

aN Eu Curriculum  
for chef gasTro-engineering  
in primAry food caRe



## PILOT COURSE IMPLEMENTATION IN LIGURIA

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## 1 ABSTRACT:

The purpose of this paper is to provide a detailed account regarding the development and implementation of the pilot course in Liguria. Essential information about the course, which is an important initiative in education and training in the region, will be laid out. The pilot course in Liguria was designed as a response to the growing needs for vocational development and training in the region. The main objective was to offer an innovative and personalised learning pathway with a focus on the needs of the local labour market.

## 2 KEYWORDS:

Qualifications, common European curriculum, teachers, participants, modules, teaching methods, quality assurance, evaluation

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## 6 EXECUTIVE SUMMARY

This deliverable is a detailed report of the pilot course developed by MP Liguria. based on the local and European curriculum which is the result of NECTAR project. This deliverable will take into account the participants and its enrolment, the teachers' selection, the development of local curriculum based on NECTAR's common European Curriculum, the different modules the course is divided in, the methodology applied, how work based learning was included, the quality assurance methods of the pilot course including the evaluation. Annexes include supplementary material related to the pilot course, the syllabus, the evaluation and the certification and a questionnaire with basic and fundamental information about the project.

## 7 LIGURIAN PILOT COURSE

### 7.1 Introduction with general information about the pilot and the frame where it is developed

The pilot course in Liguria represents an important initiative in the field of nutrition and health, focusing on healthy ageing and prevention of diet-related diseases.

Liguria region is characterised by a very high rate of elderly people, making it crucial to develop a healthy workforce that is competent and specialised in the dietary needs of this population group. The international scientific community has emphasised the fundamental role of nutrition in promoting healthy ageing and preventing cardiovascular, endocrinological, diabetes, atherosclerosis, and Alzheimer's diseases. As a result, there is a growing demand for a trained and qualified workforce to manage these diseases through proper nutrition management. The Nectar consortiu

m found a gap between the skills required by health care institutions and the skills currently possessed by cooks working in hospital canteens, residences for the elderly and hotel facilities focused on health tourism for senior citizens. In response to this need, the professional profile of "chef gasTro-engineering" was developed with the aim of providing a high level of specialisation and specific skills to address the dietary needs of the elderly.

The pilot course has a duration of 1,000 hours and is meant to be included in the European system and in the Regional Registers of Qualifications and Qualifications of Experimental Territories.

Two twin pilot courses were held in Campania and Liguria, with EQF level 5 and 40 ECVET points. This ensures that the courses are in line with European standards and can provide participants with broad and appropriate professional recognition. The course's flexibility tools were developed by ITS Bact and Marco Polo, in collaboration, to ensure a comprehensive training course adaptable to local needs. The course objective was to train highly specialised chefs gasTro-engineering (CGEs) with advanced skills in communication with the scientific world and with suppliers of quality raw materials, as well as in the use of ICT tools for customization and remote menu monitoring.

## **8 PARTICIPANTS**

### **8.1 Number and profile**

The NECTAR pilot course in the Liguria region involved a group of 19 students with a diverse personal and professional profile. Among the Ligurian participants, 63 percent were women and 37 percent were men. As for the participants' personal background and specific interests, a few of them had no previous experience in food preparation for health-related target groups, while the others had acquired skills in different combinations of specific cooking, such as for people of advanced age or patients with special nutritional needs. Regarding educational background, most of the participants had obtained a secondary school qualification as their highest qualification. In contrast, a minority had obtained higher qualifications, such as bachelor's or master's degree.

### **8.2 Recruitment process**

Student recruitment for our course was carried out through an extensive promotional strategy, which also involved publishing an advertisement in the Newsletter Orientamenti of Liguria Region. The newsletter, being a communication tool widely followed by students when choosing their course of study, was the ideal platform to reach our target recruitment audience. In addition to publication in the newsletter, we carried out intensive promotional activities at dedicated scientific events and chef and catering associations conferences in the Liguria region. This allowed us to get in direct contact with potential applicants, providing them with more details about our course and answering their questions. During the events and conferences, we organised presentations to explain the course content and career opportunities through the acquisition of the CGE degree. Interventions in VET schools of the hotel and catering sector were another important tactic to reach interested students. Through targeted presentations and meetings with final year students and teachers, we explained how our course can help develop the skills needed for a career in healthy cooking. Throughout the recruitment process, we maintained an open and transparent approach, answering students' questions and offering detailed information about admission requirements, the curriculum, and post-course opportunities. We provided one-on-one assistance to potential applicants while filling out applications and conducted individual interviews to assess their motivations and expectations.

### **8.3 Personal interviews with the applicants to validate their prior learning**

Personal interviews have been done to validate prior learning. Eight of the applicants were workers with a long time experience in cooking but did not have a formal EQF4 qualification as Chefs. Therefore an RPL process was started and ALFA, the body of Regione Liguria entitled for IVC process, issued a validation certificate.

## **9 TEACHERS**

### **9.1 Number and profile**

A total of 18 teachers were selected for this course, including 15 internal teachers and 3 external lecturers from the university and local community who brought richness to the course through their expertise from different backgrounds that introduced new ideas and innovative approaches. The choice of an appropriate number of teachers was based on the size of the course and the variety of topics to be covered. This combination of internal and external faculty offered a multidisciplinary approach, ensuring a broad and diverse perspective for students.

The profile of the selected staff was critical in ensuring the quality of teaching. All lecturers had a high teaching profile due to their expertise in the various LOs addressed in the course. They were competent and qualified professionals with experience in the specific area of the course, able to communicate clearly and engagingly. The diversity of the lecturers made it possible to cover a wide range of topics and provide a comprehensive and enriching learning experience.

### **9.2 Recruitment process and qualifications**

Recruitment of teachers for the course was handled through two separate calls for applications: one internal, aimed at the Marco Polo teaching staff, and one external, aimed at professionals from the academic world. As far as the internal call for applications, the goal was to recruit teachers who were familiar with the environment and the specifics of the students. These internal teachers were chosen on the basis of their previous experience and their ability to effectively communicate teaching topics. As far as the external call, priority was given to faculty with extensive experience in the specific areas of dysphagia, oncology, and diet therapy. The goal was to ensure a professional and specialised perspective for the topics covered in the course. The external faculty enriched the teaching staff with new ideas, skills, and practices from diverse work experiences.

### **9.3 Teachers' qualifications**

An important consideration in the selection process was the educational background of the teaching staff.

A portion of the teachers have academic qualifications, confirming their competence and in-depth knowledge of the topics covered.

The management of the workshops, which is essential to provide hands-on experience to students, was entrusted to the chefs of Marco Polo teaching staff. This choice was based on their extensive experience and expertise in the culinary field, ensuring the effectiveness and quality of the practical training provided.

## **10 DEVELOPMENT OF LOCAL CURRICULUM BASED ON NECTAR'S COMMON EUROPEAN CURRICULUM**

### **10.1 The local curriculum and the European curriculum**

The European course curriculum was structured into 7 Units of Learning (UoL), each focusing on specific learning outcomes (LO). This approach was designed to ensure

comprehensive and effective training for students. The European curriculum provided clear guidance on the topics and teaching objectives to be covered during the course. Each UoL was carefully designed to ensure a logical progression in learning so that students could acquire increasingly advanced skills as they progressed through the program.

At the local level, we adopted a redistribution of LOs into 9 learning modules. This choice was made in order to adapt the curriculum to the specific needs and resources of the institution and context in which the course took place. The main objective of the local curriculum was to provide students with a comprehensive and in-depth preparation in the different subject areas that the new professional figure would have to deal with. The local curriculum promoted an integrated approach that embraced both the theoretical and practical aspects, ensuring that students would be provided with quality training that would make them ready to face the professional challenges in the sector of healthy cooking.

## 10.2 Use of ECVET points

ECVET points are a numerical representation of the overall weight of learning outcomes (LO) and the relative weight of units of learnings (UoL) in relation to the qualification. ECVET points provide complementary information about qualifications and units in numerical form. The amount of points assigned to a unit of learning depends on the time required to acquire the skills included in the unit and the relevance of the skills included in the unit: relevance is usually defined according to the following qualitative scale: essential (most relevant to the curriculum), important and basic.

At the local level, the Ligurian pilot course was organised according to 40 ecvet, distributed along 9 modules, totaling 1000 hours.

# 11 MODULES

## 11.1 Module 1: MANAGE SUPPLIERS AND BUY IN SUSTAINABLE FOOD INGREDIENTS

<b>LO1-A1</b>	Identify the costs of required raw and semi-finished food products, kitchen equipment and consumable items, at the light of quality and sustainability and make and progressively update an inventory of all potential, local, food products, estimating their periodical cost
<b>LO1-A2</b>	Identify international and national quality brands, also exploiting ICTs and dedicated e-data resources and taking into account high quality and parameters of sustainability, and take these brands into account managing suppliers
<b>LO1-B1</b>	Define quality criteria of suppliers (including agri-fish-food chain) in order to identify, compare, monitor and evaluate regularly the best high-quality food suppliers
<b>LO1-B-2</b>	Plan and manage the supply process related to the specific health or social context
<b>LO1-C-1</b>	Identify and use local and seasonal ingredients in an appropriate way, identify local food suppliers and establish a network with them in order to guarantee constant food supply, also exploiting ICTs and dedicated e-data resources, being aware of the regional food supply chain and of how seasonal products are delivered



<b>LO1-D-1</b>	Promote full use of ingredients, raw materials and leftovers according to Hazard Analysis Critical Control Point-Concept (HACCP) and local law
<b>LO1-D-2</b>	Introduce measures for the prevention, separation and proper disposal of waste in the kitchen and ensure compliance with these measures by all members of the kitchen team
<b>LO1-D-3</b>	Create a food waste assessment plan, use it regularly, and share the results with all the staff

## 11.2 Module 2: SCREEN ASSESS MONITOR ON CLIENT LEVEL

<b>LO2-A-B1</b>	Understand the impact of nutrition on development of diseases and human metabolism in a life-course approach and vice versa
<b>LO2-A-B2</b>	Know basics in physiology of taste/smell, be aware of how different conditions affect taste/smell and of possible clients' food intake needs with respect to taste/smell deterioration, and detect these needs in collaboration with health professionals
<b>LO2-A-B3</b>	Be aware of the naub swallowing problems which raise the need for adapted food and be able to tackle these problems and conditions in daily work in collaboration with health professionals
<b>LO2-C-D0</b>	Know and understand the concepts of 'Primary Food Care', 'Gastrology' and 'Gastro-engineering' in healthcare and their role to promote active and healthy ageing, is aware of the main characteristics of the CGE professional profile, of what a "gastrological intervention" implies and of the main "gastrological tools" a CGE can rely on
<b>LO2-C-D1</b>	Identify and select test protocols on taste disturbances and use them to detect and classify taste deterioration and to monitor it
<b>LO2-C-D2</b>	Create solutions for the results of assessment from a CGE perspective and within the context of a comprehensive and holistic food care approach

## 11.3 Module 3: THE PROPER ICT TOOLS FOR ASSESSMENT

<b>LO2-C-D3</b>	Know the main ICT tools for screening and assessing clients' individual food preferences and individual food intake needs and wishes, be able to select the proper ones and be able to use them, complying with data privacy and confidentiality guidelines and in collaboration with health professionals
<b>LO2-C-D4</b>	Know the main ICT tools for recording and monitoring assessment results, as well as interventions, be able to select the proper ones and be able to use them, complying with legal ICT structure, addressing all data privacy and applicable confidentiality guidelines
<b>LO2-E1</b>	Know the main techniques and tools to detect clients' meal satisfaction and be able to apply this feedback in daily practice, in collaboration with health professionals

