NOURISHWELL
ONCOLOGY NUTRITION PROGRAM

Network for Vocational Education Enhancing Nutrition in Cancer Patients

NourishWell Curriculum

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1. INTRODUCTION

The NourishWell programme has been developed in response to a growing recognition that nutrition plays a crucial role in cancer prevention, treatment support, and recovery. While oncology patients frequently experience changes in appetite, taste, digestion, and emotional well-being, vocational education in nutrition and culinary arts rarely addresses these complex needs. This programme fills an important gap by equipping vocational students with practical competencies to support cancer survivors through evidence-based, personalized meal planning and preparation.

The programme's mission is to blend clinical insights, nutrition science, and culinary creativity to develop a new generation of practitioners who understand both patients' physiological and emotional needs. It aims to create a learning community where students, teachers, healthcare professionals, and survivors collaborate to improve the quality of nutritional support in oncology care.

Designed for vocational students studying nutrition, food technology, gastronomy, and related fields, the NourishWell programme offers a blended learning format that integrates classroom theory, hands-on culinary sessions, digital resources, and co-creation activities. The structure ensures accessibility, relevance, and adaptability for different vocational school contexts.

1.1. Learning goals and competence framework

The programme aims to equip students with the knowledge, skills, and attitudes needed to support oncology patients through nutrition and food preparation. Its goals emphasize understanding how diet influences cancer development and recovery, applying nutrition principles in practical cooking, and demonstrating empathy and care through culinary design. Students also learn to work collaboratively and communicate effectively with diverse audiences.

The specific learning outcomes have been developed in accordance with SMART principles and aligned with EQF/VET descriptors. They cover knowledge (nutrition science, food safety, oncology basics), skills (recipe adaptation, menu design, safe preparation, communication), and responsibility/autonomy (teamwork, empathy, reflective practice, professional behaviour). This ensures that students gain both technical competence and human-centred awareness.

The competence framework supports employability and lifelong learning by positioning students for roles in healthcare food services, wellness centres, catering companies, and patient support organisations. It also helps bridge the gap between the clinical and culinary worlds and reinforces the importance of interdisciplinary collaboration.

1.2. Curriculum structure and content overview

The NourishWell programme is organised into a sequence of modules that integrate theory and practice. The first part focuses on foundational knowledge—cancer biology, nutrition principles, food safety, and dietary needs of different oncology patient profiles. The second part transitions into practical work, where students design, prepare, and evaluate meals tailored to real case studies, culminating in the creation of a three-day menu.

Each module includes learning outcomes, key topics, structured activities, and assessment methods. The curriculum is developed to accommodate blended learning environments, enabling a combination of digital and face-to-face instruction.

Theory-practice integration is central to this curriculum. Students gain immediate opportunities to apply new knowledge in concrete culinary tasks, ensuring relevance, memorability, and competence. This approach mirrors real-world conditions in healthcare settings, where understanding patient needs and adapting recipes is essential.

1.3. Pedagogical approach

The programme uses a student-centred, experiential pedagogical approach that encourages active learning and creativity. Teaching includes demonstrations, case studies, scenario-based exercises, and practical cooking tasks that simulate real patient needs. Teachers guide students to think critically, solve problems, and collaborate effectively in interdisciplinary teams.

Open pedagogy plays a key role in the NourishWell programme. Students become co-creators of knowledge by producing recipes, instructional videos, digital posters, and/or shared glossary. Their outputs become open educational resources (OERs) that future cohorts can use, adapt, and expand. This cultivates ownership of learning and contributes to the sustainability of the teaching materials.

Design Thinking is embedded throughout the learning process, particularly through empathy mapping and real-world case studies. Students are encouraged to adopt the perspectives of patients, caregivers, and employers, allowing them to better understand human needs and develop solutions that are both nutritious and emotionally meaningful.

1.4. Assessment and evaluation

Assessment within the NourishWell programme is designed to capture practical performance, conceptual understanding, empathy, communication, and teamwork. It relies on a combination of formative methods (ongoing feedback, peer review, observation) and summative methods (final menu presentation, reflective journal, practical cooking assessment).

Assessment tools include rubrics for culinary performance, hygiene checklists, peer-evaluation forms, presentation criteria, and structured reflection prompts. These tools ensure transparency, fairness, and alignment with vocational standards. Evaluation focuses not only on what students produce but also on how they collaborate, communicate, and adapt based on feedback.

To ensure programme quality, both internal and external evaluation mechanisms are included. Teachers and students will provide feedback during piloting, while partner schools and healthcare experts will review the programme to assess relevance, transferability, and alignment with professional practices. Continuous improvement is built into the evaluation cycle, allowing the curriculum to evolve based on evidence and experience.

1.5. Learning resources and materials

Students and teachers have access to a collection of learning materials, including instructional videos, case studies, worksheets, recipe cards, and safety guidelines. Oncoalicia digital platform enables access to content and resources.

Supplementary open educational resources enhance learning by providing additional information on oncology nutrition, culinary techniques, and dietary adaptations. Student-created materials—such as videos and digital posters—are archived and shared as open resources, enriching the programme for future learners and partner institutions.

All resources follow Universal Design for Learning (UDL) principles to ensure accessibility for students with diverse needs. This includes simplified language, visual supports, captioned videos, and inclusive formatting.

