

Module for VET Degrees on Gastronomy on "Sustainable Cooking"



VET-ECOoking

Training Framework and Curricula Structure

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INTRODUCTION

The activities developed during the first tasks of the VET-ECooking project were intended to help the partners define the training framework and curricula structure for a 50-hour module on “Sustainable Cooking” for VET Cooking courses.

The training framework results from an in-depth analysis of the data collected by the VET-ECooking consortium: benchmarking, a collection of case studies & good practices and roundtables. In this sense, the structure summarises the recommendations obtained through the different activities developed under the scope of Result 1 and reflects the expert’s recommendations.

Specific training in sustainable cooking is of uttermost importance in order to respond to the current environmental changes and consumer demands. Developing a training module on these topics will, therefore, capacitate VET schools to train students on sustainable cooking, and also will provide the trainees with the necessary knowledge and competencies that will help make a difference when they join the labour market. It is therefore important to upgrade the qualifications and abilities of future chefs so that these professionals can deliver their service in appropriate ways, respecting not only the diversity of customers’ needs but also specific requirements related to different cuisines and necessary adaptations.

The general module structure and the main goals, and the training material structure and the methodology for the training are presented below. A table summarising the topics covered in each of the units, the learning outcomes and a reference time dedicated to each unit is also included.



1. MAIN GOAL

This project aims at defining the curricula structure for a module on “**Sustainable Cooking**” to be included in the national curricula for Cooking VET courses (initial and continuous offers). The rationale behind the development of a sustainable cooking module is that it will provide VET Cooking courses with the necessary knowledge in order to respond to the current environmental changes and consumer demands.

The main goals of the module on Sustainable Cooking are to:

- improve competencies of trainees and trainers of VET courses on Cooking;
- develop hard and soft skills of VET trainees to prepare sustainable, high-quality gastronomy and raise awareness for the importance of fighting climate change;
- better prepare VET trainees to address the challenges at the workplace, with a focus on the greener dietary options
- create awareness about sustainable cooking (in sustainability, in general) in national and EU citizens and institutions;
- motivate professionals to develop and practice sustainable cooking skills;
- improve the national VET offer/curricula of the cooking courses;
- transfer and use new methodologies for sustainable cooking in several European countries.





2. GENERAL MODULE STRUCTURE

The module on Sustainable Cooking is divided into seven different units:

- 1. Sustainability: Organic food:** aims to be an introductory unit that covers the difference between organic and non-organic food, exploring the food chain and recommending the use of local and seasonal products;
- 2. Food waste:** this unit explores the use of resources for a sustainable food system, explaining how to create a minor impact on the environment;
- 3. Nutrition:** enhances the importance of considering the nutritional value when preparing a dish and of adopting a diverse diet, both for environmental and health reasons, also referring to the adoption of vegetarian and vegan diets;
- 4. Energy and water resources:** promotes the adoption of clean energies and explores the strategies on how to reuse resources and create a reduced impact in terms of energy and water consumption;
- 5. Food packaging:** proposes to analyse the environmental impact of packaged products, setting strategies on how to reduce such impact;
- 6. Real-life conditions & application of sustainable practices:** food law and constraints to sustainable practices, hygiene and food safety procedures that align with sustainability, supply, transports and logistics, and food management;
- 7. Hands-on Sustainable Cooking:** this will be the practical unit, in which trainees explore a set of products, practices and possible ways to prepare sustainable ingredients and meals.



3. PEDAGOGICAL METHODOLOGY & APPROACH

The pedagogical methodology is oriented both for an online and a face-to-face format.

Regarding the online learning format, a training platform will host all module content and will be available in English, German, Greek and Portuguese. The functionality and usability test will be conducted with at least 10 interested people from each country.

Training resources will be created so that the learning outcomes will be reached easily. These resources will consist of practical activities, exercises, guidelines on topics such as meal prepping with less noble/used parts of the ingredients, nutrition facts and the environmental impact of such plates. Additionally, the resources will include operational guidelines directed at trainers.

The face-to-face training will be focused on the materials that will be available online and will test their applicability with trainers and trainees. At least one show-cooking moment will be arranged with all the entities to have an online training event between trainers, with the participation of some trainees as well, to share experiences and good practices.