## 11.4 Module 4: CREATE RECIPES FOR A GENERAL POPULATION AND FOR PEOPLE WITH SPECIFIC NEEDS, COMPLYING WITH RECOMMENDATIONS OF HEALTH PROFESSIONALS

<b>LO3-A1</b>	Understand cultural, religious or other trending food choices, recognize their impact on meals and cooking and adapt dishes considering them
<b>LO3-A-2</b>	Follow food trends, try out new mwals/recipes and evaluate the trial phase in terms of its feasibility in

	the business/service, also in collaboration with actors external to the kitchen/institution
<b>LO3-B1</b>	Collaborate to create standardized menu plans, grounded on disease adapted meals, starting from clients' needs assessment and in collaboration with health professionals
<b>LO3-B2</b>	Adjust baseline menus to satisfy individual preference and needs
<b>LO3-B3</b>	Know the effects of cooking on ingredients/raw materials and select the proper methods, maximizing the freshness and quality of the ingredients/raw materials
<b>LO3-D1</b>	Know the basics of chemistry of food and combine food items in order to both respect food quality and obtain appetizing menus adapted to care settings
<b>LO3-D2</b>	Schedule meals supply according to clients' needs and living environment, also taking into account the main accessibility issues for older adults and disabled people which could occur in the different care settings
<b>LO3-D3</b>	Create menus including beverage recommendations for the planned menu sequences

## 11.5 Module 5: MANAGE THE KITCHEN AND COORDINATE PERSONNEL

<b>LO4-A-1</b>	Create budgets for each meal, according to food seasonal price, non-food supplies, and expected equipment durability and lifetime
<b>LO4-A2</b>	Calculate and manage the kitchen budget of food, utilities and personnel
<b>LO4-A-3</b>	Make budget plans, negotiate them with superiors and assure they are followed by the kitchen personnel
<b>LO4-B1</b>	Identify control parameters, evaluate the quality of the kitchen team's performance, conduct employee appraisals and provide feedback to superiors
<b>LO4-C1</b>	Plan daily work optimizing workflow, draw up the work schedule and shifts for the kitchen team (balancing team capability) and ensure through constant monitoring that is followed by the staff
<b>LO4-C-2</b>	Analyse and optimise the processes in the kitchen organisation, ensuring the smooth flow of food from preparation to service through communication between the kitchen and the service department
<b>LO4-C-3</b>	Know and apply the proper leadership strategies, being able to plan work, organise tasks, and delegate to others and to develop decision-making strategies
<b>LO4-D1</b>	Define equipment maintenance schedules and monitor, assess, and record the adherence to it
<b>LO4-D2</b>	Ensure the adequate and efficient use and the proper cleaning of kitchen machines, equipment and utensils performing quality controls in compliance with quality national standards
<b>LO4-D3</b>	Align workstations in the kitchen with the requirements of the individual kitchen stations

## 11.6 Module 6: ENSURE QUALITY OF FOOD AND FOLLOW SAFETY REGULATIONS

<b>LO5-A-B-1</b>	Comply and monitor compliance with HACCP and with national and local hygiene quality standards in the preparation, storing, delivering and discarding food and beverages
<b>LO5-A-B2</b>	Understand the risk of common foodborne diseases and the main causes of food deterioration; apply this knowledge to food safety

<b>LO5-A-B-3</b>	Create instructions for staff about the measures to implement in order to comply with safety, hygiene and quality standards and laws and properly document implemented measures
<b>LO5-A-B4</b>	Promote health and safety within the working environment performing workplace evaluations for all stations in the kitchen and recording their results
<b>LO5-C1</b>	Plan and execute food tasting for healthcare professionals to test and review menus and new dishes

## 11.7 Module 7: USE AND ADAPT COOKING TECHNIQUES TO THE SPECIFIC CARE SETTING AND CLIENT

<b>LO6-A-B1</b>	Know the main cooking techniques and select the appropriate ones for the different healthcare contexts in order to maintain the nutritional properties and maximize the nutritional value of the ingredients
<b>LO6-A-B2</b>	Use or supervise the use of established, innovative and complex preparation methods, also combining and applying various cooking methods simultaneously and developing creative solutions
<b>LO6-A-B3</b>	Prepare cold and hot dishes (or supervise their preparation) according to clients' requirements and the meal plan approved by healthcare professionals, taking into account food intolerances and allergies
<b>LO6-A-B4</b>	Prepare beverage recommendations for all dishes and communicate them to the service team
<b>LO6-A-B5</b>	Prepare the decoration and serving plan in collaboration with the service team
<b>LO6-C1</b>	Design menus and a la carte dishes and apply proper food preparation and cooking techniques, also developing innovative solutions, for different food forms and diets and respect cultures and religions (e.g. vegetarians, vegans, gluten-free, allergy ...)
<b>LO6-C2</b>	Recognize the model diets (vegan, vegetarian, zone diet, Mediterranean diet...) and be able to prepare dishes according to them, also developing innovative solutions and creating new combinations of ingredients
<b>LO6-C3</b>	Recognize the food prescriptions and restraints of the main religions and be able to prepare dishes according to them, also developing innovative solutions and creating new combinations of ingredients
<b>LO6-D1</b>	Define consistency and texture of food in a creative, balanced and flavorful way
<b>LO6-D2</b>	Know the chemical composition of fortified food and correctly perform fortification in meals
<b>LO6-D3</b>	Apply creative and innovative kitchen techniques to adapt recipes for people with taste changes or consistency adjustments (including hot, cold, crisp, soft, moist, dry)

## 11.8 Module 8: COMMUNICATE, INTERACT AND COLLABORATE WITH CLIENTS AND INTERPROFESSIONAL TEAM

<b>LO7-A-1</b>	Define a customer satisfaction protocol and place customer service at the hearth of decision-making and activities
<b>LO7-B-1</b>	Understand the impact of food and nutrition on social determinants of health and vice versa and leverage attractive taste to promote healthy recipes and healthier nutritional habits, also providing advice and guidance to other professionals on culinary matters to educate clients
<b>LO7-B-2</b>	Prepare and apply client counselling, in collaboration with healthcare professionals, to promote healthy choices and behaviors

<b>LO7-C-1</b>	Be aware of the main roles and responsibilities of health/social care professionals in food care and work coherently, acting as a member of an interprofessional team, maximizing the added value of each professional, and identifying possibilities for interdisciplinary development and cooperation
<b>LO7-C-2</b>	Know the characteristics of successful teams and the main strategies for

## 11.9 Module 9: PROBLEM-SOLVING TECHNIQUES AND DIGITAL COMPETENCE IN DAILY WORK

<b>LO7-C-3</b>	Know, select and apply the proper communication and mutual support techniques for inter-professional teams and change and observe behaviors
<b>LO7-C-4</b>	Apply creative thinking techniques developing creative solutions to abstract problems, propose solutions and discuss with goal-orientated attitude, reaching shared decisions, applying the main problem-solving technique
<b>LO7-C-5</b>	Exercise management and supervision in contexts of work, reviewing and developing performance of self and others
<b>LO7-D-1</b>	Identifies opportunities to create value, develop creative and purposeful ideas, develop a vision to turn ideas into action, identify suitable ways for valuing ideas and assess consequences of them
<b>LO7-D-2</b>	Identify individual and group strengths and weaknesses, mobilizes resources needed to turn ideas into action, be aware of the idea cost and financial implications and engage relevant stakeholders for the action
<b>LO7-E-1</b>	Browse, search, filter and manage data, information and digital content, evaluating them according to the specific context of application
<b>LO7-E-2</b>	Interact, share and collaborate through variety of digital technologies and select appropriate digital communication means for a given context
<b>LO7-E-3</b>	Know the main privacy issues and protect his/her own end users' personal data and privacy in digital environments
<b>LO7-E-4</b>	Know the main current digital tools dedicated to food composition, ingredients, combination, properties, treatments, regional resource

## 12 ACTIVITIES AND TEACHING METHODS

### 12.1 Activities carried out during the course

During the course, students participated in a variety of activities that contributed to their education and understanding in the fields of gastronomy, dietetics and food science. The first two months of the course were mainly devoted to theoretical lectures on fundamental topics such as food chemistry, the study of food commodities, dietetics, information technology, and food safety. During this period, students also had the opportunity to acquire HACCP certification through a special course, which provided them with a solid knowledge base on food safety. Beginning in January, the focus of activities shifted to topics such as budget management and sustainability in kitchens, with hands-on workshops dedicated to menu planning and cost evaluation. A highlight for the students was an organised visit to Aqua, an update aquaculture facility. During the visit, students were able to learn first-hand about the open-sea farming cycle of sea bass and sea bream, highlighting the sustainable approach and high-quality production guaranteed by Aqua. Subsequently, faculty members from the

Department of Dietetics at the University of Genoa gave lectures and workshops on topics related to health and nutrition, such as taste and smell modification, dysphagia, as well as other diseases that can affect nutrition. During these workshops, students personally experienced individual differences in taste perception and also participated in a course on honey tasting. Workshops dedicated to the nutritional treatment of patients with particular pathologies enabled the development of culinary techniques dedicated to the preparation of specific meals for dysphagic patients, menus suitable for the elderly and recipes that reduce food waste. A workshop on celiac disease, allergies and intolerances was also organised and appropriately certified. Another important aspect of the course was the focus on information and communication technologies. Students had the opportunity to create a platform for sharing information with health care professionals to facilitate communication and collaboration between the future CGE and dietitians and physicians. The creation of this platform was accomplished through the development of an APK application that could be installed on cell phones. Finally, between March and May, students had the opportunity to carry out internships at various facilities and businesses in the food industry. These field experiences allowed students to apply the skills they had just acquired and to improve their culinary and management ability. Additional interdisciplinary classes were held in May, in which chefs and dietitians worked together to implement person-centred menus. In addition, a workshop on food consistency and lectures on the European quality certification system were held to deepen understanding of specific dietary requirements and quality criteria in the food industry.

The wide range of activities carried out during the course provided students with a comprehensive and diverse training, combining theoretical lectures, practical laboratories, field visits, internships and workshops. These activities helped develop a solid foundation of knowledge and skills, preparing students to become qualified professionals.

## **12.2 Teaching methods used during the course**

Throughout the course, lecturers adopted various teaching methods to ensure comprehensive and engaging learning for students. Lectures, both face-to-face and online, were used to provide a solid theoretical foundation on the topics covered. Teachers presented key concepts, illustrated theoretical principles and provided detailed explanations. At the same time, space was given to individual study, encouraging students to devote time to personal study of the course content. This allowed students to explore additional resources, read scientific articles and consult relevant textbooks to deepen their understanding. An important component of the course was group work, both face-to-face and online. Students were organised into groups to tackle specific activities such as problem-based learning or case studies. Through these collaborative activities, students were able to apply their acquired theoretical knowledge to practical situations, working together to solve complex problems and developing communication and collaboration skills. The face-to-face workshops enabled the students to put into practice the knowledge acquired during the theoretical lectures. Through hands-on experiences, students were able to directly experiment with the concepts learned, gaining practical skills and deepening theoretical understanding. A crucial aspect of the course was experience-based work, carried on through internships at facilities and companies in the food industry. These field learning opportunities enabled students to apply the skills acquired during the course in real practice.

## **13 NECTAR MOOC BASED LEARNING ON IMOOX PLATFORM**

### **13.1 Description of the use of the platform**

As part of the course, our students registered on the iMOOC platform and followed the online course built by the European partners. The iMOOC platform was used as a basis for learning and offered a wide range of resources and learning materials to the students. Through the iMOOC platform, students had access to online lectures, videos, readings, interactive exercises and other educational resources. The platform provided an interactive and accessible virtual environment, allowing students to follow the course flexibly and adapt to their own learning pace. Students were able to access the course content at any time and from anywhere, using devices such as computers, tablets or smartphones. This made learning more convenient and accessible for students, allowing them to study according to their own needs and preferences. During the course on the iMOOC platform, students were able to complete learning modules, answer quizzes and assignments, participate in online discussions and interact with their fellow students. The platform fostered collaboration and interaction among students, providing opportunities for the exchange of ideas, discussion and shared learning. At the end of the course, our students received a certificate issued by the iMOOC platform, attesting to the completion of the course and the acquisition of the expected skills. This certificate represents official recognition of their commitment and success in completing the course.