1.6. Implementation and collaboration

Successful implementation relies on strong collaboration between teachers, vocational schools, healthcare professionals, and NGOs. Teachers receive clear guidance and support materials, enabling them to confidently deliver the curriculum even when they are less familiar with oncology nutrition. Mentors from healthcare or clinical backgrounds may participate in sessions to provide deeper insight.

Students play an active role in shaping the learning process and contributing to course content. Patient voices and employer feedback are included to help align the programme with real needs and labour-market expectations. Contact with hospitals, community organisations, and patient associations enhances authenticity and relevance.

The programme encourages ongoing communication across institutions, enabling shared problem-solving, exchange of best practices, and enrichment of the learning environment. Collaboration enhances the vocational schools' capacity to engage in interdisciplinary and European educational projects.

1.7. Quality assurance and sustainability

Quality assurance is built into every phase of the programme. Key indicators include student engagement, practical performance, teacher satisfaction, and relevance of outputs for real oncology nutrition contexts. Regular review meetings between partners help track progress and identify areas for improvement.

Sustainability strategies include the use of digital repositories, open educational resources, and annual updates informed by feedback. As the programme grows, new case studies, recipes, and activities can be added to ensure long-term relevance.

1.8. Recommended resources

This section provides a curated list of scientific papers, WHO and EU guidelines on cancer nutrition, oncology care, and vocational pedagogy. It also includes links to publicly available open educational resources.

2. Cooking for Cancer Care: Therapeutic and Preventive Nutrition through Food: A 4-Week Course for High School Culinary and Food Technology Students

2.1. Course overview

A 4-week vocational course (~50–60 hours total) introducing vocational students studying nutrition, food technology, gastronomy, and related fields to culinary medicine with a focus on **therapeutic cooking for cancer prevention and care**. Students will learn basic nutrition science, healthy cooking for cancer prevention, adapting recipes for patients undergoing treatment, and the importance of empathy in food care. Approximately 30 hours will be spent in a professional kitchen for hands-on practice, with the rest in the classroom and project work.

Students will work collaboratively in "teaching kitchen" labs and group projects, which research shows deepen understanding and build skills such as critical thinking, creativity, and communication. Activities also focus on empathy and patient-centred care, preparing students to respond to patients' needs. For example, one chef education program notes that cooking for cancer patients is "about nourishing the body, helping patients regain strength, and making meals appealing" despite treatment side-effects. Overall, this course integrates culinary practice with nutrition science to enable students to plan and prepare nutrient-dense, appealing meals that support healing and wellness.

2.2. Course structure

The course is organized into two introductory class days, primarily focused on theory, followed by a three-week group-based laboratory and project phase. The programme integrates foundational nutrition science, cancer care principles, and applied culinary practice. Key themes include:

- **Foundations of Nutrition in Cancer Care:** An introduction to basic cancer biology, major cancer types, and common treatment modalities, alongside the role of nutrition in cancer prevention and care. The course explores how nutritional needs evolve across different stages of cancer (pre-treatment, during treatment, and post-treatment) and how targeted dietary strategies can help manage common treatment-related side effects such as nausea, appetite loss, fatigue, and taste alterations.
- **Preventive and Therapeutic Nutrition:** How a healthy, balanced diet can contribute to reducing cancer risk, support healing, and strengthen immune function. This section includes a refresher on basic nutrition science, covering macronutrients (proteins, carbohydrates, fats), micronutrients (vitamins and minerals), fibre, and their specific roles in recovery and overall wellbeing.

- **Culinary Techniques for Cancer Patients:** Practical culinary training focused on preparing nutrient-dense, easy-to-digest meals adapted to the needs of people undergoing cancer treatment. Students will learn how to modify textures and flavours for patients with altered taste perception or swallowing difficulties and apply culinary strategies to enhance appetite and maintain energy intake. This component is delivered through cooking demonstrations, recipe development assignments, and peer-reviewed group projects on symptom-specific meal planning.
- **Personalized and Culturally Adapted Meal Design:** Training in designing individualized nutrition and meal plans that consider medical requirements, patient preferences, cultural and social food practices, and quality of life considerations.
- **Empathy and Communication:** Developing an understanding of patients lived experiences and nutritional challenges, and learning how to express care, respect, and empathy through food choices, cooking practices, and interpersonal interaction.

Weekly breakdown (approximate): Each week includes lectures and seminars, as well as hands-on cooking labs or projects. For example:

- Week 1 (~12 hrs) covers Modules 1 and 2 theories.
- Week 2-3 (~12 hrs each) continues Module 3 -6 with labs.
- Weeks 4 (~12 hrs) cover Module 7 with labs and Module 8 with the final project.

Week	Day (Time)	Theme
Week 1	Day 1 (6H)	Theory 01
	Day 2 (6H)	Theory 02
Week 2	Day 3 (6H)	Cooking Lab 01
	Day 4 (6H)	Cooking Lab 02
Week 3	Day 5 (6H)	Cooking Lab 03
	Day 6 (6H)	Cooking Lab 04
Week 4	Day 7 (6H)	Cooking Lab 05
	Day 8 (6H)	Presentation of Final Project

In total, students are expected to engage in about 15 hours of instruction and independent work per week. Students explore the nutritional needs of different cancer-related conditions, then design and present a 3-day meal plan that supports patient-centred, preventive nutrition.

