías	FIAB/AE	26 October





	face a future full of challenges in which innovation is key to reach success.			
Level 1-2	Entrepreneurship Camps, initiative to promote entrepreneurship in young people aged 18 to 30, through sports activities and other activities to work on entrepreneurial skills with Lean Start-up methodologies and learn by doing	Entrepreneurship Camp	CADE Cazorla (Jaén)	19-21 November
Level 1-4	Annual Forum to promote the identification of innovative entrepreneurship opportunities and the diversification of economic activities in rural areas, giving value to entrepreneurs in rural and unpopulated areas	1st SMARTDAY DEMOGRAPHIC CHALLENGE. Start TV	SSCC Sevilla	22 November
Level 1-4	Live digital contest between educational centres; program that uses gamification to bring the main concepts of the world of entrepreneurship to the public in a knock-out contest format.	Great Quiz	SSCC Sevilla	3 December
Level 1-2	Entrepreneurship trends forum. The study carried out by AE on Trends and Opportunities for Entrepreneurship will be presented.	2nd SMARTDAY TRENDS. StarTV	SSCC Sevilla	14 December
	Entrepreneurship kit. It is made up of workshops designed to stimulate the students the acquisition and development of entrepreneurial skills, especially competence of sense of initiative and entrepreneurial spirit.	INICIA Session forecast and number of students:		
Level 1, 2, 3	They have been programmed to respond to the different educational stages, following a training itinerary based on the methodology of learning-by-doing and attending to the three phases of entrepreneurship: Explore-Develop-Present. a. Entrepreneurship Animation Kit: aimed at 5th	 Workshops 100: 1.000 Visits to companies 14: 150 	AE	October 21- June 22





and 6th Primary students cast. The objective is to		
motivate and awaken the entrepreneurial spirit		
from the early ages.		
b. Entrepreneurship Preparation Kit: for		
Baccalaureate and FP students Basic.		
The objective is to continue promoting the		
development of skills entrepreneurs while		
introducing theoretical and practical knowledge		
related to business management.		
c. Entrepreneurship Activation Kit: for young		
training students Professional of Middle and		
Superior Degree of any branch. Has as main		
objective to consolidate and deepen the skills		
acquired in the previous stages, and in business		
knowledge		









Annex 4: Template questionnaire for teachers - Exchanging entrepreneurship teaching methods

Type of the activity:

formal learning/non formal learning 1

Target group:

Teachers or trainers / students / young entrepreneurs / employees...

Developed competences

Creativity, Vision, Ethical & sustainable thinking, Motivation and perseverance, Mobilising resources, Working with others, Learning through experience

Structure of the activity

Lecture/Seminar/Workshop/....

Impact and Effort:

State briefly the efforts needed to prepare the activity (time to prepare & time to do) and what impact did it have on development of Entrepreneurship competences (small, medium, high).

Learning objectives

Write here a short impact on entrepreneurship learning.

Short description of the activity (duration, topic, number of participants)

Write here.

Activities, methods, tools used to support the development of the entrepreneurial competences

Write here.

What was a success factor

Write here.

What could be improved next time

¹ [1] According to the classical definitions, formal learning is given in schools, colleges and institutions of education; the non-formal is associated with community, society groups and organisations, while the informal covers everything else (interaction with friends, family and co-workers).





Write here

Supporting materials for this activity

State the materials that were developed for this action. (Are they publicly available?)





Annex 5: Curriculum development canvas

Competence

- Theoretical definition:
- Why do we want to achieve this? (Reason)
- Operational definition

What do we want to achieve? (Purpose) Which are the indicators?

- Is our learning approach result-oriented, processoriented, or both?

Target group - Who?

- Who will benefit from the outcomes of the
- Who are the direct beneficiaries? And the indirect ones?
- How are they involved in the design?

Needs - Which issue?

- What is our current position? - What are the challenges faced by the target
- What are their priorities, their main needs?

Objectives - Which goal?

- Where do we want to get?
- Do the objectives reflect our needs? What would be possible outcomes of the module?
- What is innovative about our idea?
- Achievable, Realistic, Timed)

Contents - What?

- What should people learn during the module?
- Which contents are specific and which are standard?
- Which of them are transferable to other realities?
- What prior knowledge is required to learn the contents?
- How are we going to pre-test the prior knowledge?
- Do contents meet our objectives? How are checkpoints incorporated within our contents?

Methodology - How?

- How are we going to get there?
- What's our approach?
- What necessary steps do we have to take in order to achieve the objectives?

Activities

- When are we going to do what? How are activities organised in our module?
- What will be done for preparation, implementation and evaluation?
- How are the project materials (case studies, teaching notes, etc.) included in the activities?
- How are the learners involved in the activities? How meaningful are the activities to their realities?
- Which activities will be experiential and which instructional?
- How feasible are the activities in terms of available resources (human, physical and financial)?
- Are all our objectives covered by the activities?

