



Curriculum CE4FOOD

**Led by Drosotalida
Social Enterprise**

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CE4FOOD CURRICULUM DESCRIPTION

Course title: “Food Waste Management in the Hospitality Sector” or “Managing Food Waste - a Training Programme for VET Trainers” or “Apply Food Waste Principles in the Hospitality Sector and AR technologies”

The aim of this curriculum is to outline topics that VET trainers need to follow to help entrepreneurs in the hospitality sector to acquire the necessary knowledge to adopt and apply food waste management in their organisations. In addition, the curriculum outlines topics through which VET trainers can exploit technologies and methods such as Augmented Reality and storytelling techniques to help them in their knowledge transfer activities.

Based on research conducted in IO1, the CE4FOOD curriculum has been collectively structured into 7 modules for the scope and intended levels as outlined below:

| Curriculum Module | Module description | Competences / skills | Connection with other CE4FOOD results | Intended Level EQF 4 (see description below) | Partner suggested module development |
|---|---|---|--|--|--------------------------------------|
| 1.0 Introduction to food waste management in the hospitality sector 2 hours | Definitions, processes, benefits - including related case studies, circular economy, 3Rs: record, reuse and recycle, know your customer and area, - Benefits and added value - Practical tools and case studies | <ul style="list-style-type: none"> - Basic knowledge of CE, - Basic knowledge of FWM, - Presentation of FWM and CE in hospitality sector, - Understanding if they can adopt it and use it in their training delivery. | <ul style="list-style-type: none"> - Canvas simulation - Case studies collected, - Videos in resources - LMS | VET trainers interested in using the CE4FOOD training programme to help SMEs. Basic knowledge of FWM, CE and raising related understanding. Presentation of practical information that can be applied by end target group users. | Drosostalida SE |

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|--|--|---|---|---|--------------------------------------|
| <p>2.0 The Team</p> <p>5 hours</p> | <p>Tasks and delegations, categorization of food waste in an organisation, labelling and packaging, dates and storing. Presentation of practical tools such as checklists.</p> | <ul style="list-style-type: none"> - need for a dedicated team/staff members with additional tasks and roles to successfully reduce food wastage - identify and divide tasks and activities for FWM based on individual specifications. - identify different categories of food waste within a hospitality business and understand how these categories can be combated - acquire knowledge of how packaging and storing can influence the lifetime and quality of food - understand how techniques, such as composting and donation, can be implemented | <ul style="list-style-type: none"> - Canvas simulation - Case studies collected, - Videos in resources - LMS | <p>Understand the need for a dedicated team or staff members with additional tasks and roles. Understand and be able to divide tasks and activities for FWM based on individual specifications. Present the different labelling, storing through various techniques, sorting and managing of raw materials. Present and understand how composting works and its benefits,</p> | <p>Glasgow Caledonian University</p> |
| <p>3.0 Digital and other tools for optimal Food Waste Management</p> <p>6 hours</p> | <p>Presentation of digital tools that can be used, dehydration, composting technology, automatic scanners, dedicated excel sheets, case studies and good practices</p> | <ul style="list-style-type: none"> - knowledge of excel as a digital tool - knowledge of food management in the kitchen - Understand the financial consequences of food waste. | <ul style="list-style-type: none"> - Canvas simulation - Case studies collected, - Videos in resources - LMS - IO1 results | <p>For VET trainers who must know the different tools available for FWM and their basic operations. Be able to present one specific tool which can be used by the majority of the entrepreneurs in the hospitality sector, Knowledge of how digital tools are added value to FWM.</p> | <p>Glasgow Caledonian University</p> |