2.3. Learning goals

By the end of the course, students will be able to:

- **Explain** how diet and nutrition influence cancer prevention, treatment support, recovery, and quality of life across different stages of the disease.
- **Apply** core nutrition principles and therapeutic cooking approaches to the design and preparation of recipes adapted to common cancer treatment–related side effects.
- **Design** personalised and culturally appropriate meals that respond to medical requirements, patient preferences, and sensory or texture-related challenges.
- **Demonstrate** empathy, care, and effective communication through culinary choices and creative food solutions tailored to patient experiences.

- **Develop and present** a complete **3-day menu** adapted to a specific cancer treatment–related side effect, integrating nutritional, culinary, cultural, and practical considerations.

2.4. EQF-aligned learning outcomes

The *NourishWell* programme defines its learning outcomes in accordance with the **European Qualifications Framework (EQF)** competence dimensions used in Erasmus+ projects for vocational and higher education. This approach ensures transparency, transferability, and a shared understanding of learning impact across partner institutions and learning contexts.

Each learning outcome (LO) is mapped to one or more EQF competence dimensions:

- **Knowledge** – understanding of facts, principles, concepts, and theoretical frameworks
- **Skills** – ability to apply knowledge in practical, creative, and problem-solving contexts
- **Responsibility and Autonomy** – capacity to manage tasks independently, collaborate with others, and reflect critically on one's learning and professional role

By the end of the programme, learners will be able to:

- **LO1.** Explain the relationship between diet, inflammation, and cancer prevention and care, using the Mediterranean diet as a reference model and considering quality of life during treatment. *(EQF: Knowledge)*
- **LO2.** Critically assess common myths and beliefs related to food and nutrition during cancer treatment, and respond using evidence-based information from trusted sources. *(EQF: Knowledge / Skills)*
- **LO3.** Apply general dietetic recommendations for balanced eating during cancer treatment and translate them into realistic food choices adapted to daily life. *(EQF: Knowledge / Skills)*
- **LO4.** Identify common cancer treatment–related side effects and adapt food and recipes using appropriate nutritional and culinary strategies to support comfort, safety, and intake. *(EQF: Knowledge / Skills)*
- **LO5.** Apply safe food-handling and hygiene principles when cooking for immunocompromised or vulnerable consumers to ensure high standards of food safety across all kitchen activities. *(EQF: Skills / Responsibility and Autonomy)*
- **LO6.** Design a **3-day seasonal menu** adapted to a specific cancer treatment–related side effect and a defined patient cultural background, balancing nutritional adequacy, taste, and patient comfort. *(EQF: Skills / Responsibility and Autonomy)*
- **LO7.** Demonstrate empathy and cultural sensitivity through ingredient choice, recipe adaptation, presentation, and communication when cooking for people affected by cancer. *(EQF: Responsibility and Autonomy)*

- **LO8.** Collaborate effectively in a professional kitchen and project-based learning environment, taking responsibility for assigned tasks, integrating feedback, and reflecting critically on personal and professional development. *(EQF: Responsibility and Autonomy)*

2.5. NourishWell learning outcomes mapped to EQF elements

	Learning Outcome	Knowledge (knows and understands…)	Skills (is able to…)	Responsibility and Autonomy (acts independently and with responsibility…)
1	Explain the relationship between diet, inflammation, and cancer prevention and care (Mediterranean diet as reference model).	Principles of human nutrition, inflammation, and basic cancer biology.	Explain how dietary patterns influence cancer risk, treatment tolerance, and recovery.	Share evidence-based insights clearly and responsibly in group discussions and presentations.
2	Critically assess myths and scientific evidence related to food and nutrition during cancer treatment.	Common nutrition myths and evidence-based recommendations in oncology nutrition.	Identify misinformation and respond using scientific evidence and trusted sources.	Communicate responsibly, avoiding harmful or misleading claims about food and cancer.
3	Apply general dietetic recommendations for balanced eating during cancer treatment.	General dietetic guidelines for balanced diets in oncology contexts.	Describe and translate recommendations into practical food choices and daily habits.	Support informed, realistic dietary decisions adapted to patients' daily lives.
4	Adapt food and recipes to common cancer treatment–related side effects.	Common treatment-related side effects and available nutritional and culinary strategies.	Select and apply appropriate tools (texture, flavour, temperature, timing) during cooking labs.	Take responsibility for adapting dishes to patient comfort, safety, and quality of life.
5	Apply safe food-handling and hygiene principles when cooking for immunocompromised patients.	Food safety standards, contamination risks, and temperature control principles.	Demonstrate correct storage, preparation, and hygiene procedures in the kitchen.	Maintain high hygiene standards independently to ensure patient safety.
6	Design a 3-day seasonal menu tailored to a specific treatment-related side effect.	Menu planning principles, portion control, dietary balance, and seasonal food systems.	Create menus that balance nutritional adequacy, taste, and patient comfort, following the Healthy Plate model.	Take responsibility for the quality, coherence, and accuracy of menu design.
7	Demonstrate empathy and cultural sensitivity	Psychological, emotional, and	Incorporate comfort foods, cultural	Act with empathy and respect when

	Learning Outcome	Knowledge (knows and understands…)	Skills (is able to…)	Responsibility and Autonomy (acts independently and with responsibility…)
	through food choices, presentation, and communication.	cultural dimensions of eating during illness.	references, and appealing presentation to support appetite.	designing and presenting food for people in vulnerable situations.
8	Collaborate effectively in a culinary team and reflect on professional practice.	Principles of teamwork, communication, and reflective practice in vocational learning.	Plan tasks, solve problems collaboratively, and integrate feedback into menu and recipe development.	Take ownership of learning progress, contribute responsibly to group work, and reflect critically on professional growth.