Finally, online and printable versions of each unit and the respective training resources will be available for download.



4. APPLICATION OF EQF AND ECVET PRINCIPLES

In order to make it easier to compare degrees and certificates acquired in Europe, two common reference frameworks established by the European Union have been considered during the development of the module structure on Sustainable Cooking, in the countries where it applies:

- The **European Qualifications Framework (EQF)** is a common reference framework that aims to make it easier to compare and understand the different qualifications systems in the European Union and European Economic Area (EEA). It provides a way to link different national qualifications systems and to compare qualifications from different countries. The EQF has eight levels, which are based on the knowledge, skills, and responsibility and autonomy required for each qualification¹.
- The **European Credit system for Vocational Education and Training (ECVET)** is a system for transferring and accumulating learning outcomes achieved during vocational education and training (VET) between different countries and sectors. It is based on the principle of "learning outcomes", which means that the focus is on what a learner can do as a result of their learning, rather than the time they have spent in a classroom or training program. ECVET allows learners to have their learning recognised and credited in other countries and sectors, which can help to increase mobility and career opportunities.

Following these premises and considering a module for VET, the module was designed primarily according to level 4 of the EQF and it was adjusted to VET courses on Gastronomy/Cooking, considering the three EQF descriptors: knowledge, skills and responsibility and autonomy.

The contents of the module are in accordance with the descriptor **knowledge** "Factual and theoretical knowledge in broad contexts within a field of work or study" since the several units approach specific, factual contents related to the field of work of Sustainable Cooking. The trainees will acquire a set of knowledge concerning types of

¹ **EQF level descriptors:** <https://europa.eu/europass/en/description-eight-eqf-levels>



organic food, food waste, legislation, nutrition and health, food packaging, clean energy and resources management, etc.

For level 4, the **skills** are defined as “a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study”, which are also approached in the module since unit 6 is dedicated to hands-on sustainable cooking and will promote the creation of cooking recipes based on organic foods.

Finally, regarding **responsibility and autonomy** described as “Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change”; and also “supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities”, the module will contribute to encouraging the trainees to deliver sustainable and organic recipes, which will develop the sense of responsibility towards climate change. Moreover, it will support the acquisition of cooking techniques and considerations that will help trainees become more competitive future graduates with skills that are very relevant to the current labour market.





5. MODULE STRUCTURE

Module: Sustainable Cooking			
Unit	Content	Learning outcomes	Timeframe
1. Sustainability: Organic food	1.1. The organic food 1.1.1. Differences between organic and non-organic products 1.1.2. The importance of adopting regional and seasonal products 1.1.3. Foods I can easily grow myself 1.2. Food chain: from the origins to the kitchen 1.3. Reading and interpreting labels	<ul style="list-style-type: none"> • Understand the concept of organic food; • Differentiate organic and non-organic products; • Understand the impact of food choices on the environment; • Identify the main steps of food processing; • Comprehend what is sustainable nutrition; • Identify the nutritional value of sustainable dishes; • Read and interpret labels and expiry dates. 	7 hours
2. Food waste	2.1. Responsible use of resources for a sustainable food system 2.2. The importance of not wasting food 2.2.1. Buying and using the right quantities 2.2.2. How to use all parts of a raw product 2.2.3. The use of non-commercially appealing products 2.3. Waste separation 2.3.1. Organic waste 2.3.2. Composting and natural fertilisers	<ul style="list-style-type: none"> • Understand the importance of using resources in a responsible manner; • Recognise the importance of not wasting food; • Learn how to use all parts of a raw product; • Identify potentialities in non-commercial appealing products; • Perceive how waste separation can be useful in a circular economy. 	5 hours