## **14 WORK BASED LEARNING**

### **14.1 Work based learning implemented**

As already mentioned in 12.2, students had the opportunity to participate in internships at various facilities and companies in the food sector. This experience, which took place from the end of February to the end of May 2023, was a key moment for the practical application of the knowledge and skills acquired during the course. During the internship, the students were able to experience first-hand the dynamics of the sector, working in teams and facing daily challenges in the real context. The students were able to apply their culinary, management and communication skills, learn new recipes and develop a deeper understanding of customer needs and work processes. The internship allowed the students to network professionally in the food industry, opening doors for future job opportunities and enabling them to develop meaningful relationships with professionals.

### **14.2 Stakeholders or enterprises involved in the pilots**

The choice of facilities for the internship was a careful and targeted process, aimed at offering students a meaningful and diverse experience in the food industry. Social care residences were a significant choice for the internship. In these facilities, students had the opportunity to work with people who need assistance with daily living, such as the elderly or people with disabilities. The internship in a socio-assistance residence enabled the students to understand

the specific nutritional needs of these people, developing skills in preparing meals that meet dietary requirements and individual preferences. Another type of facilities selected for the internship were family homes. In these facilities, students had the opportunity to work in close contact with elderly people or people with disabilities, creating a familiar and welcoming environment. A third sector chosen for the pilot internships was that of hotel facilities dedicated to welcoming the elderly, which gave students a view of healthy ageing, paving the way to the silver economy. The choice of these different types of facilities for the internship gave the students a broad perspective of the characteristics of silver age hospitality, allowing them to gain experience in different contexts and to develop an in-depth understanding of the specific needs and dynamics of each facility.

## **15 QUALITY ASSURANCE METHODS OF THE PILOT PROJECT**

### **15.1 Methods to ensure objectiveness, fairness and transparency during the assessment and certification process.**

During the assessment and certification process, it was crucial to ensure objectivity, fairness and transparency to ensure that the results were reliable, unbiased and accurate. To achieve these goals, several methods and practices were adopted to ensure the quality and integrity of the assessment and certification process. One of the key methods for ensuring objectivity is the use of clear and well-defined evaluation criteria. These objective and measurable criteria have been based on predefined standards. In addition, proper training and education of examiners and assessors were essential to ensure objectivity in the assessment process. Ongoing training and regular monitoring of examiners' work helped to maintain objectivity in the assessment process. All candidates were clearly informed about the evaluation criteria, procedures and steps in the process, and the results of evaluations were always communicated transparently, providing detailed explanations of scores and decisions made. Objectivity, fairness and transparency were key elements in ensuring the integrity of the evaluation and certification process. The adoption of clear criteria, proper training of examiners, attention to fairness, and transparency in procedures and communication are all methods and practices that have helped ensure a reliable and impartial evaluation and certification process.

### **15.2 Pilot evaluation process**

The evaluation of the course was approached in a thorough and comprehensive manner, involving various stakeholders in the process. WIAB Austria, in collaboration with European partners, took a systemic approach to gather information and feedback from faculty, students, stakeholders, and chefs involved in the course. To assess the effectiveness of the course, evaluation questionnaires were administered to various stakeholders. Lecturers were asked to provide feedback on the structure of the course, the organisation of the lectures, the quality of the teaching materials, and their teaching experience. These questionnaires made it possible to gather detailed information on the strengths of the course and also on aspects that could be improved. Similarly, evaluation questionnaires were administered to students to gather their opinions on lectures, labs, internships and other course activities. These questionnaires provided valuable insights into student engagement, learning effectiveness, and overall student satisfaction with the course. Stakeholders, such as food companies, professional associations, and industry organisations, were also involved in the evaluation process through specific questionnaires. These questionnaires enabled the collection of feedback on the skills acquired by the students, the relevance of the course to the needs of



the industry, and the added value the course brought to the professional context. In addition, the chefs involved in the course provided valuable input through specific evaluation questionnaires by also sharing their experience interacting with the students, evaluating their skills and providing suggestions for improving the course. All of this information and feedback gathered through the evaluation questionnaires was carefully analysed and used to assess the quality of the course, identify any areas for improvement, and guide future efforts to further develop the training.

## 16 DISCUSSION AND FUTURE PLANS

Discussion of future plans for NECTAR is a crucial aspect of its development and growth. Currently, several options are being considered to expand and enhance the training offered by NECTAR in the field of nutrition of Healthy ageing. One of the options being considered is to transform NECTAR into a Higher Technical Institute (ITS) pathway. The goal would be to create a specific and in-depth course of study that would provide students with a solid theoretical and practical preparation. This course could be structured to provide more in-depth and academic training in the field of gastronomy, including cultural, historical, scientific and managerial aspects. In addition, it could provide opportunities for research and collaboration with research institutes and companies in the field. Regardless of the direction taken, the main goal of future plans for NECTAR is to provide students with high-quality education that meets the needs of the evolving food industry. Work is being done to develop an educational pathway that combines theoretical knowledge, practical skills, and innovative perspectives in order to prepare students to become qualified professionals and leaders.

## 17 CONCLUSION

The conclusions of the course paper reflect on the students' overall experience and highlight the main achievements during the course. Course participants had the opportunity to gain in-depth knowledge of food chemistry, the study of raw materials in the food industry, dietetics, information technology and food safety. Through the theoretical lectures, students were able to understand the fundamental principles guiding gastronomy and develop a solid understanding of the challenges and opportunities in working competently in the health and silver economy sectors. The course also emphasised the importance of information and communication technologies in the food industry. Students had the opportunity to create a platform for sharing information with health professionals, improving communication and collaboration between health professionals and the future CGE. This initiative provided students with hands-on experience in using digital technologies to improve the quality of food services.

## 18 REFERENCES

See annex 2, section C of each module description.



# ANNEX 1 – PILOT COURSE QUESTIONNAIRE

## Pilot course questionnaire

- Starting date: December 5, 2022
- Ending date: May 31, 2023
- Number of modules: 9 modules
- Number of expected participants: 19 students
- Are you going to carry out a formal process to validate the prior learning? If yes, how many participants have been recruited thanks to the validation of prior learning?

8 students have been accepted after a formal process of RPL.

Moreover, we are considering the recognition of credits with respect to a student who presents an EQF7 degree, given his theoretical background on some topics covered by the course.

- EQF level at starting point: EQF4
- EQF level once awarded the certification: EQF5 according to professional standards
- Certification type: Qualification
- Certification issued by: IPSEOA Marco Polo
- Awarded ECVET points: 40 ECVET
- Number of hours: 1000
- Number of teachers: 18
- Methodology (e-learning, face to face, laboratories, etc.):

The methodologies implemented are:

e-learning  
face-to-face  
workshops  
group work

- Are you going to use another e-learning platform aside to iMooX?

No

- Dissemination and exploitation initiatives:
  - presentation of the project at catering schools of the Ligurian region, primary food providers, Italian cook federation, employment agency.
- Possibility to be in contact (to send a questionnaire link to them) to students and stakeholders after the end of the pilot project (YES/NO)

YES

- Where will the work based learning take place?

restaurants, primary food providers for hospitals and nursing homes

- Will the work based learning involve enterprises? If yes, please provide contact details:

it will certainly involve enterprises such as restaurants, primary food providers for hospitals and nursing homes, however we are not able to provide contact details yet. Internships will only start in February/March.

- Names of stakeholders to be addressed for the feedback loop (e.g., enterprises involved in the pilot):

Camera di Commercio di Genova, FIC, SINU, UNIGE

## ANNEX 2 – COURSE SYLLABUS PART B

### Detailed Plan of T.A

<b>TEACHING CODE</b>	<i>T1.1, T1.2, T1.5</i>
<b>TEACHING TITLE</b>	<b>Certifications, quality marks and territorial marketing and sustainability</b>
<b>REFERENCE TEACHER</b>	<i>Prof.ssa Dellepiane Monica</i>
<b>TARGETED LEARNING OUTCOMES</b>	LO1-A1,LO1-A2,LO1-B1, LO1-C-1
<b>REFERENCE MODULES</b>	<i>Module 1</i> <i>“MANAGE SUPPLIERS AND BUY IN SUSTAINABLE FOOD INGREDIENTS”</i>

#### A. LIST of CONTENTS:

<i>T1.1a The sustainable process in the agri-food chain</i>
<i>T1.1b The parameters of sustainability and quality in the agri-food chain</i>
<i>T1.1c The key features of an inventory of all potential local food products</i>
<i>T1.1d Criteria to estimate the seasonal cost of local food products</i>
<i>T1.1e Data collection on local food products</i>
<i>T1.2a Quality marks</i>
<i>T1.2b Quality tout court (ISO 9001: 2015, IFS, BRC, GLOBAL GAP)</i>

<i>T1.2c Environmental certifications (ISO 14001: 2015, EMAS)</i>
<i>T1.2d International and national quality brands</i>
<i>T1.2e Quality certifications for organic products according to European and third countries' legislation.</i>
<i>T1.2f Protocols of integrated agriculture and biodynamics</i>
<i>T1.2g Certifications of typical origin allowed in the EU (IGP; DOP; STG)</i>
<i>T1.2h The main characteristics of a database about to the main producers and suppliers for an inventory of products of typical origin or with quality certifications, crossing it with sustainability parameters</i>
<i>T1.2i The principal TICs to update a database of suppliers</i>
<i>T1.3a Sustainability assessment of food by FAO</i>
<i>T1.3b Sustainability in food production and consumption</i>
<i>T1.3c Quality criteria for products</i>
<i>T1.3d Suppliers' compliance with quality and sustainability criteria</i>
<i>T1.3e Sustainability criteria for each pair of product/supplier</i>
<i>T1.3f Evaluation criteria for supplier product quality (WBL)</i>
<i>T1.5a The Seasonality of local food</i>
<i>T1.5b Food seasonal prices</i>
<i>T1.5c The best practices for seasonal food delivery</i>
<i>T1.5d The regional food supply chain</i>
<i>T1.5e The commercial network with suppliers</i>

## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

### *Active learning:*

*students can be involved in hands-on activities, such as creating an area marketing plan for a specific area or simulating a marketing campaign. This helps make learning more engaging and memorable*

### *Use of examples and case studies:*

*Using concrete examples and case studies helps students better understand concepts and see how they are applied in real life.*

### *Group work:*

*group work helps develop students' ability to collaborate and communicate and encourage discussion and sharing of ideas.*

### *Speeches and presentations:*

*giving students the opportunity to prepare and present speeches or presentations on specific land marketing topics helps develop their presentation skills and encourage active participation.*

### *Data analysis and statistics:*

*teaching students how to analyze data and statistics on territorial marketing helps develop their problem solving and critical thinking skills.*

### *Taste and smell sensory pathways:*

*Tasting courses on oil and cheese*

## **Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

**Work Based Learning**

*Criteria for supplier product quality  
Collaboration with quality expert*

**C. REFERENCE MATERIALS:**

Marketing territoriale: principi, esempi e prospettive di Matteo Garnero  
Tecnica di assaggio dei formaggi di Armando Gambera ed Enrico Surra  
L'evoluzione dell'olio in cucina di Luigi Caricato a cura della Regione Liguria

**D. ASSESSMENT :**

LO1-A1 = Written exam/assignments [WE], Oral exam [OE]:

LO1-A2 = Written exam/assignments [WE], Oral exam [OE]:

LO1-C-1 = Written exam/assignments [WE], Oral exam [OE]

## Detailed Plan of T.B

<b>TEACHING CODE</b>	<i>T4.2, T4.5, T4.6, T7.1</i>
<b>TEACHING TITLE</b>	<b>Food Gastronomy 1</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Avanzino Roberto</i>
<b>TARGETED LEARNING OUTCOMES</b>	<i>LO3-A2, LO3-B-3, LO3-D-1, LO3-D-2, LO6-A-B1</i>
<b>REFERENCE MODULES</b>	<i>. Module 4 + Module 7</i>

**A. LIST of CONTENTS:**

*T4.2g Different gastronomic services and criteria for needs assessment about the services*

*T4.5a Modifications of the nutritional principles through cooking and the effect on ingredients*

<i>T4.5b The range of wet, dry, and non-thermal cooking methods and their appropriate uses for various ingredients and menus</i>
<i>T4.5c Phases, times, tools and methods of processing, cooking and preserving products</i>
<i>T4.5d Techniques for the preparation and service of products according to pathological needs, considering food preference, in collaboration with health professionals</i>
<i>T4.5e The effects of cooking on ingredients and outline appropriate cooking methods to preserve nutritional properties and taste and to maximizing quality and freshness of ingredient</i>
<i>T46.e Nutritional balance in meals/recipes</i>
<i>T46.f Appetizing menus according to national catering standard adapted to care setting</i>
<i>T4.7c The different strategies for meals supply for older and disable people</i>
<i>T7.1a Select the most appropriate cooking technique to reach maximum nutritional value of ingredients</i>
<i>T7.1b Adapt the appropriate cooking techniques to the different food ranges</i>
<i>T7.1c Adapt the appropriate cooking techniques to the different healthcare context</i>

## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

### *Exploration:*

*Experimenting with new ingredients and culinary techniques.*

### *Group work:*

*Students work in small groups to fine-tune experimentation.*

### *Multi-sensory teaching:*

*Use different senses, such as sight, taste, smell and touch, to help students better understand culinary concepts.*

### **Face-to-Face Class and webinars:**

- Lecture
- Group Work
- Simulation

### **Lab**

*Experimenting with new ingredients for dysphagia*

### **Work Based Learning**

*Multi-sensory teaching: Use different senses, such as sight, taste, smell and touch, to help students better understand culinary concepts.*

*Collaborate with human nutrition professionals to fine-tune preparations adapted to pathological conditions (dysphagia)*

## **C. REFERENCE MATERIALS:**

*Manuale della ristorazione Salvatore Ciappellano casa editrice ambrosiana*

*La fisiologia del gusto di Brillat Savarin*

*Tecniche e tecnologie di cucina di Daniel Facen*

*Tecniche di cucina di ALMA*

*Il sorriso nel piatto "Creazioni ideate ed eseguite da chef stellati per persone con disfagia" di Lucilla Vestito*

*Ricettario di cucina per malattie metaboliche di Patrizia Bollo casa editrice universo*

*La gestione Nutrizionale del paziente disfagico di Simonini Pedrazzi*

#### **D. ASSESSMENT :**

*LO3-9A2: Written exam/assignments [WE], Oral exam [OE], Simulation/skill demonstration*

*LO3-B-3: Simulation/skill demonstration*

*LO3-D-1:Written exam/assignments [WE], Oral exam [OE]*

*LO6-A-B5:Simulation/skill demonstration*

<b>TEACHING CODE</b>	<i>T1.1,T1.4,T1.5,T4.1,T4.7,T5.1,T5.2,T5.6,T5.9,T7.8</i>
<b>TEACHING TITLE</b>	<b>Food Gastronomy 2</b>
<b>REFERENCE TEACHER</b>	<i>Eleonori Guglielmo</i>
<b>TARGETED LEARNING OUTCOMES</b>	<i>LO1-A-1,LO1-B-2,LO1-C1,LO3-A-1,LO3-D2,LO4-A1,LO4-A2,LO4-C1, LO4-C2, LO4-C-3, LO4-D1,LO4-D3, LO6-C3</i>
<b>REFERENCE MODULES</b>	<i>Module 1 + Module 4, Module 5</i>

#### **A. LIST of CONTENTS:**

<i>T1.1f Identify costs of kitchen equipment and consumable items</i>
<i>T1.1g Identification of costs of raw and semi-finished food products required</i>
<i>T1.4f The construction of short supply chains and the relationship with producers</i>
<i>T1.5f ICT channels for screening and contacting suppliers.</i>
<i>T4.1e The physical cooking methods and nutritional impact</i>
<i>T4.1f Methods to adapt dishes for specific target groups</i>
<i>T4.7c The different strategies for meals supply for older and disable people</i>
<i>T5.1c Identification required non-food supplies</i>
<i>T5.1d The durability and lifetime of kitchen equipment</i>
<i>T5.2b Utilities and personnel in the kitchen</i>
<i>T5.2cThe workload (in terms of personnel time cost) associated to each recipe and menu</i>
<i>T5.6a The main elements of an effective work schedule</i>
<i>T5.7a The processes in the kitchen organization from preparing to food to service (WBL)</i>
<i>T5.7b The communication between kitchen and service department (WBL)</i>

<i>T5.8a The main leadership and staff management in the working contexts in the primary food care sector (WBL)</i>
<i>T5.9a The problems of kitchen equipment</i>
<i>T5.9b The maintenance routines for each piece of equipment</i>
<i>T5.9c The schedules for the and frequency of maintenance operations</i>
T5.11a Workstations in the kitchen with the requirements of the individual kitchen stations
<i>T7.8c The appropriate procedure for ingredient preparation permitted for each culture and religion</i>
<i>T7.8d The local food for the preparation of dishes according to religious food prescription</i>

## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

### *Exploration:*

*Experimenting with new ingredients and culinary techniques.*

### *Group work:*

*Students work in small groups to fine-tune experimentation.*

### *Multi-sensory teaching:*

*Use different senses, such as sight, taste, smell and touch, to help students better understand culinary concepts.*

#### **Face-to-Face Class and webinars:**

Lecture

Group Work

#### **Lab**

*Experimenting with new ingredients for celiac disease*

#### **Work Based Learning**

*Multi-sensory teaching: Use different senses, such as sight, taste, smell and touch, to help students better understand culinary concepts.*

*Collaborate with human nutrition professionals to fine-tune preparations adapted to pathological conditions (celiac disease)*

## **C. REFERENCE MATERIALS:**

Prontuario degli alimenti senza glutine di AiC

Cucinare senza glutine di AiC casa editrice Demetra

## **D. ASSESSMENT :**

**LO1-A-1: Written exam/assignments [WE], Oral exam [OE]**

**LO1-B-2: Written exam/assignments [WE], Oral exam [OE]**

**LO1-C1: Written exam/assignments [WE], Oral exam [OE]**

**LO3-A-1:Written exam/assignments [WE], Oral exam [OE]**

LO3-D2:Written exam/assignments [WE], Oral exam [OE]  
 LO4-A1: Written exam/assignments [WE], Oral exam [OE]  
 LO4-A2: Written exam/assignments [WE], Oral exam [OE]  
 LO4-C1: Written exam/assignments [WE], Oral exam [OE]  
 LO4-C2:Simulation/skill demonstration  
 LO4-C3:Simulation/skill demonstration  
 LO4-D1: Written exam/assignments [WE], Oral exam [OE]  
 LO4-D3:Simulation/skill demonstration  
 LO6-C3: Simulation/skill demonstration

<b>TEACHING CODE</b>	<i>T1.6, T5.4, T5.10, T6.3,T6.4</i>
<b>TEACHING TITLE</b>	<b>Food Gastronomy 3</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Galeotti Marco</i>
<b>TARGETED LEARNING OUTCOMES</b>	<i>LO1-D1, LO4-B-1, LO4-D-2, LO5-A-B-3, LO5-A-B-4, LO6-D-3,</i>
<b>REFERENCE MODULES</b>	<i>Module 1 + Module 5 + Module 6 + Module 7</i>

#### **A. LIST of CONTENTS:**

<i>T1.6c The HACCP steps related to food preparation and the use of leftovers</i>
<i>T1.6d Leftovers cooking techniques</i>
<i>T1.6e Recipes that optimize the use of ingredients by minimizing residues and production waste</i>
<i>T1.7a Management of waste and sustainability related issues</i>
<i>T1.8a Management and waste assessment plan</i>
<i>T5.4a The kitchen team</i>
<i>T5.4b Parameters to evaluate quality of kitchen team's performance</i>
<i>T5.10 a The quality standards concerning kitchen equipment and utensil's hygiene</i>
<i>T5.10b The proper cleaning tools for kitchen machines, equipment and utensils (WBL)</i>
<i>T6.3a The importance of proper communication with kitchen staff</i>
<i>T6.3b Tools to communicate and monitor procedures</i>
<i>T6.3c Measures to comply with rules and standards</i>
<i>T6.4a Safety procedures in a kitchen environment</i>



<i>T6.4b The procedure to perform workplace evaluations for all stations in the kitchen</i>
<i>T6.4c The procedure to record workplace evaluations</i>
<i>T6.4d Proper tools and methods to monitor workflow and safety in a kitchen environment</i>
<i>T7.11d Creative and innovative kitchen techniques to adapt recipes for people with taste changes or consistency adjustments (including hot, cold, crisp, soft, moist, dry)</i>

## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

*Exploration:*

*Experimenting with new ingredients and culinary techniques.*

*Group work:*

*Students work in small groups to fine-tune experimentation.*

*Multi-sensory teaching:*

*Use different senses, such as sight, taste, smell and touch, to help students better understand culinary concepts..*

*Co-teaching with Professor Risso, an expert in safety management in food service.*

**Face-to-Face Class and webinars:**

Lecture

Simulation

**Lab**

*Le new experimentation for the management and utilization of leftovers and the development of new products made from the waste.*

*Standardization of leftover and waste management by commodity categories with UNIGE's eco-fishnet*

## **C. REFERENCE MATERIALS:**

*La cucina degli avanzi di Michela Becchi il gambero rosso*

*IZSTO.it Portale di sicurezza alimentare sezione gestione avanzi*

## **D. ASSESSMENT :**

*LO4-B-1: Written exam/assignments [WE], Oral exam [OE]*

*LO4-D-2: Written exam/assignments [WE], Oral exam [OE], Simulation/skill demonstration*

*LO5-A-B-3: Written exam/assignments [WE], Oral exam [OE]*

*LO5-A-B-4:Written exam/assignments [WE], Oral exam [OE]*

<b>TEACHING CODE</b>	<i>T4.2, T7.1</i>
<b>TEACHING TITLE</b>	<b>Food Gastronomy 4</b>
<b>REFERENCE TEACHER</b>	<i>Eg. Prof. Cremona Renato</i>
<b>TARGETED LEARNING OUTCOMES</b>	<i>Eg. LO3-A2, LO6-A-B-1</i>
<b>REFERENCE MODULES</b>	<i>Eg. Module 4 + Module 7</i>

### A. LIST of CONTENTS:

<i>T4.2a The food trends</i>
<i>T4.2b The scientific evaluation of new food trends</i>
<i>T4.2c Standardization and validation tools to evaluate feasibility of new meals/recipes in collaboration with multidisciplinary team and stakeholders</i>
<i>T4.2d The external actors to try out new meals/recipes as well as gastronomic services</i>
<i>T4.2e The analysis cost/price of food and beverages product with budgetary analysis techniques</i>
<i>T4.2f Key parameters to be tested and describe evaluation methods for recipe/meal trials in terms of feasibility</i>
<i>T4.2g Different gastronomic services and criteria for needs assessment about the services</i>
<i>T7.1a Select the most appropriate cooking technique to reach maximum nutritional value of ingredients</i>
<i>T7.1b Adapt the appropriate cooking techniques to the different food ranges</i>
<i>T7.1c Adapt the appropriate cooking techniques to the different healthcare context</i>