2.6. Course activities

2.6.1. WEEK 1 — FUNDAMENTALS (CLASSROOM SESSIONS)

(Theory 1 and 2 — Modules 1 and 2)

Purpose: Build a shared scientific, nutritional, and ethical foundation so students can make informed, empathetic culinary decisions during labs and project work.

DAY 1 (Module 1): PREVENTIVE DIETS and NUTRITION FOUNDATIONS

Learning focus

To understand how and why food patterns influence cancer risk, inflammation, and long-term health, and to provide vocational students studying nutrition, food technology, gastronomy, and related fields with a clear nutritional framework that they will later apply creatively in cooking labs and menu design.

Module 1 - Core Topics

1. What Is Cancer? (Chef-Level Understanding)

- Simple explanation of cancer as uncontrolled cell growth and how lifestyle factors, including diet, influence long-term risk.
- Key non-medical concepts only: tumours, spread (metastasis), prevention vs treatment.
- Emphasis on diet as a modifiable risk factor, not as a cure.

Educational note: This avoids medical overload while giving vocational students studying nutrition, food technology, gastronomy, and related fields enough context to cook responsibly and communicate accurately.

2. Nutrition 101 Refresher (Applied, Not Biochemical)

A concise refresher focused on function in the kitchen, not metabolism:

- Proteins: tissue repair, immune support, muscle maintenance
- Carbohydrates: primary energy source; refined vs whole
- Fats: energy, satiety, nutrient absorption, flavour carrier
- Fibre: gut health, inflammation reduction, cancer prevention
- Calories and Hydration: energy balance and physiological resilience

Framed around: "*What role does this nutrient play in the body, what is the proper balance in a healthy diet, and how can it be used in cooking* "

3. Healthy Eating for Cancer Prevention (Population Level)

Focus on dietary patterns, not superfoods:

- Anti-inflammatory and antioxidant-rich foods
    - Role of colourful fruits, vegetables, herbs, spices
- Conceptual understanding of oxidative stress and inflammation (How dietary patterns influence inflammation and immune response)
- Contrast between: Ultra-processed, high-sugar diets vs Wholefood, protein-adequate, plant-rich diets (Better tolerance to therapy and Maintenance of strength and quality of life)
    - Mediterranean and whole-food dietary patterns
    - High plant diversity, legumes, whole grains, nuts, olive oil
    - Moderate animal products, low ultra-processed foods
- Seasonality and hydration
    - Seasonal produce as nutrient-dense, accessible, and culturally grounded
    - Hydration strategies beyond plain water (herbal infusions, soups)

Module 1 - Activities:

- **Ingredient Swap Challenge –"Make it Nutritional-Forward":** In groups, students take a popular dish and suggest healthier ingredient swaps (e.g. use whole-grain pasta instead of white, add extra veggies to make it more nutritious.
- **Case Study – Video or Poster:** students will create a short video or poster showing how a typical weekly diet can be adapted to a Mediterranean diet focused on cancer prevention. The output should highlight simple, practical changes in food choices and meal planning that support long-term health and disease prevention.
- **Quick Quiz:** A short quiz or game to reinforce key points (e.g. identifying which foods are high in antioxidants, or matching nutrients to their health benefits).
- **Video and Guided Discussion – "Healthy Eating Habits for Cancer Prevention"** Focus on dietary basics, long-term healthy eating habits, and the principles of the Mediterranean diet in cancer prevention.
- **Group Investigation – "Debunking Nutrition Myths in Cancer Care"** Learn to distinguish evidence-based nutrition guidance from common myths and unsubstantiated beliefs during cancer treatment (Prepare a set of **cards**, each with a common myth from the Oncoalicia *Myths and Beliefs* section.

DAY 2 (Module 2): CANCER, NUTRITION and THE ROLE OF FOOD DURING TREATMENT

Learning focus

To understand how cancer treatments affect eating and nutrition, and to give students a decision-making framework they will later apply in cooking labs when addressing specific side effects and techniques.

Module 2 - Core Topics

1. Cancer Treatments and Their Nutritional Impact

Overview of:

- Surgery
- Chemotherapy
- Radiation

Focus on how treatments may affect eating:

- Appetite, taste, digestion, swallowing, fatigue
- Risk of weight loss and malnutrition

Important boundary: Detailed management of the five key side effects and their culinary techniques is intentionally reserved for the cooking labs.

2. Eating Well During Treatment

High-level nutritional principles:

- Importance of protein adequacy
- Energy-dense but gentle foods
- Fluids and small, frequent meals

Examples shown via Oncoalicia, without going into lab-level detail.

3. Food Safety for Vulnerable Patients

Essential professional responsibility:

- Why cancer patients may be immunocompromised
- Core kitchen hygiene rules:
    - Handwashing, surface sanitation
    - Avoiding high-risk foods (raw, undercooked, unpasteurized)

This frames food safety as ethical care, not just regulation.