<p>3. Nutrition</p>	<p>3.1. Nutrition and health</p> <p>3.2. Change begins at our table</p> <p>3.3. The importance of a diverse diet and existing options</p> <p>3.3.1. Animal and vegetable protein</p> <p>3.3.2. The adoption of alternative diets: vegetarian and vegan dishes</p> <p>3.4. Sustainable nutrition</p> <p>3.4.1. Nutritional value of sustainable dishes</p>	<ul style="list-style-type: none"> • Understand the importance of nutrition when preparing a dish; • Acknowledge food selection as a sustainable practice; • Identify the benefits of consuming vegetal protein and seasonal products. 	<p>5 hours</p>
<p>4. Energy and water resources</p>	<p>4.1. Kitchen equipment and energetic consumption</p> <p>4.2. Clean Energies</p> <p>4.3. Strategies for cooking with a minor energetic impact</p> <p>4.4. Reuse of water resources: sustainable practices</p>	<ul style="list-style-type: none"> • Identify the energetic consumption of kitchen equipment; • Explain what clean energies are about; • Prepare strategies to reduce the energetic impact; • Identify options for water reuse and water usage sustainable practices. 	<p>4 hours</p>
<p>5. Food packaging</p>	<p>5.1. The environmental impact of using packaged products</p> <p>5.2. Preference for unpacked products</p> <p>5.3. Waste management and disposal methods</p>	<ul style="list-style-type: none"> • Recognise the environmental impact of packaged products; • Understand the advantages of buying non-packaged products; • Identify different waste management disposal methods 	<p>4 hours</p>



		(e.g., recycling, anaerobic degradation, litter, biodegradable polymers).	
6. Real-life conditions & application of sustainable practices	6.1. Industrial food production 6.2. Food Law 6.3. Food safety: Hygiene management and supply chain management	<ul style="list-style-type: none"> • Explain the industrial food production process; • Identify food law limitations to the application of sustainable cooking practices; • Comprehend the supply food management and hygiene regulations. 	5 hours
7. Hands-on Sustainable Cooking	7.1. Food conservation and storage 7.2. Food preservation techniques: chutneys, dehydrated food, pickles, purées and pulps 7.3. Cooking methods and techniques 7.4. Sustainable meals: Practices, products and recipes 7.4.1. Breakfast & Brunch 7.4.2. Appetisers 7.4.3. Main course – meat, fish and vegetables 7.4.4. Desserts	<ul style="list-style-type: none"> • Understand the best methods for conserving and storing different types of food; • Describe different types of sustainable cooking methods and techniques; • Identify and use food preservation techniques to optimise food longevity; • Be able to create and reproduce sustainable recipes; • Apply sustainable cooking techniques. 	20 hours



LEARNING OBJECTIVES ACCORDING TO THE EQF PRINCIPLES

Upon completion of each unit, the learner will be able to demonstrate understanding of the following concepts:

UNIT 1 – SUSTAINABILITY: ORGANIC FOOD		
Knowledge	Skills	Responsibility and Autonomy
<ul style="list-style-type: none"> • Organic and non-organic food; • Regional and seasonal products and the importance of using them as a sustainable practice; • Food that we can grow ourselves; • Food chain: food production processes, distribution and environmental impact; • Reading and interpreting labels: interpreting expiry dates and label information. 	<ul style="list-style-type: none"> • Identifies organic food; • Understands the differences between organic food and non-organic food; • Is capable of distinguishing organic products from non-organic ones; • Recognises the importance of adopting regional and seasonal products; • Is able to use regional and seasonal products as a sustainable practice; • Is aware of foods that one can easily grow/produce; • Understands clearly the food chain, from the production processes to distribution and food preparation; • Understand how to interpret expiry dates and labels; • Can read and interpret expiry dates and labels. 	<ul style="list-style-type: none"> • Communicates concepts and ideas clearly; • Acts with initiative and demonstrates an analytical capacity; • Recommends solutions for problem-solving; • Demonstrates creativity, autonomy and an innovative spirit; • Carries out independent research using different sources of information; • Interprets labels independently.