### B. IMPLEMENTED EDUCATIONAL STRATEGIES:

*Exploration:*

*Experimenting with new ingredients and culinary techniques.*

*Group work:*

*Students work in small groups to fine-tune experimentation.*

*Multi-sensory teaching:*

*Use different senses, such as sight, taste, smell and touch, to help students better understand culinary concepts..*

**Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

Lab

*Experimentation of new ingredients for elderly patients with hypertension problems*  
*Strategies for minimizing antinutritional factors in vegetables*

### C. REFERENCE MATERIALS:

*Manuale della ristorazione Salvatore Ciappellano casa editrice ambrosiana*

*La fisiologia del gusto di Brillat Savarin*

*Tecniche e tecnologie di cucina di Daniel Facen*

*Tecniche di cucina di ALMA*

*Linee guida per una sana e corretta alimentazione di CREA*

*Peri C..The universe of food quality. Food Quality and Preference 17 (2006) 3–8. van Boekel*

*M. A.J.S. Kinetic Modeling of Food Quality: A Critical Review. Comprehensive Reviews*

### D. ASSESSMENT :

**LO3-A2: Written exam/assignments [WE], Oral exam [OE], Simulation/skill demonstration**

**LO6-A-B-1: Oral exam [OE], Simulation/skill demonstration**

<b>TEACHING CODE</b>	<i>T7.2, T7.6, T7.9</i>
<b>TEACHING TITLE</b>	<b>Food Gastronomy 5</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Sciarpa Lorenzo</i>
<b>TARGETED LEARNING OUTCOMES</b>	<i>LO5-C1, LO6-A-B-2, LO6-C1, LO6-D1</i>
<b>REFERENCE MODULES</b>	<i>Module 7</i>

### A. LIST of CONTENTS:

<i>T6.5a The procedure to plan and conduct food tastings (WBL)</i>
<i>T6.5b The analyses of collected data from food tastings to improve meals and menus (WBL)</i>
<i>T6.5c The changes to meals and menus, based on a critical assessment of the opinions of health professionals (WBL)</i>
<i>T7.2a The innovative and complex preparation techniques</i>

<i>T7.2b The most appropriate combination of cooking methods to reach the maximum nutritional and tasteful potential of each ingredient in innovative and complex preparation</i>
<i>T7.2c Define criteria to combine various cooking methods simultaneously</i>
<i>T7.6b The parameters to balance menu in terms of nutrition and taste</i>
<i>T7.6c Food preparation and cooking techniques while respecting cultures and religions</i>
<i>T7.9b The preparation of dishes with flavor in balanced diets with modified consistency</i>
<i>T7.9c Advanced techniques to apply consistency changes in dishes</i>

## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

### *Exploration:*

*Experimenting with new ingredients and culinary techniques.*

### *Group work:*

*Students work in small groups to fine-tune experimentation.*

### *Multi-sensory teaching:*

*Use different senses, such as sight, taste, smell and touch, to help students better understand culinary concepts..*

#### **Lab**

*Multi-sensory teaching: Use different senses, such as sight, taste, smell and touch, to help students better understand culinary concepts.*

#### **Work Based Learning**

*Collaborate with human nutrition professionals to fine-tune preparations adapted to pathological conditions (dysphagia)*

## **C. REFERENCE MATERIALS:**

*La fisiologia del gusto di Brillat Savarin*

*Tecniche e tecnologie di cucina di Daniel Facen*

*Tecniche di cucina di ALMA*

*Il sorriso nel piatto "Creazioni ideate ed eseguite da chef stellati per persone con disfagia" di Lucilla Vestito*

## **D. ASSESSMENT :**

**LO5-C1: Simulation/skill demonstration [SSK]**

**LO6-A-B-2: Simulation/skill demonstration [SSK]**

**LO6-C1: Simulation/skill demonstration [SSK]**

**LO6-D1: Written exam/assignments [WE], Oral exam [OE], Simulation/skill demonstration**

## Detailed Plan of T.C

<b>TEACHING CODE</b>	<i>T2.1, T2.2, T2.3, T2.4, T2.5, T2.6, T4.3, T4.4, T7.9, T7.10, T7.11, T8.3</i>
<b>TEACHING TITLE</b>	<b>Nutrition and Diet Therapy</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Borgarelli Consuelo</i>
<b>TARGETED LEARNING OUTCOMES</b>	<i>LO2-A-B-1, LO2-A-B-2, LO2-A-B-3, LO2-C-D-0, LO2-C-D-1, LO2-C-D-2, LO3-B-1, LO3-B-2, LO6-D-1, LO6-D-2, LO6-D-3, LO7-B-2</i>
<b>REFERENCE MODULES</b>	<i>Module 2 + Module 4 + Module 7+ Module 8</i>

### A. LIST of CONTENTS:

<i>T2.1a Epidemiological research on the human metabolism</i>
<i>T2.1b Needs assessments</i>
<i>T2.1c Frequency of diseases affecting human metabolism</i>
<i>T2.1d Complex diseases</i>
<i>T2.1e Diseases of the digestive system and human metabolism changes in taste, smell and absorption of food</i>
<i>T2.1f Medical treatments and impact of food intake</i>
<i>T2.1g Basic nutritional needs of older citizens and patients</i>
<i>T2.2a Anatomy of the human gastrointestinal system</i>
<i>T2.2b Physiology of taste and smell</i>
<i>T2.2c Different diseases affecting taste and smell</i>
<i>T2.2d Consequences of diseases affecting taste and smell</i>
<i>T2.2e Nutritional needs of people with diseases affecting the smell and taste</i>
<i>T2.2f Nutritional needs of people with diseases affecting the smell and taste</i>
<i>T2.3a Pathology of most common swallowing disorders</i>
<i>T2.3b The main swallowing problems</i>
<i>T2.3c Medical conditions that can affect the need for food texture modification</i>
<i>T.2.4a Gastroenterology</i>
<i>T2.5a The main test protocols on taste deterioration</i>
<i>T2.5b Test protocols for selection the one for a client</i>
<i>T2.5c The correct criteria for test protocols on taste deterioration</i>
<i>T2.5d Identification of failure situations</i>

<i>T2.5e Strategies of using critically selected test protocols on taste impairment</i>
<i>T2.6a The comprehensive nutritional care</i>
<i>T2.6b Professions involved in comprehensive nutritional care and their function</i>
<i>T2.6c Solutions for assessment results</i>
<i>T4.3a The standardized and evidence-based diets (eg. Nutritional principles and Guidelines for a healthy diet and LARN)</i>
<i>T4.3b Key nutritional parameters and prescription for diets in pathological conditions</i>
<i>T4.3c Nutritional needs and composition of balanced menus</i>
<i>T4.4a Physiological and pathological needs of individuals</i>
<i>T4.7d The nutritional parameters for diets for older adult and in the different disabled conditions</i>
<i>T7.9a Diets with modified consistency</i>
<i>T7.9d Description of different typology of thickeners and their different chemical composition</i>
<i>T7.9e Description of different rheological characteristic for typology of thickeners</i>
<i>T7.10a Description of different techniques for fortifying food</i>
<i>T7.10b The difference of chemical composition of fortified food and enriched food</i>
<i>T7.10c The difference of mandatory fortification and voluntary fortification</i>
<i>T7.10d The specific fortification for each food and the correct combination of the ingredients</i>
<i>T7.10e The identification of the nutritional need of the added component to fortified food to determine the exact quantity of ingredient</i>
<i>T7.11a The physiology and the genetic of taste</i>
<i>T7.11b The techniques to define the level of perception of each taste, to define the level of perception of consistency and to define the level of perception of smell</i>
<i>T7.11c How to recognize when taste changes or consistency adjustments are needed</i>
<i>T8.3a The basic notions of counselling</i>
<i>T8.3b The main counselling techniques</i>
<i>T8.3c The role of CGE in client counselling with respect to the role of healthcare professionals</i>

## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

Basic concepts of Nutrition and food composition and anthropometric parameters and the calculation of energy requirements

Setting up nutrition plans

Creating a general overview of nutrition and diet therapy for dysphagic and elderly cancer patients. This will help students understand the importance of nutrition for these patients and the challenges they face.

Involve students in creating balanced menus for dysphagic and elderly cancer patients. Have student groups work together to create different menus for these patients, making them focus on choosing nutrient-rich, easily digestible foods.

### **Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

### **Lab**

Use technology to help students better understand menu composition. For example, you can show them how to use apps or websites to calculate calories, nutrients, and portion sizes needed for dysphagic and elderly cancer patients.

**Online learning (asynchronous)**

- Educational Materials on I-Mooc
- Online Group work

**Work Based Learning**

Use concrete examples and case studies to illustrate how menu composition can affect patients' health and well-being. You can show how a diet rich in protein and calories can help maintain muscle mass and prevent weight loss in cancer patients.

**C. REFERENCE MATERIALS:**

*All'origine del gusto la nuova scienza della neurogastronomia - SHEPHERD GORDON M  
Le molecole del gusto ovvero la chimica dei sapori di [Gianni Galaverna](#) e [Chiara Dall'Asta](#)  
Linee guida per una sana e corretta alimentazione di CREA*

**D. ASSESSMENT :**

LO2-A-B-1: Oral exam [OE]

LO2-A-B-2: Written exam/assignments [WE], Oral exam [OE], [SSK]

LO2-A-B-3: Written exam/assignments [WE], Oral exam [OE]

LO2-C-D-0: Written exam/assignments [WE]

LO2-C-D-1: Written exam/assignments [WE], Oral exam [OE], [SSK]

LO2-C-D-2: Written exam/assignments [WE], Oral exam [OE]

LO3-B-1: Written exam/assignments [WE], Oral exam [OE], [SSK]

LO3-B-2: Written exam/assignments [WE], Oral exam [OE]

LO6-D-1: Written exam/assignments [WE], Oral exam [OE], [SSK]

LO6-D-2: Simulation/skill demonstration [SSK]

LO6-D-3: Simulation/skill demonstration [SSK]

LO7-B-2: Simulation/skill demonstration [SSK]

## Detailed Plan of T.D

<b>TEACHING CODE</b>	<i>T3.1,T3.2,T3.3,T9.9</i>
<b>TEACHING TITLE</b>	<b>ASSESSMENT AND ICT</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Pugliese Girolamo</i>
<b>TARGETED LEARNING OUTCOMES</b>	<b>LO2-C-D2, LO2-C-D3,LO2-C-D4,LO2-E1,LO7-E-4</b>
<b>REFERENCE MODULES</b>	<i>Module 3 + Module 9</i>

### A. LIST of CONTENTS:

<i>T2.6c Solutions for assessment results</i>
<i>T3.1a The most common ICT tools available regionally and their function for screening and assessing clients individual food preferences and individual needs and wishes</i>
<i>T3.1b The most important ICT tools for screening and assessing clients' individual food preferences available at international level</i>
<i>T3.1c The data privacy and confidentiality guidelines regarding the use of ICT tools for screening and assessing clients individual food preferences</i>
<i>T3.2a The common ICT tools of culinary interventions</i>
<i>T3.2b The ICT tools for recording and monitoring assessment results, as well as culinary interventions</i>
<i>T3.2c The assessment results of culinary interventions</i>
<i>T3.3a The main tools and techniques tools for detection of clients' satisfaction and impressions</i>
<i>T3.3b The cooperation with the client to enhance the care outcome and high satisfaction</i>
<i>T3.3cThe different counseling techniques to ensure effectiveness and appropriateness</i>
<i>T9.9aThe main criteria to evaluate and select the main ICT tools dedicated to food</i>
<i>T9.9b The main ICT tools dedicated to food, such as the ones for managing food composition, ingredients, combination, properties, treatments, regional resources</i>

### B. IMPLEMENTED EDUCATIONAL STRATEGIES:



*Electronic Nutritional Assessment Tools: Electronic nutritional assessment tools, such as mobile applications, have made it easier for health workers to collect and analyze data from patients. These tools allow health workers to assess a patient's dietary intake and body composition in real-time, making the process quicker and more accurate.*

*Remote Monitoring: With the help of ICT, nutrition assessments can now be conducted remotely. This has made it possible for health workers to monitor patients in remote or underserved areas, improving access to nutrition services.*

*Data Collection and Management: ICT has enabled the collection and management of large amounts of data related to nutrition assessments. This data can be analyzed to identify trends, patterns, and insights that can help inform public health policies and improve nutrition outcomes.*

*Telemedicine: Telemedicine has allowed health workers to connect with patients remotely, making it possible to conduct nutrition assessments and provide nutrition advice from a distance.*

*Information and Communication Technology (ICT) has revolutionized the way health professionals assess and monitor the nutritional status of individuals. The integration of ICT into nutrition assessment has improved the accuracy, efficiency, and accessibility of information, enabling health professionals to make informed decisions about the nutritional needs of patients.*

**Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

**Lab**

Use technology to help students better understand menu composition. For example, you can show them how to use apps or websites to calculate calories, nutrients, and portion sizes needed for dysphagic and elderly cancer patients.