4. Overview of the 5 Key Cancer Treatment Side Effects (Orientation Session)

To give students a shared conceptual map of the five most common treatment-related side effects that will structure the next three weeks of labs and the final assignment.

Side Effects Introduced (high-level):

1. Tiredness / Extreme Fatigue and Loss of Appetite
2. Alteration of Taste
3. Diarrhoea
4. Mouth or Throat Sores and Dry Mouth
5. Nausea and Vomiting

For each side effect, cover only:

- What it is and why it occurs
- How it affects eating and daily life
- Typical emotional and social challenges

This session provides a shared language and prepares students to begin research before Week 2. This marks the transition from foundational theory to applied, patient-centred culinary practices.

Module 2 - Activities (Preparation for Labs)

- **Video and Guided Discussion – "5 Key Cancer Treatment Side Effects"** Focus on understanding mechanisms and limits of nutrition in cancer care.
- **Video and Guided Discussion – "Cooking Techniques Adapted to Cancer Treatment Side Effects"** Focus on practical culinary techniques to adapt textures, flavours, and preparations to common treatment-related side effects.
- **Group Brainstorm – "Comfort Food vs Care Food"** Students explore emotional food connections and discuss how comfort and care can coexist—without cooking yet.
- **Nutrient–Strategy Matching Worksheet** Introduces the logic of adapting food to side effects, preparing students for hands-on application in labs.
- **Activity: Introduction to the Final Assignment and Group Focus.** This activity introduces students to the Side Effect–Focused Culinary Care Project that will guide all cooking labs and the final assessment and menu design that responds to real nutritional and emotional needs, with a clear understanding by the end of Day 2 of how theory connects directly to the final assignment. (see box **Final Assignment — Side Effect–Focused Culinary Care Project).**

Groups are informed that:

- They must begin researching their side effects before Week 2
- They will teach their peers during cooking labs
- Their final assignment will be built progressively through hands-on cooking, tasting, and reflection

Final Assignment — Side Effect–Focused Culinary Care Project

Assignment Overview

For the remainder of the course (Modules 3–7, plus Module 8), students will work in five fixed groups, each focused on one major cancer treatment–related side effect. These groups will remain consistent throughout the cooking labs and will form the basis of the final assessed project.

The aim of this assignment is for students to deeply understand one specific side effect, learn how it affects eating and quality of life, and translate that understanding into empathetic communication and appropriate culinary solutions.

Group Allocation: Side Effects

Each group will be assigned one of the following side effects:

1. Food and tiredness or extreme fatigue during cancer treatment
2. Food and loss of appetite during cancer treatment
3. Food and alteration of taste during cancer treatment
4. Food and diarrhea during cancer treatment
5. Food and nausea and vomiting during cancer treatment

What Each Group Must Study (Weeks 1–2)

Between Week 1 (Module 2) and Week 2 (Module 3), each group is responsible for researching and organizing foundational knowledge about their assigned side effect, including:

1. Clinical and Lived Experience Understanding

- What the side effect is and why it commonly occurs during cancer treatment
- Typical physical symptoms and intensity variations
- How the side effect affects eating behavior (volume, timing, texture, pleasure)
- Common emotional responses (frustration, anxiety, discouragement, fear)

2. Patient Perspective and Empathy

- Typical patient quotes or testimonies related to the side effect
- Daily challenges faced during meals
- Social and psychological impacts of eating difficulties

This work will support the development of empathy, not just technical knowledge.

Cultural background Creation (End of Week 1 – Beginning of Week 2)

Each group must create one patient cultural background linked to their assigned side effect. The cultural background will guide all culinary and menu decisions throughout the course.

The cultural background should include:

- Age and life stage
- Cultural and food background
- Living situation (alone, family, caregiver support)
- Type of cancer treatment (generic, non-medical detail)
- Daily routine and eating context (work, fatigue, appetite patterns)

Role During Cooking Labs (Modules 3–7)

During each cooking lab:

Teaching Role

- One group (rotating each week) will open the session by explaining:
    - Their side effect in clear, non-medical language
    - How it affects eating and food enjoyment
    - Key nutritional and culinary considerations

Students should present as if they were doctors or dietitians, and the rest of the class as chefs cooking for a patient.

This develops:

- Communication skills
- Accuracy and clarity
- Respectful, patient-centered language

Collective Cooking Task (All Students)

In each lab session, the entire class will prepare recipes adapted to the side effect of the week, including:

- **1 breakfast**
- **1 main meal with dessert** (either a complete dish or first + second course)

Each lab represents almost 3 full day of a menu adapted to that specific side effect.

Tasting, Feedback and Iteration

At the end of each cooking lab:

- Students taste all preparations
- The class collectively discusses:
    - Sensory suitability
    - Ease of eating
    - Appetite stimulation
    - Possible improvements

Each group documents feedback and refinements related to their assigned side effect.