Are our objectives SMART? (Specific, Measurable,

Evaluation - What works?

- Which are the expected outcomes?
- How do we know we have accomplished them?
- Formative evaluation
- Summative evaluation?
- How do we measure the outcomes?
- Are we going to use performance-based assessment, objective-referenced tests, or both?

Linked Competences

- List specific topics and sub-topics, or connections from other competence areas.
- List those competences that can be also included in this module as horizontal or cross-curricular.
- Could they be combined or integrated in the above competence? How does the learning approach contemplate that possibility?

Learning Flow

- How coherent is it?
- Is there a cumulative sequence of activities?
- Is it content-specific?
- How is it related to the needs of the target group?
- How meaningful is the learning process to the learners?
- How can they add meaning and relate it to their

Resources

- List the necessary resources physical, financial and human- to implement our module
- How can we benefit from our current resources?

Outcomes

- How do the learning outcomes meet the competence definition?
- In what way do we test the objectives throughout the module and adjust them, if necessary?
- What methods are we going to use to record and validate learning outcomes?
- How are they integrated in the learning flow?
- What will be the impact of the learning outcomes for the practitioners and indirect beneficiaries?

Developed by Juan Ratto-Nielsen @ 2015 (rattonielsen.com) Icons made by Freepik from www.flaticon.com





Annex 6: Supporting material for students: The seven of EntreComp competences



















































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Annex 7: Supporting entrepreneurship competences: Train the trainer



















			Consciptore
	1.1 Sporting experturation	the your may righter and soft- ties to identify exportunities for intelling value	 Meetify and seize opportunities by create visible to explaining the accide, cathours and opportunit said- scape. Meetify create and theritogue that need to be made to be made cathours and bring together statistics alignment of the landscape in prests op- matically of control.
	LEGINESIS	Structure structure and purposedul sense	Overlig Even of Olice and specification is usually white exclusing families and even in committing dust investigations; Outputs and represents with investigation approach on committee and even of the committee of the c
	1.5. Veton	Work broads your years of the fallets	Dispite the foliate Dispite the value of their library risk patient Visuation foliate scenarios to find quality affect pass
	1.6 Valuing lifess	Make the most of lifeto and copier- function	 Judge what value is in social, subsum and economics he exist. Recognic the potential as lobe has for creating robo and similar subside ways of matting like mast out of the
	1.9 Ethiosi and englished the timbing	Access for car- disposit on and imposit of steel, reports of steel, reports of steel, reports of steel, reports of steel,	Assist the consequences of their tred three cable and the effect of introducerular states on the largest community, the market, as only and the introducerular states on the community of the com

2. Rasources	2.5 best- avarances and self- efficacy	Believe in year- self and been developing.	Tothed on your keeps, aspiretons and water in the struct, modern each one term. Month's and waters your individual and optical designation and individuals and optical designation and waters and to the structure of electric and social research to the structure of electric and designation of electric and temporary of the structure of the
	2.3 Multivation and personal 2009	free focused and and give up	No delegrammed to busy stoke only active and registed year freeze to deliveree. No prosposine to top portions and kepp through the activest year long beam ordinated or group stoke. The mobilised scalar prospose, adversally, and becope carry fashions.
	2.3 Mainthering resources	Collect and manage the read; not you need	Coff and transports instead on non-notated and eligible represents special for two rights may written a Make that model of for fact represents Get and manage the prohipedoness needed at any stage, including ballycool, fault, fact and digital contents.
	2.4 financial and economic (Beracy	Seveling Sinerestal said accordance based flow	Estimate the over all tuning an size into a value- creating activity. Ren, put in place and evaluate financial decisions over time. Renaige financing to make some my value-creating access call lead one the form term.









EXPERIENCE * To create a firems for action, establishing the right climate of experimentation, for findules adeptation, and creating opportunities to fell, reflect and recover. * Ensuring that the process has numerous Resistors to a great very to guarantee that one learns trough experience, by testing ideas, and progressables prints assumptions

NOVELTY

- Generating new value, which is often the ultimate goal of entrepresental process, is not a linear process, and should not be trueffly as such.
- It is an exploratory endeavour, which requires resultivity, the capacity to cope with ambiguity,
- You should also carefully plan how to create a learning setting that is conductive to generating new ideas, that promotes inquiries and sees of books are transported follows to considerable for learning.

TRIGGERS

- limitions are always present in learning processes especially in those designed to have learners unliaborate to face 61-defined problems, unexpected
- As an educator, you are invited to plan opportunities for learners to learn from events and processes that learners are enotional weight and econe.
- by setting challenging tests, having learners leave the training room, go out and interact with the intended user group, injecting uncertainty along the process, having learners work in Season, or exerting the research.