**Online learning (asynchronous)**

Educational Materials on I-Mooc

Online Group work

**C. REFERENCE MATERIALS:**

*Informatica medica di Massimo Mangia*

**D. ASSESSMENT :**

LO2-C-D3: Written exam/assignments [WE], Oral exam [OE], [SSK]

LO2-C-D4: Written exam/assignments [WE], Oral exam [OE], [SSK], [OTH]

LO2-E1: Written exam/assignments [WE], Oral exam [OE]

LO7-E-4: Written exam/assignments [WE], Oral exam [OE]

## 1.5 Detailed Plan of TE

<b>TEACHING CODE</b>	<i>T5.2, T9.6, T9.7</i>
<b>TEACHING TITLE</b>	<b>Information technology 1</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Arrigo Francesco</i>
<b>TARGETED LEARNING OUTCOMES</b>	<b>LO4-A2, LO7-E-1, LO7-E-2</b>
<b>REFERENCE MODULES</b>	<i>Module 5 + Module 9</i>

### A. LIST of CONTENTS:

<i>T5.2a software and spreadsheets</i>
<i>T9.6a The information needs</i>
<i>T9.6b The searches of data, information and content in digital environments</i>
<i>T9.6c The access to these data, information and content, and the navigation between them.</i>
<i>T9.6d The personal search strategies</i>
<i>T9.6e The main national/regional healthcare tools for users' record</i>
<i>T9.6f The main tools supporting the creation of a data collection (e.g. electronic sheets) in order to record client's history, in compliance with national/regional healthcare tools for users' record</i>
<i>T9.7a The main digital technologies and routine appropriate digital communication means for his/her own working context.</i>
<i>T9.7b The main appropriate digital technologies to share data, information and digital content in his/her own working context.</i>
<i>T9.7c Well-defined and routine digital tools and technologies for collaborative processes.</i>
<i>T9.7d The role as intermediary for sharing information and content through well-defined and routine digital technologies.</i>
<i>T9.7e Well-defined and routine behavioral norms and know-how in digital environments.</i>
<i>T9.7f Well-defined and routine communication strategies adapted to an audience</i>
<i>T9.7g Well-defined and routine cultural and generational diversity aspects to consider in digital environments</i>

## B. IMPLEMENTED EDUCATIONAL STRATEGIES:

Hands-On Learning: Organize hands-on sessions in which students can directly use computer skills to solve problems related to their profession. For example, they can be taught how to use menu planning software to create and manage their own menu.

Collaborative projects: Encourage students to work in groups on projects that combine their culinary knowledge with their computer skills. For example, they can create a website or table reservation app.

Examples of application: Show students how computer skills can be used in their everyday profession.

### Face-to-Face Class and webinars:

Lecture

Group Work

## C. REFERENCE MATERIALS:

*"Computer Science: An Overview" di J. Glenn Brookshear*

## D. ASSESSMENT :

LO4-A2: Written exam/assignments [WE], Oral exam [OE]

LO7-E-1: Written exam/assignments [WE], Oral exam [OE]

LO7-E-2: Written exam/assignments [WE], Oral exam [OE]

<b>TEACHING CODE</b>	<i>T9.8</i>
<b>TEACHING TITLE</b>	<b>Information technology 2</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Del Vecchio Luca</i>
<b>TARGETED LEARNING OUTCOMES</b>	LO7-E-3
<b>REFERENCE MODULES</b>	<i>Module 9</i>

## A. LIST of CONTENTS:

<i>T9.8a Well-defined and routine ways to protect his own and users' personal data and privacy in digital environments</i>
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<i>T9.8b Well-defined and routine ways to use and share personally identifiable information while protecting myself and others from damages.</i>
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<i>T9.8c Well-defined and routine privacy policy statements of how personal data is used in digital services</i>
--

## B. IMPLEMENTED EDUCATIONAL STRATEGIES:

Hands-On Learning: Organize hands-on sessions in which students can directly use computer skills to solve problems related to their profession. For example, they can be taught how to use menu planning software to create and manage their own menu.

Collaborative projects: Encourage students to work in groups on projects that combine their culinary knowledge with their computer skills. For example, they can create a website or table reservation app.

Examples of application: Show students how computer skills can be used in their everyday profession.

### Face-to-Face Class and webinars:

Lecture

Simulation

## C. REFERENCE MATERIALS:

*"Computer Science: An Overview" di J. Glenn Brookshear*

## D. ASSESSMENT :

LO7-E-3: Written exam/assignments [WE], Oral exam [OE]

## 1.6 Detailed Plan of TF

<b>TEACHING CODE</b>	<i>T1.4</i>
<b>TEACHING TITLE</b>	<b>Healthcare logistic management</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Sangarè Antonella</i>

<b>TARGETED LEARNING OUTCOMES</b>	LO1-B-2, LO7-C1, LO7-C2
<b>REFERENCE MODULES</b>	Module 1

#### A. LIST of CONTENTS:

T1.4a The healthcare contexts
T1.4b The management of supply process
T1.4c Suppliers and meal plan's needs in specific health or social context
T1.4d Logistics system and energy consumption
T8.4 Roles and responsibilities of the various staff members or collaborators and of health/social care professionals in food care (WBL)
T8.5 The main teamwork strategies and techniques in the daily working context (WBL)
T8.5b The main leadership strategies and techniques and rules to operate in teamwork (WBL)
T8.5c The behaviors that encourage or prevent effective teamwork (WBL)

#### B. IMPLEMENTED EDUCATIONAL STRATEGIES:

*Discussion-based approach: encourage students to discuss and share their views on supply chain management. This helps students better understand the various elements and processes involved.*

*Use of case studies: provide students with case studies of companies that have implemented supply chain management effectively. This will help students understand how supply chain management can affect profitability, quality and customer satisfaction.*

*Hands-on activities: organize a supply chain management competition that allows students to practice what they have learned. This can help students better understand how supply chain management can be implemented in real life.*

*Use of presentations: encourage students to present their understanding of supply chain management through presentations. This will help students develop their presentation skills and share their knowledge with others.*

*Group work: encourage group work to explore supply chain management. This will help students better understand supply chain management and develop their ability to work in groups.*

#### Face-to-Face Class and webinars:

- Lecture
- Group Work
- Simulation

### C. REFERENCE MATERIALS:

*Supply chain management di Pietro Romano e Daniela Danese*

### D. ASSESSMENT :

LO1-B-2: Written exam/assignments [WE], Oral exam [OE]

LO7-C1:Simulation/skill demonstration [SSK]

LO7-C2:Simulation/skill demonstration [SSK]

## 1.7 Detailed Plan of TG

<b>TEACHING CODE</b>	<i>T5.1, T5.3</i>
<b>TEACHING TITLE</b>	<b>Healthcare Economy</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Carpi Antonio Emilio</i>
<b>TARGETED LEARNING OUTCOMES</b>	<i>LO4-A1, LO4-A3</i>
<b>REFERENCE MODULES</b>	<i>Module 5</i>

### A. LIST of CONTENTS:

<i>T5.1a The basic principles of accounting for budget management</i>
<i>T5.1b The budget calculation formulas, to be used applying seasonal prices</i>
<i>T5.3a Budget plans for specific time periods</i>
<i>T9.5a The principles of circular economy and resource efficiency. WBL</i>
<i>T9.5b The main criteria to identify a cost of an idea cost and the financial implications WBL</i>
<i>T9.5c How to engage relevant stakeholders for a specific action WBL</i>
<i>T9.5d Public and private services which can support his/her value-creating activity (for example, incubator, social enterprise advisors, start-up angels, chamber of commerce). WBL</i>
<i>T9.5e How to draw up a budget for a value creating activity. WBL</i>
<i>T9.5f The different forms of value-creating activities (a business, a social enterprise, a non-profit organization and so on) and can have different structures of ownership (individual company, limited company, co-operative and so on). WBL</i>

## B. IMPLEMENTED EDUCATIONAL STRATEGIES:

*Teach financial planning: Teach participants how to plan their finances and how to use a budget to achieve their financial goals.*

*Use real examples: Use real examples to explain how budget management works in everyday life and how it can be used to manage finances.*

*Engage participants: Engage participants in hands-on activities that help them understand how to use budget management in their lives.*

*Emphasize the importance of financial transparency: Teach participants the importance of keeping track of income and expenses and being transparent in their financial management.*

*Teach participants to identify sources of income and expenditure items: Teach them to identify sources of income and expense items so they can include them in their budgets.*

*Teaching flexibility: Teach participants to be flexible in their budget management and to adjust their budgets if necessary.*

*Teach participants how to manage savings: Teach them how to manage savings so that they can meet their financial goals.*

*Regularly review the budget: Teach participants to regularly review their budgets to ensure that they are always on track to meet their financial goals.*

### Face-to-Face Class and webinars:

Lecture

Simulation

## C. REFERENCE MATERIALS:

Principi di economia di [Marc Lieberman Robert E. Hall](#)

## D. ASSESSMENT :

LO4-A1: Oral exam [OE]

LO4-A3: Written exam/assignments [WE], Oral exam [OE]

## 1.8 Detailed Plan of TH

<b>TEACHING CODE</b>	T5.6, T7.4, T7.5, T7.6
<b>TEACHING TITLE</b>	<b>Beverage Gastronomy</b>
<b>REFERENCE TEACHER</b>	Eg. Prof. Capurro Roberto
<b>TARGETED LEARNING OUTCOMES</b>	LO3-D3, LO4-C1, LO6-A-B4, LO6-A-B5, LO6-C1
<b>REFERENCE MODULES</b>	Module 5 + Module 7

## A. LIST of CONTENTS:

<i>T4.8a Proper combinations of beverages with menus (WBL)</i>
<i>T4.8b The rules for food and beverage pairing to create a tasteful menu (WBL)</i>
<i>T5.6a The main elements of an effective work schedule</i>
<i>T5.6b The main criteria to balance team capability in order to plan effective shifts</i>
<i>T5.6c The different capabilities and needs of kitchen team when planning work schedule and shifts</i>
<i>T5.6d The activities that the kitchen staff should carry out in each shift</i>
<i>T5.6e Evaluation staff capacities</i>
<i>T7.4a Different beverages for different dishes</i>
<i>T7.4b The beverages that are healthy and suitable for dishes</i>
<i>T7.5a The importance of food presentation as part of the meal experience</i>
<i>T7.5b The trends in food presentation</i>
<i>T7.5c The styles of food service</i>
<i>T7.5d Garnishes and accompaniments for traditional dishes</i>
<i>T7.5e The different decorations for dishes</i>
<i>T7.5f The main roles of each member of the service team</i>
<i>T7.5g The different serving plans according to clients' needs</i>
<i>T7.6a Different types and styles of menu</i>