Final Deliverable (Module 8)

By the end of Modules 3–7, each group will have compiled sufficient material to complete their final assignment:

Final Assignment Output

- Three complete days of menus adapted to their assigned side effect
- Menus must reflect:
    - Nutritional adequacy
    - Culinary appropriateness
    - Sensory adaptation
    - Empathy and patient-centered thinking

- Alignment with the group's cultural background

In **Module 8**, each group will:

- Present their project
- Explain their decision-making process
- Reflect on challenges, trade-offs, and learnings

Learning Commitment

By the end of Week 1, students are expected to clearly understand:

- Which side effect they are responsible for
- That they must begin research before Week 2
- That their role is to teach, communicate, and care through food, not only to cook

2.7. Competencies activities

Week 1

Knowledge

- Clear, non-medical understanding of cancer and treatment impacts
- Role of nutrition in prevention, inflammation, immunity, and recovery
- Core principles of cancer-preventive dietary patterns
- Awareness of food safety for immunocompromised individuals
- Myths and scientific evidence about food and nutrition during cancer treatment

Research Skills

- Finding reliable nutrition information from trusted sources (OncoAlícia, WCRF, AICR).
- Identifying nutrients in common ingredients (e.g. which foods are high in fibre or protein).
- Comparing "everyday food choices" with more therapeutic or preventive options.
- Evaluating nutrition claims critically. Questioning food myths and trends using evidence, not social media claims.

Life and Professional Skills

- Translating nutrition science into culinary decision-making
- Team discussion and collaborative reasoning
- Responsible thinking around hygiene and patient safety
- Explaining nutrition-related challenges in clear, non-medical language to different audiences (patients, chefs, peers).

Mindset and Attitudes

- Curiosity about the connection between food and health.
- Respect for food as more than taste: food as care, prevention, and support.
- Openness to learning science at a level useful for vocational students studying nutrition, food technology, gastronomy, and related fields.
- Empathy and wellbeing-driven culinary responsibility
- Seeing oneself as an active contributor to patient wellbeing, with responsibility to communicate, not just execute recipes.

Reading Materials / Resources:

Core (must-read / must-view)

- **OncoAlicia – "Nutrition and side effects during cancer treatment"**: quick map of common side effects and food strategies. Oncoalicia

- **OncoAlicia – "Myths and scientific evidence about food and nutrition during cancer treatment**
- **Harvard T.H. Chan (Nutrition Source) – "Preventing Cancer"**: clear prevention rules (whole grains, veg, beans; limit alcohol, processed foods). The Nutrition Source
- **Harvard T.H. Chan – "Healthy Eating Plate"**: super visual, perfect for vocational students studying nutrition, food technology, gastronomy, and related fields and menu design. The Nutrition Source

Optional (easy extras)

- **WCRF – Cancer Prevention Recommendations** (simple list, good for posters). World Cancer Research Fund
- **USDA MyPlate – "What is MyPlate?"** (simple plate method language for students). myplate.gov

WEEKS 2–4 — PROJECT PHASE

Hands-On Culinary Application (Modules 3–7 + Module 8)

During Weeks 2 to 4, students move from theoretical understanding to hands-on application, working through a structured series of cooking labs and a collaborative final project. Learning is organized around five major cancer treatment–related side effects, with the goal of developing culinary competence, empathy, and communication skills through real-world practice.

Students work in fixed groups, each responsible for one specific side effect, while collectively cooking and experiencing food adapted to all five side effects. This structure ensures both depth (specialization) and breadth (shared understanding).

Project Logic (Reminder for Students)

- The class is divided into 5 fixed groups, each focused on one cancer treatment–related side effect.
- Across 5 cooking labs (Modules 3–7):
    - Each group will lead one lab as "doctor/dietitian"
    - All students will cook for all 5 side effects
    - Recipes and feedback from each lab will be compiled by each group to build their final 3-day menu.
    - For each class, the school will provide a selection of ingredients for students to use in their recipes. These ingredients will represent a typical household fridge or pantry and will include two types of animal protein, one type of vegetable protein, two types of carbohydrates, three types of vegetables, plus fruit, and dairy products.
- Module 8 is dedicated to final presentation, discussion, and reflection.

WEEK 2 — Translation of Knowledge into Practice

(Cooking Labs 1 and 2 — Modules 3 and 4)

Learning Focus

Week 2 marks the transition from classroom learning to applied culinary reasoning. Students begin to translate nutritional principles, patient needs, and empathy into concrete cooking decisions.

Knowledge

- Understanding one cancer treatment–related side effect in depth:
    - Causes, symptoms, and variability
    - Impact on appetite, taste, digestion, and pleasure
- Relationship between symptoms and food characteristics:
    - Texture, temperature, aroma, volume, and timing
- Foundations of menu adaptation for vulnerable eaters

Research Skills

- Applying evidence-based sources (OncoAlícia, WCRF, etc.) to culinary decisions
- Interpreting patient needs and translating them into cooking strategies
- Connecting theory (nutrition, inflammation, immunity) to kitchen practice

Culinary and Professional Skills
- Adapting basic recipes to specific eating challenges
- Working safely and hygienically in a professional kitchen
- Beginning iterative recipe development based on tasting and feedback
- Communicating clearly about food choices during group explanations

Mindset and Attitudes
- Shifting from "What do I want to cook?" to "What does this person need to eat?"
- Accepting constraints as a driver of creativity
- Developing respect for the complexity of eating during illness

WEEK 3 — Iteration, Technique and Communication

(Cooking Labs 3 and 4 — Modules 5 and 6)

Learning Focus
Week 3 deepens technical competence and reinforces the role of communication and reflection in therapeutic cooking. Students refine techniques, test limits, and learn from repeated practice.