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| <p>4.0 Pre and post service food waste</p> <p>6 hours</p> | <p>Knowledge of raw materials and their rotation, seasonality of materials, seasonal menus in terms of waste management, portion sizes, take away food packaging and waste, working space and working area organisation. The importance of weighting food pre and post service.</p> | <ul style="list-style-type: none"> - To understand the importance of categorization raw materials for the FWM. - To understand the main principles of seasonal menu design. - To plan and calculate portion sizes. - To understand the importance of food area planning for the proper waste calculation. - To identify and evaluate possible waste from packaging. - To prepare and use of monitoring checklists | <ul style="list-style-type: none"> - Canvas simulation - Case studies collected, - Videos in resources - LMS - IO1 results interviews | <p>For VET trainers who need to train hospitality entrepreneurs to practically categorise and use raw materials. To understand the importance of seasonality and design of seasonal menus. Teach related to the calculation of portion sizes and consider food waste from various aspects / areas in the kitchen and rest of the establishment.</p> | <p>Panevezys Labour Market Training Centre</p> |
| <p>5.0 Food Waste Management as an ethical and responsible food production policy</p> <p>5 hours</p> | <p>National and EU Legislation, environmental policies, statistics, EU priorities, national priorities, Consumer behaviours with possible subsection on intercultural customer behaviour, Corporate social responsibility, sustainable practices in the kitchens</p> | <p>To compare the EU strategic framework application on sustainable food production in different member states</p> | <ul style="list-style-type: none"> - Canvas simulation - Case studies collected, - Videos in resources - LMS - IO1 results interviews - -Io1 focus groups - Training material - Handouts | <p>For VET trainers who need to know related to national and EU related legislation and promote sustainable practices.</p> | <p>CCI BN</p> |

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| <p>6.0 cooperation structures between hospitality sector and suppliers</p> <p>5 hours</p> | <p>The aim of this module is to introduce participants to cooperation structures between the hospitality sector and suppliers. It consists of five units.</p> <p>Unit 1 focuses on what comes into restaurants essentially on understanding the benefits of being your own supplier (Producing)</p> <p>Unit 2 focuses on understanding the benefits of localization and how to implement it</p> <p>Unit 3 is about understanding the benefits of re-selling and donating and how to implement these strategies</p> <p>Unit 4 shows us how to implement returning, reusing and redirecting as strategies.</p> <p>Unit 5 focuses on the importance of regular feedback between suppliers and buyers</p> | <p>Identify issues with supply chain management in the hospitality industry; understand the benefits of a restaurant producing its own food; understanding how vertical farming works; the benefits of localising; awareness of greenwashing; avoid unnecessary importation; understand the benefits of restaurants reselling and donating their surplus; realise how restaurants can return packaging to suppliers and redirect waste products; discern the types of feedback between restaurants and suppliers and how an effective feedback system between them can be implemented</p> | <ul style="list-style-type: none"> - Canvas simulation - Case studies collected, - Videos in resources - LMS - IO1 results | <p>VET Trainers need to promote new cooperation methods and structures between the various stakeholders and parties in order to optimise FWM.</p> | <p>Lawton School SP</p> |
| <p>Extra module - Digital support for training</p> | | | | | |
| <p>Train the Trainer module in using digital tools such as Augmented Reality (AR) and</p> | <p>Basics of AR and storytelling in education Case studies showcasing how both tools are used in VET training provision. Development examples of tools..</p> | <ul style="list-style-type: none"> - Basic knowledge of AR, - Basic knowledge of Storytelling, - Understanding of the potential for such technological tools for educational purposes - Present benefits and added value of AR and | <ul style="list-style-type: none"> - Canvas simulation - Case studies collected, - Videos in resources - LMS | <p>For VET trainers who need to learn about new technologies such as AR and integrate them within their training delivery. Teach their TGs to use them in their marketing or</p> | <p>UPB – Bucharest</p> |



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| Storytelling. 7 hours | | storytelling in the hospitality sector. | | other activities for promotion and training purposes. | |
| Project work suggestions 4 hours | Based on canvas IO2 design and scenarios of use. | | | | Drosostalida SE with all partners |

| EQF Level | Knowledge | Skills | Competence |
|-------------|---|---|---|
| EQF Level 4 | Factual and theoretical knowledge in broad contexts within a field of work or study | A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study | Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities |



1.0 DETAILED CURRICULUM STRUCTURE

1.1 An Introduction to the CE4FOOD Course

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| Title of Module | 1.0 Introduction to food waste management in the hospitality sector | |
| Duration | 2 hours | |
| Keywords | Circular economy, food waste management, hospitality | |
| Delivery method | Online training through the CE4Food E-platform | |
| Assessment | Module multiple choice questions, reflection questions inside the module, self-developed activities within the unit. | |
| Module description | <p>The aim of this module is to introduce food waste management in the hospitality sector to the VET trainers in the field. They can use the module resources to train SMEs and other interested parties. The module will describe and present definitions, explain the main principles of food waste management and its characteristics, present how FWM should be used in the hospitality sector (with case studies) and enable the trainers to understand the added value and its benefits if applied.</p> <p>The module will present a theoretical part combined with practical examples and case studies that can be directly applied by the final end target users (hospitality entrepreneurs and trainers).</p> | |
| Module Topics | 1.1 | Introduction to Food Waste Management (FWM) and Circular Economy (CE) in the hospitality sector |
| | 1.2 | Food Waste Management in the hospitality sector – benefits and added value |
| Case studies connected | <ol style="list-style-type: none"> 1. Accor Hotel. 2. Interactive training activities. | |
| Competences acquired by learner | <ul style="list-style-type: none"> - Basic knowledge of CE, - Basic knowledge of FWM, - Presentation of FWM and CE in hospitality sector, - Understanding if they can adopt it and use it in their training delivery - Present benefits and added value through FWM adaptation. | |
| Relevance of Module to trainers | Serves as an introductory module to food waste management, its characteristics and benefits for hospitality SMEs. The trainers can use the EQF4 training material as introductory to their courses, as supplementary or as stand-alone material to train any interested party. | |

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| | The material is downloadable and editable, thus, the trainers can modify accordingly and deliver as preferred to their trainees. The accompanying resources serve as additional material and can be modified to suit more advanced EQF levels i.e., level 5. |
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2.0 The team

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| Title of Module | 2.0 The team | |
| Duration | 5 hours | |
| Keywords | Circular economy, food waste management, food waste champion, packaging and storage, food waste categories, food waste calculation, waste hierarchy | |
| Delivery method | Online training through the CE4Food E-platform | |
| Assessment | Module multiple choice questions, reflection questions inside the module, self-developed activities within the unit. | |
| Module description | <p>The aim of this module is to introduce participants to the team and how they can work together to ensure sustainability and circular economy practices are at the core of hospitality.</p> <p>The module will describe and present the role hospitality staff have in reducing food waste and promoting sustainability within the business. Specifically, the module explores the allocation and role of a food waste champion and how tasks can be delegated to staff to ensure food waste best practice. Additionally, The module will define the categories of food waste a hospitality business will experience and how staff can put measures in place, such as calculating food waste, calculating food waste cost, efficient packaging and storing, to mitigate food waste.</p> <p>The module will present theoretical information with practical examples and case studies that explore the role and responsibility of staff members, that can be directly applied by the final end target users (hospitality entrepreneurs and trainers).</p> | |
| Module Topics | 2.1 | Staff and the Business |
| | 2.2 | Categories of food waste |
| | 2.3 | Cost of food waste |
| | 2.4 | What happens to food waste |
| | 2.5 | Packaging and Sustainability |
| Case studies connected | <p>The Balloon Bar (2.1)</p> <p>Everglades Hotel (2.1)</p> <p>The Ship Inn (2.2)</p> | |



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| | Harrington Arms (2.3) Just Salad (2.5) |
| Competences acquired by learner | <ul style="list-style-type: none"> • To understand the need for a dedicated team/staff members with additional tasks and roles to successfully reduce food wastage • To be able to identify and divide tasks and activities for FWM based on individual specifications. • To be able to identify different categories of food waste within a hospitality business and understand how these categories can be combated • To acquire knowledge of how packaging and storing can influence the lifetime and quality of food • To understand how techniques, such as composting and donation, can be implemented |
| Relevance of Module to trainers | <p>This module presents the duties and importance of staff members for reducing food waste within the hospitality setting. The trainers can use the EQF4 training material as introductory to their courses, as supplementary or as stand-alone material to train any interested party. The material is downloadable and editable, thus, the trainers can modify accordingly and deliver as preferred to their trainees. The accompanying resources serve as additional material and can be modified to suit more advanced EQF levels i.e., level 5.</p> |



3.0 Digital and other tools for optimal Food Waste Management

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| Title of Module | 3.0 Digital and other tools for optimal Food Waste Management | |
| Duration | 3 hours | |
| Keywords | Circular economy food costs, food waste management, digital tools | |
| Delivery method | Online module content, discussion points, instructional learning of tools | |
| Assessment | Reflective questions and multiple choice questions | |
| Module description | The aim of this module is to introduce the learner to the use of two specific tools. One designed to determine the cost of food waste generated at the preparation stage, and one to determine the costs of food waste – spoiled, preparation and plate waste. | |
| Module Topics | 3.1 | Using a spreadsheet to determine the amount of food waste generated for a given meal and the associated costs |
| | 3.2 | Using a spreadsheet to determine the amount of food waste being generated from spoiled, preparation and plate waste. |
| Case studies connected | 1. Zero Waste Scotland food waste calculator | |
| Competences acquired by learner | Some knowledge of excel as a digital tool Some knowledge of food management in the kitchen Understand the financial consequences of food waste. | |
| Relevance of Module to trainers | Provides a useful tool for trainers to utilise as an educational tool for students to use in understanding the economic of food management in the kitchen. | |