UNIT 2 – FOOD WASTE

Knowledge	Skills	Responsibility and Autonomy
<ul style="list-style-type: none"> • Responsible use of resources; • Environmental and economic impact of food waste; • Existing programmes and services that provide alternatives to food waste/to manage food waste; • Food costs; • Planning and using the right quantities; • Product optimisation: how to use all parts of raw products; • Using non-commercially appealing products; • Waste separation and recycling; • Organic waste; • Composting and natural fertilisers. 	<ul style="list-style-type: none"> • Is capable of using resources in a responsible manner; • Understands clearly the environmental and economic impact of food waste; • Is aware of existing programmes and services that offer alternatives to food waste; • Can measure and plan food costs; • Can plan the food quantities accordingly; • Is able to optimise the use of all parts of raw products; • Considers the use of non-commercially appealing products as a sustainable practice; • Knows how to recycle and dispose of organic waste; • Understands and is capable of following composting methods and the use of natural fertilisers. 	<ul style="list-style-type: none"> • Communicate concepts and ideas clearly; • Act with initiative and demonstrate an analytical capacity; • Recommend solutions for problem-solving; • Demonstrate creativity, autonomy and an innovative spirit; • Recognises the impact of food waste on the environment; • Plans quantities accordingly to avoid waste; • Applies strategies to prevent and manage food waste; • Adjusts food quantities and costs accordingly; • Carries out independent research using different sources of information.

UNIT 3 – NUTRITION

Knowledge	Skills	Responsibility and Autonomy
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<ul style="list-style-type: none"> • Nutrition and health; • The importance of a diverse diet and existing options; • Animal and vegetable protein; • Alternative diets: vegetarian and vegan; • Sustainable nutrition; • Nutritional value of sustainable dishes; • Looking for nutritional value on labels: the nutri-score method. 	<ul style="list-style-type: none"> • Understands clearly basic concepts of nutrition and its relation to health; • Is aware of the nutritional values of food; • Is aware of the importance of having a diverse diet; • Is able to identify the different existing options for a diverse diet; • Identifies differences and correlations between animal and vegetable protein; • Is capable of planning dishes according to alternative diets, such as vegetarian and vegan; • Is able to correlate sustainability and nutritional value; • Can plan a sustainable meal within the recommended nutritional values; • Can interpret labels to look for nutritional information. 	<ul style="list-style-type: none"> • Communicates concepts and ideas clearly; • Acts with initiative and demonstrates analytical capacity; • Recommends solutions for problem-solving; • Demonstrates creativity, autonomy and innovative spirit; • Carries out independent research using different sources of information; • Plans and makes nutritious and sustainable meals; • Adjusts meals respecting sustainable principles and nutritional values; • Shows considerable knowledge about animal and vegetable protein and corresponding nutritional values; • Follows a diverse diet principle when planning meals.
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UNIT 4 – ENERGY AND WATER RESOURCES

Knowledge	Skills	Responsibility and Autonomy
<ul style="list-style-type: none"> • Kitchen equipment and energetic consumption; • Clean energies; • Strategies and cooking techniques for a minor energetic 	<ul style="list-style-type: none"> • Identifies the energetic consumption of kitchen equipment; • Is aware of existent clean energies as a sustainable alternative; • Identifies strategies to reduce 	<ul style="list-style-type: none"> • Communicates concepts and ideas clearly; • Acts with initiative and demonstrates analytical capacity; • Recommends solutions for





<p>impact;</p> <ul style="list-style-type: none"> • Use and reuse of water resources: sustainable practices. 	<p>the environmental impact of cooking and associated procedures;</p> <ul style="list-style-type: none"> • Is capable of using different cooking techniques that have a minor environmental impact; • Can put in practice strategies to reduce energy use; • Can manage water and energy resources sustainably; • Is aware of existent practices to reuse water; • Puts in practice water reuse techniques. 	<p>problem-solving;</p> <ul style="list-style-type: none"> • Demonstrates creativity, autonomy, and innovative spirit; • Carries out independent research using different sources of information; • Recognises the importance of considering and adopting clean energies; • Adjusts cooking strategies and techniques to optimise the use of water and energy resources; • Observes water and energy use critically.
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UNIT 5 – FOOD PACKAGING		
Knowledge	Skills	Responsibility and Autonomy
<ul style="list-style-type: none"> • The environmental impact of using packaged products; • Preference for unpacked products; • Reusable package systems; • Waste management and disposal methods; • Recycling. 	<ul style="list-style-type: none"> • Knows the existent packaging options commonly used in the food sector; • Understands the environmental impact of packaged products; • Is aware of alternative sustainable packaging or non-packaging options, such as bulk sale; • Understands clearly the importance of preferring unpacked products and/or reusable packaging; • Knows how to reuse packaging; • Is aware of different waste management and disposal methods; 	<ul style="list-style-type: none"> • Communicates concepts and ideas clearly; • Acts with initiative and demonstrates analytical capacity; • Recommends solutions for problem-solving; • Demonstrates creativity, autonomy and innovative spirit; • Carries out independent research using different sources of information; • Recognises the negative impact of some types of food packaging on the environment;