Source Entracemp Rayloub, 2000



REFLECTION

- following a backing is backed aby experiently, but beauting in happen, we make feel on the experience.
- Mellection advances to have, to other equipplies and improve that a main time of it is extrangement. Mellection size allows as to extend general principles from each hearing obtained to apply to men obtaining, becausing the best for faulter learning.
 In year-instaling from the region of discovers, Mantine and method to be comes for the extension of the control of the
- When they perform such a self-reflection exercise, their teaching collowers become apparent, in turn contributing to







 Corneling the barring experience unifer exequier provide a more insightful picture of the centent, and it offers to identify the law players.

 Tome may help in turning times into action, in mobilizing moneyes between times into action, including information.

In addition, real experience of fallowings between understanded fallowing part of the beauting and extrapresental process.

you principle decrees the based in relation to release, in you principle having it allusted in relation to release, in authoritis satilings, and that haveness experience have to have their previous experience and includings to fore up to near

Easter Entresump Raylands, 3000



COLLABORATION

 Collaboration – the engagement in fruitful group activity and tearment by learners in an extrepresental learning experience – can elicit and deploy a diversity of knowledge, skills and attitudes.

 Working with others requires the capacity to acknowledge and respect others, to develop empathy and environal intelligence to as to turne is with others, to lister activity and incorporate other people's input, to team up with others around a common goal, work is teams effectively as well as the capacity to expend one's network to increase import.

Source Entreump Playtonin, 303





Source Sninesowy Roylands, 303

OTHERS

 Value creation pedagogy requires learners to apply their new or existing knowledge, skills and attitudes to create something of value to at least one external takeholder outside their own group (class, course,

 The value that is created can be of any type: economic, social, culturel, including environmental or emotional.

MENTORING

By acting as a mentor rather than an instructor, you contribute to the development of their self-efficacy, which in tum noutsities their capacity to cope with uncertain, embiguous, and complex situations and self-direct their learning while creating value.

Source Sciences Playtook, 2020





PROGRESSION

 Assessing how learners accomplish tasks is not the only way to assess progress.

 Reflective learning for instance builds on the includual or collective reflection of the learners are aims to foster self-directed learning and growth mindost.

 Peer excessment involves learners assessing on another, and contributes to their capacity to take board valuable criticism from others as well as to

METHODS

#1 EFFECTUATION ... Is about controlling the future rather than predicting it.

DESIGN THINKING ... is an Iterative, non-linear and human-centred gractice that capitalises on insights gethered through interactions with users to match their needs

THE LEAN START-UP METHOD ... a set of practices for helping entrepreneurs increases their odds of building accossibility entures; impliced by the principles of lean manufacturing... Though a traceas model collect "build-measure-fearer" loop.

PROJECT BASED LEARNING ... is a consolidated padagogical approach that sasks to nurture inguisities learners by actively anguging them in rechoosid projects

PLAYFUL EXPERIMENTATION ... It promotes combining ideas in unusual ways, to applies what could hoppen if chilgs went that way, learning is not the end destherstor, either it happens along the way, while lifting a practical farming

CLASSROMS AS LEARNING COMMUNITIES ... learning is a process of coconstruction, which is rooted in interacting with others.

Source Entresiene Playbook, 2020



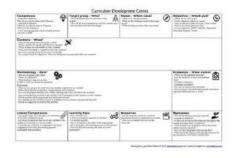


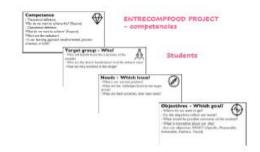






Source Entrecemp Poytook, 3030

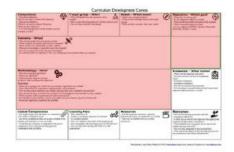












EXPERIMENTAL EXERCISE













Feedback questions



- Go to www.menti.com and use the code: 73 39 75 7
- Voting link: https://www.menti.com/tbsz6daw@k









Competence Agrifood industry



Annex 8: Questionnaire for self assessment

ENTRECOMPFOOD QUESTIONNAIRE FOR STUDENTS

Reflection on acquired entrepreneurial competencies

The questions below are related to the development of your entrepreneurial competencies.
Think about the knowledge and competencies that you have used or developed in the course of and choose the one you most identify with. In addition to the statements, descriptions are added to make it easier to understand each statement. You can only select one statement.
If you do not identify with any of the statements, select the answer "None of the above".
For each competency, you also have the option to write an example / event that explains your definition under a particular statement.
The results will be pooled and anonymized and used for evaluation within the EntreComp competencies.
The results will also be sent to your email address. We suggest that you save the results and continue to upgrade your competencies and re-evaluate yourself over time.

There are no wrong answers.