4.0 Pre and post service food waste

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| Title of Module | 4.0 Pre and post service food waste | |
| Duration | 6 hours | |
| Keywords | Circular economy, food waste management, seasonal menu, supplier chain, kitchen organization, assessment and monitoring | |
| Delivery method | Online training through the CE4Food E-platform | |
| Assessment | Module multiple choice questions, reflection questions inside the module, self-developed activities within the unit. | |
| Module description | <p>The aim of this module is to introduce the challenges and practical solutions, choices and benefits by reducing the pre and post food waste within the involvement of different staff members of the hospitality sector also training future professionals, in line with the VET sector training content and requirements.</p> <p>The module will present the importance of selection of suppliers able to contribute to the chosen food waste reduce policy. Here will be described influence of planning process: from the choice of raw materials to their rotation/ storage and leavings, seasonal to sustainable menu, also constant monitoring to identify how to reduce food waste in post service stage.</p> <p>The module will include statistics and theoretical information illustrated by practical examples also case studies to enable VET trainers of hospitality sector to integrate it to existing training material also hospitality sector representatives to adapt and modify according to the needs.</p> | |
| Module Topics | 4.1. | Storage process: types of raw materials and their rotation |
| | 4.2. | Working space and working area organization to avoid and track food waste |
| | 4.3. | Menu design: seasonality and zero leftovers |
| | 4.4. | Cooperation with the supplier chain in the way to FWM |
| | 4.5. | Types of checklists: applicability and benefits |
| | 4.6. | Study cases |
| | 4.7. | Practical exercises |



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| Case studies connected | IKEA The Modern Pantry ... |
| Competences acquired by learner | <ul style="list-style-type: none"> - To understand the importance of categorization raw materials for the FWM. - To understand the main principles of seasonal menu design. - To plan and calculate portion sizes. - To understand the importance of food area planning for the proper waste calculation. - To identify and evaluate possible waste from packaging. - To prepare and use of monitoring checklists |
| Relevance of Module to trainers | <p>The trainers can use the EQF4 training material as introductory to their courses, as supplementary or as stand-alone material to train any interested party. The material is downloadable and editable, thus, the trainers can modify accordingly and deliver as preferred to their trainees.</p> |



5.0 Food Waste Management as an ethical and responsible food production policy

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| Title of Module | 5.0 Food Waste Management as an ethical and responsible food production policy | |
| Duration | 5 hours | |
| Keywords | Circular economy, food waste management, ethics, responsibility, natural resources, digital transformation, business models, Sitopia, food culture | |
| Delivery method | Online training through the CE4Food E-platform | |
| Assessment | Module multiple choice questions, reflection questions inside the module, self-developed activities within the unit. | |
| Module description | <p>The aim of this module is to raise the level of understanding of VET trainers of the national and European food context to reduce the climate changes and develop smart and sustainable food systems.</p> <p>They can use the information to train SMEs and students on new business models.</p> <p>The module will describe and present different food policies in participating countries, as well as at EU level, FOOD 2030, connected to sustainable development goals. Will present characteristics of responsible food production and economical & social impact; understand different customer behaviour and food culture in different countries, understand how SCR can help the business to become greener and how to design a WAP (waste action plan)</p> <p>It will develop practical abilities to deal with greening the kitchen internal processes. .</p> | |
| Module Topics | 5.1 | The EU strategic framework on sustainable food production |
| | 5.2 | Sustainable cities and food waste production on the value chain |
| | 5.3 | Consumer behaviour, CSR and new business models |
| | 5.4 | Study cases |
| Case studies connected | <p>Accor hotels (unit 5.1)</p> <p>CAPSA - Consume only what's essential (ES) (unit 5.2)</p> <p>Circular Economy and Zero Waste (unit 5.2)</p> <p>Rice project (CSR) (ES) (unit 5.3)</p> <p>Waste minimisation facility and tools in a catering company (GR) 5.2</p> <p>Food Waste Calculator tool (unit 5.2)</p> | |
| Competences acquired by learner | <ul style="list-style-type: none"> - To compare the EU strategic framework application on sustainable food production in different member states - To create solutions adapted to the specific needs of restaurants sustainability | |