	<ul style="list-style-type: none"> Clearly understands and knows how to recycle. 	<ul style="list-style-type: none"> Considers the packaging of the products when buying them; Applies sustainable practices by choosing products with reusable packaging; Reuses food packaging; Applies different waste management and disposal methods; Applies the recycling principles; Recycles.
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UNIT 6 – REAL-LIFE CONDITIONS & APPLICATION OF SUSTAINABLE PRACTICES

Knowledge	Skills	Responsibility and Autonomy
<ul style="list-style-type: none"> Industrial food production procedures; Food law; Law vs. Sustainability: constraints imposed by applicable law; Food safety procedures; Hygiene management; Supply chain management; Food transport and logistics. 	<ul style="list-style-type: none"> Is aware of industrial food production procedures and implications; Knows the national Food Law; Acknowledges the limitations imposed by applicable law; Is able to conduct professional practices according to food safety and hygiene guidelines and applicable law; Understands clearly supply chain management methods and procedures; Is aware of food transportation and logistics procedures. 	<ul style="list-style-type: none"> Communicates concepts and ideas clearly; Acts with initiative and demonstrates analytical capacity; Recommends solutions for problem-solving; Demonstrates creativity, autonomy and innovative spirit; Carries out independent research using different sources of information; Acts according to the applicable food law; Follows safety and hygiene guidelines accordingly.





UNIT 7 – HANDS-ON SUSTAINABLE COOKING

Knowledge	Skills	Responsibility and Autonomy
<ul style="list-style-type: none"> • Food conservation and storage; • Kitchen organisation; • Food preservation techniques: making chutneys, pickles, purées and pulps and dehydrated food to use products close to their life end; • Cooking methods and techniques; • Sustainable practices, products and recipes to prepare sustainable meals; • Sustainable cooking practices. 	<ul style="list-style-type: none"> • Knows how to properly store and preserve food; • Is capable of properly managing product stock and avoiding waste; • Understands clearly and puts into practice organisation strategies in the kitchen; • Is capable of identifying alternative uses for products that are no longer fresh; • Is aware and can use all parts of raw products for creative and sustainable solutions; • Can prepare chutneys, pickles, purées, pulps and dehydrate food to prevent waste; • Is aware of and applies cooking sustainable practices; • Knows how to adjust recipes under sustainability principles; • Can prepare sustainable meals accordingly. 	<ul style="list-style-type: none"> • Plans and structures tasks according to sustainable practices; • Communicates concepts and ideas clearly; • Acts with initiative and demonstrates analytical capacity; • Recommends solutions for problem-solving; • Demonstrates creativity, autonomy and innovative spirit; • Carries out independent research using different sources of information; • Applies sustainable practices to different tasks such as storing, planning, use and reuse, and food preparation.





CONCLUSION

The activities carried out during Result 1 of the VET-ECOoking project led to the definition of the curricula for a sustainable cooking module for VET Cooking Courses, which culminated in its main output: “**VET-ECOoking Training Framework and Curricula Structure**”. Hence, the training framework described in this document will serve as the foundation for creating training content and resources for a 50-hour module on “Sustainable Cooking”.

The training framework structure is based on level 4 of the EQF and ECVET methodology and principles and is organised into seven units. It was defined in terms of learning outcomes, timeframe, knowledge, skills, responsibility and autonomy. The contents of each unit are based on the data collected by the consortium of the project by the means of benchmarking, desk research and inputs from experts in VET training, environmental sustainability and the gastronomy industry.

The development of the training content and resources will happen in the next phase of the VET-ECOoking project, as a part of the activities from Result 2. Moreover, a platform will be developed where all training material will be available in English and in the languages represented by the partnership.