Knowledge
- Culinary techniques adapted to health-related needs:
    - Texture modification (soft, moist, smooth foods)
    - Flavour enhancement for reduced taste perception
    - Nutrient-preserving cooking methods
- Understanding how small culinary adjustments affect:
    - Appetite
    - Ease of eating
    - Sensory comfort

Research Skills
- Evaluating recipe performance through structured tasting
- Observing cause-and-effect relationships in cooking adaptations
- Documenting improvements and decision rationales
- Comparing strategies across different side effects

Culinary and Professional Skills
- Leading a lab session as "doctor/dietitian"
- Teaching peers using clear, non-medical language
- Giving and receiving constructive feedback
- Managing teamwork under time and technical constraints

Mindset and Attitudes

- Building confidence in problem-solving through cooking
- Practicing patience and adaptability when dishes do not work as expected
- Recognizing communication as part of professional responsibility
- Strengthening empathy through repeated exposure to patient perspectives

Module 6 - Extension Activity – Summer Farmers' Market Challenge (Optional / Bonus)

Teams select 2–3 seasonal, locally available ingredients and adapt one dish from their developing side-effect menu. They must justify:

- how the change supports the assigned side effect (texture, flavour, tolerance)
- how it improves sustainability (seasonality, locality, waste reduction)
- how it considers local nutrition access (availability, affordability, inclusivity)

Deliverable: short justification + updated recipe notes.

WEEK 4 — Integration, Synthesis and Professional Identity

(Cooking Lab 5 — Module 7 | Final Presentation — Module 8)

Learning Focus

Week 4 consolidates all learning into a coherent culinary care project. Students integrate knowledge, skills, and attitudes as they articulate their professional reasoning.

Knowledge

- Comparative understanding o cancer treatment–related side effects
- Ability to design complete menus adapted to specific needs
- Awareness of the chef's role in health, wellbeing, and quality of life

Research Skills

- Synthesizing information into clear, justified menu decisions
- Responding to questions with evidence-based reasoning
- Reflecting critically on trade-offs and limitations

Culinary and Professional Skills

- Presenting menus in a professional, patient-centered manner
- Explaining culinary choices to non-chef audiences
- Demonstrating ownership of decision-making processes
- Reflecting on personal growth and learning

Mindset and Attitudes

- Seeing empathy as a core culinary competence
- Developing professional confidence: *"I know why I cook this way"*
- Understanding food as care, dignity, and support
- Motivation to apply these values beyond the course

Overall Progression (Weeks 1–4)

By the end of Week 4, students will have:

- Understood the nutritional and emotional impact of cancer treatment side effects
- Cooked for all five side effects using adapted techniques
- Taught peers through role-based communication
- Designed and presented a patient-centered, evidence-informed menu
- Developed a professional mindset that integrates nutrition, cooking, and empathy

2.8. Assessment criteria and evaluation framework

Assessment within the NourishWell programme follows a competence-based and formative approach, in line with Erasmus+ educational values. Evaluation focuses on students' ability to apply knowledge in practical and realistic contexts, collaborate effectively, and reflect on their learning process, rather than on theoretical knowledge alone. Students are not assessed on giving medical advice, but on making appropriate food-related decisions within the educational scope of the programme.

Assessment is continuous and progressive. It is based on evidence gathered during cooking labs, teamwork, recipe and menu development, group explanations, final presentations, and reflection activities. The framework is designed to support learning, guide improvement, and ensure that assessment remains practical, transparent, and manageable for teachers.

Assessment structure

The final assessment is structured around four equally weighted competence areas (25% each), reflecting the interdisciplinary nature of the programme and integrating nutrition understanding, culinary practice, communication, and social responsibility.

1. Nutrition understanding and appropriateness
   (25% – Knowledge Application Competence)

Students' ability to understand and apply nutrition principles related to cancer treatment-related side effects in a context-sensitive and evidence-informed way.
Assessment Criteria
• Correctly identifies key eating-related challenges linked to the assigned side effect
• Selects food choices and preparation approaches appropriate to functional, sensory, and nutritional needs
• Uses reliable, programme-recommended sources (e.g. OncoAlícia, WCRF) to justify decisions
• Recognises and avoids nutrition myths, unsupported claims, or inappropriate recommendations;

2. Menu Planning and Culinary Creativity
   (25% – Creative and Problem-Solving Competence)

Students' ability to design balanced, realistic, and culturally sensitive menus that respond to specific needs while remaining appealing and feasible.
Assessment Criteria
• Develops a menu that is coherent across meals and appropriate for the defined patient profile
• Includes ingredients that are seasonal, locally adaptable, and realistic for everyday use
• Adapts meals creatively within health-related constraints without losing attractiveness or practicality
• Shows clear alignment between menu choices and the patient's cultural background;

3. Cooking Skills, Technique and Food Safety
   (25% – Practical and Professional Competence)

Students' practical culinary competence and professional conduct in a kitchen environment, with special attention to the needs of vulnerable consumers.
Assessment Criteria
• Applies suitable cooking techniques to support texture, flavour, digestibility, and ease of eating
• Demonstrates appropriate portioning and presentation for the assigned patient context
• Consistently follows hygiene, food safety, and safe kitchen work procedures
• Contributes reliably to teamwork and task organisation in the kitchen;

4. Reflection, Empathy and Communication
   (25% – Social and Civic Competence)

Students' capacity to explain their decisions clearly, communicate respectfully, and reflect on the role of food in patient care and well-being.