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| | <ul style="list-style-type: none">- To exemplify sustainable cities and waste food production on the value chain- To assess consumer behaviours on waste production- To examine the benefits of Social corporate responsibility & new business models |
| Relevance of Module to trainers | The trainers can use the EQF4 training material as supplementary or as stand-alone material to train any interested party. The material is downloadable and editable in its own language, thus, the trainers can modify accordingly and deliver as preferred to their trainees. |



6.0 cooperation structures between hospitality sector and suppliers

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| Title of Module | 6.0 cooperation structures between hospitality sector and suppliers | |
| Duration | 5 hours | |
| Keywords | Circular Economy, Food Waste Management, Cooperation structures, Hospitality Sector, Suppliers, Producing, Localising | |
| Delivery method | Online training through the CE4Food e-platform | |
| Assessment | Module multiple choice questions, reflection questions inside the module, self-developed activities within the unit. | |
| Module description | The aim of this module is to introduce participants to cooperation structures between the hospitality sector and suppliers. It consists of five units. | |
| Module Topics | 6.1: Producing | The benefits of being your own supplier |
| | 6.2: Localisation | The benefits of localising supply chains and how to do so |
| | 6.3: Reselling and donating | The benefits of restaurants reselling and donating their food |
| | 6.4: Returning, reusing and redirecting | The benefits of returning packaging to suppliers and redirecting waste products |
| | 6.5: Regular feedback - suggesting | Implementing a feedback system between restaurants and suppliers |
| Case studies connected | Hotel Wellington, Madrid, Spain; KM0 Slow Food (Catalunya, Spain); Too Good To Go; Pumariega Gestión (Asturias, Spain) | |
| Competences acquired by learner | Identify issues with supply chain management in the hospitality industry; understand the benefits of a restaurant producing its own food; understanding how vertical farming works; the benefits of localising; awareness of greenwashing; avoid unnecessary importation; understand the benefits of restaurants reselling and donating their surplus; realise how restaurants can return packaging to suppliers and redirect waste products; discern the types of feedback between restaurants and suppliers and how an effective feedback system between them can be implemented | |
| Relevance of Module to trainers | Trainers can use the EQF4 training material as supplementary or as stand-alone material to train any interested party. The material is downloadable and editable in its own language, thus, the trainers can modify accordingly and deliver as preferred to their trainees. | |



Extra module - Digital tools for training

Train the Trainer module in using digital tools such as Augmented Reality (AR) and Storytelling

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| Title of Module | Train the Trainer module in using training tools such as Augmented Reality (AR) and Storytelling. | |
| Duration | 7 hours | |
| Keywords | augmented reality, storytelling, hospitality sector | |
| Delivery method | Online training through the CE4Food E-platform | |
| Assessment | Quiz with multiple choice questions | |
| Module description | The aim of this module is to describe the fundamentals of AR technology and development to allow the trainer to understand what AR is, how it can be used in the context of circular economy and what exists in terms of software and hardware. Furthermore, this module will explain the concept of storytelling and how this can be applied together with AR technology in order to create an attractive learning experience for the user. | |
| Module Topics | Introduction to AR and AR fundamentals | |
| | Introduction to Storytelling | |
| | Case study: Develop an AR experience in the context of the hospitality sector | |
| | Case study: storytelling in the hospitality sector | |
| Case studies connected | - to be determined at a later stage in the project | |
| Competences acquired by learner | <ul style="list-style-type: none"> - Basic knowledge of AR, - Basic knowledge of Storytelling, - Understanding of the potential for such technological tools for educational purposes - Present benefits and added value of AR and storytelling in the hospitality sector. | |
| Relevance of Module to trainers | This module will allow trainers in the hospitality sector to create more attractive resources by making use of digital technologies such as augmented reality (AR). Furthermore, together with other teaching methods like storytelling, one can create educational resources to make learning more fun and interesting for learners. | |



Project work

Suggested duration: 4 hours

Each VET trainer will base the project work on the specific training needs of their trainees and students.

It is recommended that the trainers either select information from each module and create a project work suitable for their students or focus upon one specific module for the project work design. Moreover, the trainers should design the project work based on the profile and training needs of their target groups.