## B. IMPLEMENTED EDUCATIONAL STRATEGIES:

*Theoretical teaching: to provide a solid theoretical foundation on the different types of beverages (coffee, tea, juices, beers, wines, cocktails, etc.), their production, tasting, history and cultural and social importance.*

*Hands-on teaching: have students acquire the skills necessary to prepare, serve and present beverages in a professional manner through practical exercises and classroom demonstrations.*

*Fundamentals of service: teach students the basic principles of customer service, effective communication, product knowledge and problem solving skills.*

*Enhancing creativity: encourage students to express their creativity in beverage preparation and presentation, providing them with opportunities to create new drinks and customize customer service.*

*Collaboration and teamwork: promote collaboration among students by organizing practical group exercises and encouraging the sharing of ideas and knowledge.*

*Simulations of real situations: have students practice their skills in simulated work settings, such as in a bar or restaurant.*

*Use of innovative technologies: encourage the use of innovative technologies, such as drink-making apps or online reservation systems, to improve the quality and efficiency of customer service.*

### Face-to-Face Class and webinars:

Lecture

Simulation



### C. REFERENCE MATERIALS:

*Food & beverage management. Strumenti per una corretta gestione del settore ristorativo*

### D. ASSESSMENT :

LO3-D3:Simulation/skill demonstration [SSK]

LO4-C1:Written exam/assignments [WE], Oral exam [OE]

LO6-A-B4:Simulation/skill demonstration [SSK]

LO6-A-B5: Simulation/skill demonstration [SSK]

LO6-C1: Simulation/skill demonstration [SSK]

## 1.9 Detailed Plan of TI

<b>TEACHING CODE</b>	<i>T4.7</i>
<b>TEACHING TITLE</b>	<b>Psychology approach in care settings</b>
<b>REFERENCE TEACHER</b>	<i>Eg. Prof. Sangare Antonella</i>
<b>TARGETED LEARNING OUTCOMES</b>	LO3-D2, LO3-B1
<b>REFERENCE MODULES</b>	<i>Module 4</i>

### A. LIST of CONTENTS:

<i>T4.3e The professional boundaries with other health professionals</i>
<i>T4.7a Different typology of living environment of care settings</i>
<i>T4.7b The main accessibility issues for older adults and disabled people which could occur in the different care settings</i>
<i>T9.1a The main communication and mutual support techniques for inter-professional teams WBL</i>
<i>T9.1b The main elements of organizational culture and communication WBL</i>
<i>T9.2a The creative thinking techniques: Brainstorming, The Insights Game, Mood boards, Random Words (Random Input), Storyboarding, Metaphorical thinking, Mind mapping. WBL</i>
<i>T9.2b The main problem-solving techniques, such as DMAIC (Define, Measure, Analyze, Improve, Control) WBL</i>
<i>T9.2c The GOPP (Goal Oriented Project Planning) WBL</i>
<i>T9.3a The main techniques for staff management and supervision WBL</i>
<i>T9.4a What makes an opportunity to create value WBL</i>
<i>T9.4b Challenges in his/her own workplace that he/she can contribute to solving. WBL</i>
<i>T9.4c Needs in his/her own workplace and surroundings that have not been met. WBL</i>
<i>T9.4d The different roles the public, private and third sectors play in his/her region or country. WBL</i>

## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

Use multimedia presentations, such as PowerPoint presentations or videos, to illustrate the different types of living environments in nursing facilities, such as nursing homes, assisted living facilities, and rehabilitation centers.

Organize tours of different nursing facilities to allow students to directly observe the differences between the various types of environments.

Discuss in groups the pros and cons of each type of living environment to help students better understand the choices available to people in need of care.

Use concrete examples and case studies to explore the challenges older adults and people with disabilities may face in accessing different care environments.

Develop group problem solving activities to help students understand how to address accessibility issues and find innovative solutions.

Engage experts in the field, such as architects and planners specializing in accessibility, for a class discussion on progress and challenges in breaking down architectural and technological barriers in different care environments.

### **Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

### C. REFERENCE MATERIALS:

*La fragilità degli anziani, da progetto di lidia goldoni*

### D. ASSESSMENT :

LO3-D2: Written exam/assignments [WE], Oral exam [OE]

## 1.10 Detailed Plan of TL

<b>TEACHING CODE</b>	<i>T6.1, T6.2, T7.3</i>
<b>TEACHING TITLE</b>	<b>Food And Safety Management</b>
<b>REFERENCE TEACHER</b>	<i>Prof.ssa Risso Manuela</i>
<b>TARGETED LEARNING OUTCOMES</b>	<b>LO5-A-B-1, LO5-A-B2 ,LO6-A-B3</b>
<b>REFERENCE MODULES</b>	<i>Module 6 + Module 7</i>

### A. LIST of CONTENTS:

<i>T6.1a Cycle of bacteria transmissions</i>
<i>T6.1b Describe the parameters of the HACCP critical control points</i>
<i>T6.1c GMPs (Good manufacturing process) in relation to the possible pollution identified in the critical points of the HACCP system</i>
<i>T6.1d National and local hygiene quality standards</i>
<i>T6.1e HACCP regulations and other legal dispositions for meal preparation, food storing and waste management</i>
<i>T6.1f HACCP in the different phases identified in the production</i>
<i>T6.1g HACCP in eventual transport to the product's destination</i>
<i>T6.1h Updates on rules and regulations</i>
<i>T6.1i Risks associated with non-compliance with rules and regulations</i>
<i>T6.1l Proper methods for the continuous monitoring of compliance with rules or regulation, by all staff</i>
<i>T6.2a The main causes of food deterioration (bacteria, viruses, toxins, contaminants)</i>
<i>T6.2b The main foodborne diseases</i>
<i>T6.2c Parameters to recognize when a food is altered or deteriorated.</i>
<i>T6.2d The possible failure situations</i>
<i>T6.2e The procedures to minimize the risk of foodborne diseases, in all stages of meal preparation</i>
<i>T7.3a Food intolerance e allergies</i>
<i>T7.3b The main EU rules to operate with allergic / intolerant clients (eg Reg. UE n.1169/2011)</i>
<i>T7.3c The main recognized allergens</i>

T7.3d The parameters to elaborate a database about requirements and types of allergies and intolerances
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T7.3e Alternative ingredients in the most common preparations for the allergic and intolerant population
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T7.3f The methods to define meal plan according to the health care indication and client requirements
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## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

*Develop hands-on activities to simulate bacterial transmission, such as food preparation and the use of appropriate hygiene techniques.*

*Discuss in class the prevention of bacterial transmission through the use of appropriate hygiene practices.*

*Develop a group brainstorming activity to identify critical control points in meal preparation.*

*Use concrete examples to explore control parameters at critical points, such as temperature, storage time, use of detergents and disinfectants.*

*Develop a presentation on GMPs and how they relate to possible pollution at critical points.*

*Discuss in class the different types of GMPs and how they can be used to prevent critical point pollution.*

*Develop a hands-on activity to simulate the application of GMPs in meal preparation.*

*Discuss in class the different national and local hygienic quality standards and how they can vary according to laws and regulations.*

*Use concrete examples to explore how different standards affect meal preparation and waste management.*

*Develop a discussion on the importance of complying with rules and regulations to ensure food safety.*

### **Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

## **C. REFERENCE MATERIALS:**

*“Igiene” di Cesare Meloni*

## **D. ASSESSMENT :**

**LO5-A-B-1: Written exam/assignments [WE], Oral exam [OE]**

**LO5-A-B2: Written exam/assignments [WE], Oral exam [OE]**

**LO6-A-B3: Written exam/assignments [WE], Oral exam [OE]**

## **1.11 Detailed Plan of TM**

<b>TEACHING CODE</b>	T4.3, T4.4, T4.6, T7.6
<b>TEACHING TITLE</b>	<b>Food Chemistry and food science</b>
<b>REFERENCE TEACHER</b>	<i>Prof.ssa Pozzoli Maria Teresa</i>
<b>TARGETED LEARNING OUTCOMES</b>	LO3-B1, LO3-B-2, LO3-D1, LO6-C1
<b>REFERENCE MODULES</b>	Module 4 + Module 7

### A. LIST of CONTENTS:

<i>T4.3d Principles of food chemistry to elaborate tasteful dishes adapting nutritional parameter for standardized and evidence-based diet plan recommended by health professionals</i>
<i>T4.4d Principles of food chemistry to elaborate tasteful dishes adapting nutritional parameter to individual needs and preferences according to physiological and pathological needs</i>
<i>T46.a Chemistry of food and how their components affect each other</i>
<i>T46.b Chemical interaction and synergies among ingredients to enhance proprieties of ingredients for each tasteful preparation and equilibrate menus</i>
<i>T46.c Chemical interaction and synergies among ingredients to reach the maximum nutritional value for each tasteful preparation and the equilibrate menus</i>
<i>T46.d Chemistry and nutritional value of the different type of beverages</i>
<i>T7.6f Principles of food chemistry to elaborate tasteful dishes in different pathological condition adapting nutritional parameter recommended by health professionals</i>

### B. IMPLEMENTED EDUCATIONAL STRATEGIES:

*Use concrete examples and visualizations to explain the principles of food chemistry and how they affect the taste and nutritional value of dishes.*

*Encourage experimentation and trial and error in the kitchen, allowing participants to manipulate and observe ingredients and how they affect each other.*

*Provide a theoretical foundation on food chemistry and ingredient interactions to help participants understand how to create synergies between ingredients to achieve maximum nutritional value and taste.*

*Discuss the importance of adhering to standardized, evidence-based food plans recommended by health professionals, and how to adapt nutritional parameters to individual needs and preferences.*

*Delve into the chemistry and nutritional value of different types of beverages, helping participants understand how these can affect their food choices.*

*Teach how to develop tasty dishes under different disease conditions, adapting the nutritional parameters recommended by health professionals.*

*Create a collaborative learning environment, where participants can exchange ideas and share their experience, to help solidify the knowledge gained during training.*

**Face-to-Face Class and webinars:**

- Lecture
- Group Work
- Simulation

**C. REFERENCE MATERIALS:**

*Principi di chimica degli alimenti di Vannucchi e Cappelli*

**D. ASSESSMENT :**

LO3-B1:Written exam/assignments [WE], Oral exam [OE], [SSK]

LO3-B-2:Written exam/assignments [WE], Oral exam [OE], LO3-D1:

LO6-C1:[SSK]

<b>TEACHING CODE</b>	<i>T1.4, T1.6, T7.1</i>
<b>TEACHING TITLE</b>	<b>Food science 1</b>
<b>REFERENCE TEACHER</b>	<i>Prof.ssa Signorelli Simona</i>
<b>TARGETED LEARNING OUTCOMES</b>	<i>LO1-B-2, LO1-D1, LO6-A-B1</i>
<b>REFERENCE MODULES</b>	<i>Module 1 + Module 7</i>

**A. LIST of CONTENTS:**

<i>T1.4e Shelf life of the products and the methods of conservation</i>
<i>T1.4g HACCP system and storage phase</i>
<i>T1.6a Hygienic management of leftovers during the production process</i>
<i>T1.6b The mishandling of products and leftovers and foodborne illnesses</i>
T7.1a Select the most appropriate cooking technique to reach maximum nutritional value of ingredients
T7.1b Adapt the appropriate cooking techniques to the different food ranges
T7.1c Adapt the appropriate cooking techniques to the different healthcare context