Assessment criteria

• Explains culinary and nutrition-related decisions in a clear and accessible way
• Uses respectful, patient-centred, non-medical language
• Reflects meaningfully on what was learned, what was challenging, and what could be improved
• Demonstrates awareness of food as a form of care, dignity, comfort, and social support

Assessment methods

Assessment evidence is collected through:
• Observation of student work during cooking labs
• Group discussions and short explanations of decisions made
• Ongoing peer and instructor feedback
• Recipe documentation and menu development
• Final group presentation in Module 8
• Short individual and/or group reflection tasks

To support implementation, teachers may use the following evidence sources for each competence area:
Nutrition understanding and appropriateness
Evidence may include menu rationale, recipe documentation, group explanations, and references to reliable sources.

Menu Planning and Culinary Creativity
Evidence may include completed menus, ingredient choices, adaptation to the patient profile, and the feasibility and coherence of the proposed meals.

Cooking Skills, Technique and Food Safety
Evidence may include direct observation during cooking labs, hygiene and safety practices, teamwork in the kitchen, and the quality and suitability of the prepared dishes.

Reflection, Empathy and Communication
Evidence may include oral explanations, final presentations, short written reflections, and the student's ability to communicate respectfully and meaningfully about patient needs and food-related care.

Assessment levels / scoring rubric

For each assessment criterion, teachers may use the following four-level rubric to ensure transparent and consistent evaluation:
4 – Strong
Performance is clear, consistent, well-justified, and appropriate to the task. The student demonstrates confidence, good judgment, and the ability to apply learning independently in practice.
3 – Competent
Performance meets the expected standard. The student applies knowledge and skills appropriately, with only minor weaknesses or omissions.
2 – Developing
Performance shows partial understanding and some appropriate application, but important elements are missing, unclear, inconsistent, or insufficiently justified.
1 – Emerging
Performance is limited or incomplete. The student shows major difficulties in applying knowledge and skills appropriately and requires substantial support.
Teachers may score each criterion on a 1–4 scale using the rubric above. The final result may be calculated by averaging the scores within each competence area and then applying the 25% weighting of each area.

Recommended assessment timing
Assessment is carried out throughout the programme and not only at the final stage.
Formative assessment should take place during cooking labs, group work, menu development, and feedback discussions. Its purpose is to guide improvement during the learning process.
Summative assessment should be based on the final documented menu and recipe work, observed practical performance, final group presentation, and reflection tasks.

To ensure fairness and ease of implementation, assessment should be based on observable student performance and documented outputs rather than on general impressions. Teachers should assess what students demonstrate through their menu plans, recipe choices, kitchen work, explanations, presentations, and reflections.
Participation should be understood as active and constructive engagement in the learning process. This includes contributing to group work, taking responsibility for assigned tasks, responding to feedback, engaging in discussion, and showing effort

during practical activities. Participation should not be judged solely on personality traits such as confidence or talkativeness.

Assessment should focus on the student's ability to make appropriate food-related decisions within the educational scope of the programme. Students are not assessed on medical diagnosis or on giving clinical advice.

Optional reflection questions for students
Teachers may use a short reflection task to support assessment of empathy, communication, and learning transfer. Students may be asked to respond briefly to the following questions:
• What did our group do well in responding to the needs of this patient profile?
• What was the most difficult part of adapting food choices or preparation?
• What did I learn about the role of food in care, comfort, and dignity?
• What would I improve if I were doing this task again?
Implementation Guidance
The framework is designed to remain practical and manageable for teachers. It is recommended that each competence area be assessed through 3–4 observable indicators, using short notes or a simple rubric sheet during practical sessions and presentations. This allows assessment to remain structured, transparent, and realistic within the programme's time constraints.

The assessment framework values:
• Learning through experience and reflection
• Collaboration and intercultural learning
• Practical problem-solving in realistic contexts
• Personal and professional growth

Students are encouraged to participate actively, learn from mistakes, respond to feedback, and transfer acquired competencies beyond the course context.
This version is already very usable as a project document. A next very practical step would be to turn it into a one-page teacher rubric table with columns for the criterion, a score of 1–4, and comments.

2.9. Recommended resources

Evidence-Based Oncology Nutrition & Culinary Resources

- **Oncoalícia —** Practical guidance on nutrition during and after cancer, including recipes, food adaptations, and condition-specific dietary strategies (www.oncoalicia.com/en/).
- **American Institute for Cancer Research (AICR)** — Evidence-based research and recommendations on diet, lifestyle, and cancer prevention (www.aicr.org).

- **World Cancer Research Fund (WCRF)** — Global guidelines and scientific reports on diet, nutrition, physical activity, and cancer prevention (www.wcrf.org).
- **Academy of Nutrition and Dietetics** – Oncology Nutrition Practice Group — Professional resources and best practices for oncology nutrition developed by registered dietitians.
- **American Cancer Society** — Trusted information on cancer prevention, treatment, nutrition, and healthy lifestyle recommendations (www.cancer.org).
- **National Cancer Institute** — Research-based information on cancer, including nutrition, prevention, and treatment guidelines (www.cancer.gov).
- **Irish Cancer Society** — Public guidance on cancer prevention, nutrition, and living well during and after cancer (www.cancer.ie).
- **Macmillan Cancer Support** — Practical advice, support, and dietary guidance for people affected by cancer (www.macmillan.org.uk).