1. CREATIVITY: Developing creative and goal-oriented ideas.

Choose the most appropriate statement *

- I know how to create new ideas or solutions for existing needs.
- I can use different techniques to create new ideas (ICT, brainstorming, mind maps, ...).
- I know how to involve co-workers in creating new ideas, researching, and testing.
- I know how to design and implement the process of generating and validating ideas (for example, leading a meeting where we create new ideas using different techniques with colleagues/coworkers).
- None of the above.

Justify the above answer with a brief description of the case





2. SPOTTING OPPORTUNITIES: Discovering and identifying opportunities to create value.

Choose the most appropriate statement *

- I recognize opportunities and needs, for example, I recognize the possibility of improving a particular product.
- I can analyse needs in different contexts and identify opportunities, for example, I analyse the composition of a particular product and identify the opportunity to improve it for different target groups.
- I strive to improve solutions and established procedures, for example to improve a particular technological process.
- I design and implement the process of generating ideas (for example, meeting with colleagues using various techniques brainstorming, mind maps,...), which will create added value or upgrade solutions to the identified problem.
- None of the above.

Justify the above answer with a brief description of the case

3. VISION: Striving to realize your vision of the future.

Choose the most appropriate statement *

- I imagine the future using different scenarios of the course of events. For example, if I finish a year with a good average grade, It will be easier for me to get a job.
- I develop my vision of the future for a particular project and work out different possible outcome scenarios. For example, I want to get a job in a high-tech food company. If I gain experience with various projects in this field during my studies and gain the appropriate competencies, I will have a greater chance of employment.
- I analyse the context, build my strategic vision and identify different ways to implement it. For example, in the current market situation, food companies do not hire, I want to get a job in a high-tech food company, so I will have to gain very good experience and prove in my knowledge that they will want to have me in their ranks. I will take part in various competitions, gain experience with an internship in a similar company abroad, etc....
- I can convince others of my choice between different scenarios in a changing context, such as convincing my colleagues to take part in the Ecotrophelia competition, as this will gain them the competencies and experience that will make them better employable later on.
- None of the above.



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Justify the above answer with a brief description of the case.

4. ETHICAL AND SUSTAINABLE THINKING: Assessing the consequences and impacts of ideas, opportunities, and actions.

Choose the most appropriate statement *

- I can say that I respect the environment and society.
- Whenever I decide on a solution, I wonder about the ethical and sustainable consequences.
- I can analyse the ethical and sustainable consequences of proposed solutions, such as how the use of a particular raw material affects the environment and society.
- Using various methods to analyse the sustainable and ethical aspects of our project (environmental and social impact), I can suggest solutions and improvements.
- None of the above.

Justify the above answer with a brief description of the case

5. MOBILISING RESOURCES: Collection and management of tangible, intangible and digital resources that we need to carry out a particular idea/project.

Choose the most appropriate statement *

- I can easily find additional resources and contacts for a specific project, such as solving my tasks in the pedagogical process (preparation of a seminar).
- For a specific project, such as solving my tasks in the pedagogical process (preparation of seminars), I regularly use different sources and networks of contacts.
- I know how to effectively use different resources to achieve the best possible result in a project (preparation of a seminar), for example who to turn to for help with legislation and how to get the most useful answer.
- I can use the available resources (professional help, literature, links with companies) and determine the necessary resources (financial and material) to carry out a particular project (for example, product development in the framework of the Ecotrophelia competition).
- None of the above.

Justify the above answer with a brief description of the case



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6. WORKING WITH OTHERS: Networking, collaboration and networking.

Choose the most appropriate statement *

- Working in a team is not a problem for me.
- I also participate in project work with peers outside of lectures.
- I know how to lead a team and work with remote communities.
- With the help of various tools and methods, I can create a space to promote the work of my team (for example, using tools for collaborative work -Moodle, MS Teams, Google Docs or live with various methods and incentives/motivation).
- None of the above.

Justify the above answer with a brief description of the case

7. MOTIVATION AND PERSEVERANCE: Stay focused and persevere.

Choose the most appropriate statement *

- I am driven by challenges and do not give up quickly.
- I know how to set goals, measure my progress and overcome obstacles that I encounter on the way to my goal.
- Even when faced with adversity, I insist on achieving my goals.
- I adapt to failures and failures and know how to motivate others.

Justify the above answer with a brief description of the case

8. LEARNING THROUGH EXPERIENCE: Learning through activities.

Choose the most appropriate statement *

- I have a desire to gain individual experience (reading a book, attending a workshop, imitating, watching recordings, ().
- I know very well what my limitations are and in which area I still have to upgrade my competencies.
- I am not afraid of mistakes but I use them to learn and improve.
- I recognize when I am successful and if I am not, I adjust my vision, goals and action plan accordingly.
- None of the above.

Justify the above answer with a brief description of the case





You answered all the questions. Thank you for reflecting on your work and your time.

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