## B. IMPLEMENTED EDUCATIONAL STRATEGIES:

*An interactive presentation showing how exposure to light, heat, humidity and the presence of oxygen can affect the shelf life of products.*

*A hands-on activity in which students can explore and test different preservation methods, e.g., refrigeration, freezing, salting, drying, etc.*

*Discuss real case studies that highlight the importance of proper food storage to prevent contamination and loss of quality.*

*A group exercise in which students must identify critical HACCP control points in a food production and storage process.*

*A mock HACCP inspection in which students must evaluate the food storage system and identify any areas for improvement.*

*Discuss best practices for food handling in storage, e.g., product rotation, separation of raw and cooked products, temperature management, prevention of cross-contamination, etc.*

*A group discussion on the negative effects of improper storage and reuse of leftover food, e.g., the risk of bacterial contamination.*

*A hands-on activity in which students can explore different methods of storing leftovers, e.g. refrigeration, freezing, steam heating, etc.*

*Discuss guidelines for safe handling of food leftovers, e.g. leftover rotation, temperature management, preventing cross-contamination, reducing food waste.*

**Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

## C. REFERENCE MATERIALS:

*Principi di chimica degli alimenti di Vannucchi e Cappelli*

## D. ASSESSMENT :

*LO1-B-2: Written exam/assignments [WE], Oral exam [OE]*

*LO1-D1: [SSK]*

*LO6-A-B1:Written exam/assignments [WE], Oral exam [OE],[SSK]*

<b>TEACHING CODE</b>	<i>T4.4</i>
<b>TEACHING TITLE</b>	<b>Food science 2</b>
<b>REFERENCE TEACHER</b>	<i>Prof.ssa Borriello Matilde</i>

<b>TARGETED LEARNING OUTCOMES</b>	LO3-B-2
<b>REFERENCE MODULES</b>	Module 4

#### A. LIST of CONTENTS:

T4.4b *Baseline menu and balanced menus (e.g. balanced ratio of macro- and micronutrients, food frequencies, economic and ecological sustainability, portion size, etc.)*

T4.4c *The methods to adjust baseline menu to individual preferences*

#### B. IMPLEMENTED EDUCATIONAL STRATEGIES:

*Experience-based approach: Prepare balanced dishes as part of a hands-on activity and compare the results with a basic menu.*

*Group discussion: Discuss how to develop a balanced menu taking into account individual preferences and dietary restrictions.*

*Menu analysis: Analyze restaurant menus or menus prepared at home to identify macro- and micronutrient ratios, food frequency and sustainability.*

*Pair or small group work: Assign student groups to create a balanced menu taking into account individual preferences and dietary restrictions.*

*Oral presentation: Ask students to present their balanced menu and discuss the choices they have made.*

*Case Study: Study real cases of people who must follow a balanced diet for health reasons and discuss how they adapted their basic menu.*

*Online resources: Use online resources, such as video tutorials and articles, to teach students how to calculate the ratio of macro to micronutrients and how to adapt a basic menu to individual preferences.*

#### **Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

#### C. REFERENCE MATERIALS:

*Principi di chimica degli alimenti di Vannucchi e Cappelli*

#### D. ASSESSMENT :

LO3-B-2: Written exam/assignments [WE], Oral exam [OE]



<b>TEACHING CODE</b>	<i>T4.1, T4.7, T7.6, T7.7, T7.8, T7.10, T8.1, T8.2</i>
<b>TEACHING TITLE</b>	<b>Food science 3</b>
<b>REFERENCE TEACHER</b>	<i>Prof. Marletta Antonio</i>
<b>TARGETED LEARNING OUTCOMES</b>	LO3-A1, LO3-D2, LO6-C1, LO6-C2, LO6-C3, LO6-D2, LO7-A-1, LO7-B-1
<b>REFERENCE MODULES</b>	<i>Module 4 + Module 7+ Module 8</i>

#### **A. LIST of CONTENTS:**

<i>T4.1a Cultural anthropology and relationship of food and beverages</i>
<i>T4.1b Food prescriptions and prohibitions in the various cultures and religions</i>
<i>T4.1c Food reference models (vegan and vegetarian diets)</i>
<i>T4.1d The nutritional lacks connected with the exclusion of specific food item</i>
<i>T4.7d The nutritional parameters for diets for older adult and in the different disabled conditions</i>
<i>T7.6d The description of different diets</i>
<i>T7.7a Different model diets (vegan, vegetarian, zone diet, Mediterranean diet...)</i>
<i>T7.7b The evaluation and selection of ingredients for dishes that are suitable for model diets</i>
<i>T7.7c The nutritional lacks connected with the exclusion of specific food items</i>
<i>T7.8a The food prescriptions and restraints of main religions and cultures</i>
<i>T7.8b The appropriate combination of ingredient permitted for each culture and religion</i>
<i>T7.10f The US and EU Regulation on the addition of vitamins, minerals, and other substances to foods</i>
<i>T8.1a The different types of service and the correlation with the characteristics of the user</i>
<i>T8.1b The main techniques and tools to design a protocol</i>
<i>T8.1c Techniques and tools for detecting expectations and analyzing satisfaction.</i>
<i>T8.1d Procedures and techniques for organizing and drafting initiatives aimed at building customer satisfaction.</i>
<i>T8.1e Customer segmentation and clustering techniques.</i>
<i>T8.1f The basic elements of CRM (Customer Relationship Management) applied to collective catering</i>
<i>T8.1g The peculiarities of the service offer in relation to the forecast budget</i>
<i>T8.2a The impact of food and nutrition on social determinants of health and vice versa</i>
<i>T8.2b The possible advice and guidance on culinary matters he/she could provide to support different professionals to educate clients</i>
<i>T8.2c Nutritional principles and Guidelines for a healthy diet</i>

## **B. IMPLEMENTED EDUCATIONAL STRATEGIES:**

You might consider using case studies that show how eating habits vary by culture and religion. You will invite experts in the field to give a presentation on food traditions in different cultures and religions. In addition, you could encourage students to conduct research on their own food traditions to gain a deeper understanding of the relationship between food and drink and culture.

Discuss specific instances of food prescriptions and prohibitions in different cultures and religions, and explain the reason behind them. You might also encourage students to conduct research on their own food traditions to better understand food prescriptions and prohibitions in their culture.

Discuss the nutritional benefactors and nutritional implications of vegan and vegetarian diets. Students could also be encouraged to conduct research on alternative protein sources for vegan and vegetarian diets.

Discuss the nutritional deficiencies associated with excluding specific foods from a diet and how these deficiencies can be prevented. You might also encourage students to explore food alternatives that can help prevent nutritional deficiencies.

Discuss the specific nutritional needs of the elderly and people with disabilities, and how these needs can be met through a balanced diet.

Discuss the nutritional characteristics of different types of diets, such as the Mediterranean diet, the Zone diet, and the vegan and vegetarian diets. Students could also be encouraged to explore the diets and evaluate their strengths and weaknesses.

Discuss the different model diets and their nutritional characteristics. Students could also be encouraged to conduct research on model diets and evaluate their advantages and disadvantages.

### **Face-to-Face Class and webinars:**

Lecture

Group Work

Simulation

## **C. REFERENCE MATERIALS:**

*Manuale di Nutrizione clinica e scienze dietetiche applicate di Binetti*  
*Principi di chimica degli alimenti di Vannucchi e Cappelli*

## **D. ASSESSMENT :**

LO3-A1: **Written exam/assignments [WE], Oral exam [OE]**

LO3-D2: **Written exam/assignments [WE], Oral exam [OE]**

LO6-C1:Simulation/skill demonstration [SSK]

LO6-C2:Simulation/skill demonstration [SSK]

LO6-C3:Simulation/skill demonstration [SSK]

LO6-D2: Simulation/skill demonstration [SSK]:

LO7-A-1:Written exam/assignments [WE], Oral exam [OE]

LO7-B-1:Written exam/assignments [WE], Oral exam [OE]

## **ANNEX 3 – ROADMAP OF PILOT EVALUATION ACTIVITIES**

Pilot Phase	T1 - Start of the Pilot	T2 - Middle of the Pilot	T3 - End of the Pilot	T4 - After the Pilots
Questionnaire/Target Group	Q1 Students	Q1 Teachers Q2 Students	Q2 Teachers Q3 Students Q2 VET Designer	Q4 Students
Pilot Timeframe	Beginning of December 2022 (M25)	Beginning of March 2023 (M29)	June 2023 (M32)	September 2023 (M35)
Timeframe for Survey completion (by each target group)	5. Dezember 2022	01.-15. March 2023	7. June 2023	01.-15. September 2023
Translation of free text answers in national language (by contact person for evaluation)	12.- 20. January 2022	16.-24. March 2023	7.-12. June 2023	18.-22. September 2023
Timeframe for data analysis (by WIAB)	20.- 30. January 2022	16. March - 13. April 2023	7. June 2023 - 20. June 2023	18.-28. September 2023
Deadline for result/recommendation delivery (by WIAB)	30. January 2022	14. April 2023	30. June 2023	29. September 2023
Feedback on adaptations based on the recommendations until (by VET Designer/partners)	11. January 2023	15. May 2023	15. October 2023	15. October 2023
ALL PILOTS (English speaking employers' involvement)			Focus Group Discussion with employers end of May 2023 (M31)	Evtl. short questionnaire for employers in September 2023 (M35)
Number of Students participating:	19			
Number of Teachers participating:	18			
Contact Person (Marco Polo):	Prof. Girolamo Pugliese		Contact Person (WIAB):	Jana Senoner, Heidemarie Müller-Riedlhuber
Mail:	<a href="mailto:prof.pugliese.girolamo@marcopologenova.net">prof.pugliese.girolamo@marcopologenova.net</a> prof.pedemonte.olga' <prof.pedemonte.olga@marcopologenova.net> prof.borriello.matilde' <prof.borriello.matilde@marcopologenova.net>		Mail:	<a href="mailto:senoner@wiab.at">senoner@wiab.at</a> <a href="mailto:mueller-riedlhuber@wiab.at">mueller-riedlhuber@wiab.at</a>

## ANNEX 4 – SAMPLE OF THE CERTIFICATION GIVEN AFTER COMPLETION



an Eu Curriculum  
for chef gasTro-engineering  
in primAry food caRe



Il Dirigente scolastico visti gli atti di questo ufficio

CERTIFICA CHE

l'alunn[[XA\_OI]] [[XCOGNOME]] [[XNOME]] nat[[XA\_OI]] a [[XCOM\_NASC]] ([[XPR\_NA]]) il  
[[XDATAN]] ha frequentato nell'anno scolastico [[XAS]] il corso pilota NECTAR per Chef  
gastro-engineering per un totale di 1000 ore conseguendo la

## Qualificazione di Chef di cucina salutistica

EQF5 (European Qualifications Framework)  
40 ECVET (European Credit system for Vocational Education and Training)

[[XDATA]]

[[XSIGLA\_PRESIDE]]  
[[XPRESIDE]]



## ANNEX 5 – QUALITY CONTROL CHECK LIST

<b>Quality Control Check</b>	
<b>Generic Minimum Quality Standards</b>	
Document Summary provided (with adequate synopsis of contents)	
Compliant with NECTAR format standards (including all relevant Logos and EU-disclaimer)	
Language, grammar and spelling acceptable	
Objectives of the application form covered	
Work deliverable relates to adequately covered	
Quality of text is acceptable (organisation and structure, diagrams, readability)	
Comprehensiveness is acceptable (no missing sections, missing references, unexplained arguments)	
Usability is acceptable (deliverable provides clear information in a form that is useful to the reader)	
<b>Deliverable specific quality criteria</b>	
Deliverable meets the 'acceptance Criteria' set out in the Quality Register:	
<b>Checklist completed and deliverable approved by</b>	
Name: Emanuela Di Marino Date: 3/8/2023	