

Food Service Professionals

A number of health issues prevalent in the United States today are associated with poor eating habits and nutrition. With 69% of adults identified as overweight or obese and the typical American diet exceeding the recommended intake levels for fat, sugar, refined grains, and sodium, the need for healthcare practitioners to actively engage patients on issues related to diet is greater than ever. Understanding the vital role that healthy eating and nutrition plays in good health is key to improving health.

Chefs and foodservice professionals are perfectly positioned to play a central role in changing the way Americans eat. However, many chefs and foodservice professionals feel their nutrition education and ability to communicate practical, effective guidance to consumers as well as their skill to produce food that is healthy and delicious is lacking. The Certified Culinary Medicine Professional (CCMP) program provides foodservice professionals at any level with a unique combination of nutritional knowledge and improved healthy culinary skills so that they can effectively incorporate healthy options into menus to help consumers.



Through certification, foodservice professionals will enhance their knowledge, confidence, and skills by learning how to:

- Evaluate and apply the most rigorous current research to menu and recipe development.
- Enhance the quality of meals prepared.
- Improve the diet quality, especially targeting diet-related chronic diseases.

Featuring a hybrid 45-credit curriculum comprised of online education, live conference learning, and hands-on teaching kitchen modules, the CCMP program is designed for those passionate about integrating science-based nutrition research into their culinary skillset and will equip candidates with the nutritional knowledge and culinary skills to optimize health.

Why Offer CCMP

Any well-trained chef can use their culinary expertise to develop delicious food, but a chef with Culinary Medicine knowledge and skills is empowered to develop food that is not just delicious but also healthful. A solid foundation in Culinary Medicine enhances a chef's ability to prepare food for the most diverse range of nutrition needs.

Research reports that despite verbalizing health concerns, consumer food choice is driven by taste. This ambivalence between belief and behavior demonstrates the need for innovative chefs with a depth of nutrition science knowledge and advanced culinary techniques to develop food dishes that consumers will not only accept but will enjoy and order repeatedly.[1]

Americans eat out an average of 4.2 times per week and spend almost 50% of their food dollars doing so.[2] A chef that can accommodate consumer demand for delicious food that just happens to be healthful is a more attractive job candidate for any number of food service industries, including healthcare settings, cruise lines, catering, private chef positions, test kitchens, athletic performance, spas, and resorts. There are also employment possibilities with grocery stores, airlines, and schools. Culinary students believe nutrition and sustainability are important. Opportunities exist to empower them with knowledge and skills for promoting public health and sustainable food systems in their future work as chefs.[3]

Culinary Medicine is the approach needed to make a difference in our nation's health. However, making nutrition principles easily accessible is useless without also making them applicable. The CCMP program does just that: translating the complex science of nutrition in to the art of the kitchen.

Taste is what consumers are seeking & Health is what they say they want



Course and Module Descriptions

1

Module 1: Introduction to Culinary Medicine

Introduction to Culinary Medicine covers an outline of Mediterranean diet principles and examines state of the art research and effectiveness in terms of treating diet-related illnesses. An introduction to understanding scientific research. Programming covers the nine-point Mediterranean diet score and explores how to translate Med Diet principles for the American kitchen using familiar recipes.

2

Module 2: Macronutrients

The Macronutrients module explores each of the three macronutrients in depth, from food sources to structure and function to contribution to health. This module also begins the exploration of flavor.

3

Module 3: Select Micronutrients

The Micronutrients module focuses on individual vitamins and key minerals that are essential for good growth, maintenance, and repair of the body. Participants learn the food sources for vitamins and minerals and how best to preserve them while preparing recipes. There is a focus on sodium's role in flavor development and taste perception. Hands-on programming emphasizes flavor building and balancing techniques that do not rely on salt.

4

Module 4: The Gastrointestinal Tract: Digestion, Absorption and Metabolism

The gastrointestinal tract is key to human health and this module introduces participants to the GI tract anatomy, its organs, and their key functions. Participants follow a meal throughout the process of digestion, absorption, and metabolism to see how the nutrients are provided to the body.

5

Module 5: Recipe Modification

This module looks at the science of cooking and ingredient functions. Participants will gain an understanding of how to determine appropriate ingredient substitutions based on functions and modification goals without a loss in product quality, texture, or taste.

6

Module 6: Calorie and Nutrient Density: Plant Forward Cuisine

This module describes how including more plants in a dish can directly impact both customer satisfaction and the bottom line. Programming covers calorie density and its impact on portion size; nutrient density and its impact on health, satiety, and portion size; and explores the impact of plant-forward cuisine on ecology/ global warming. In the kitchen, participants prepare multiple versions of familiar recipes to demonstrate the effectiveness of this approach.



7

Module 7: Anti-Inflammatory Diet

In this module attendees will learn about the relationship between foods, advanced glycation end products, free radicals, and inflammation. There is a focus on evidence of the role of inflammation in heart disease, stroke, COPD, cancer, Alzheimer's disease, diabetes, and kidney failure, as well as the inflammatory pathways and where food fits in it. Programming covers the role of different cooking techniques on the development of the advanced glycation end products and free radicals and describe alternate cooking methods.

8

Module 8: Food Allergy and Intolerance

This overview focuses on techniques for cooking for food allergies or intolerances. This class explores the roles of local and organic foods, common plant phytochemicals, genetically modified foods, and common preservatives in immune and metabolic health, environmental impressions, and economic impact. Programming covers hidden and little-known sources of allergens, and in the kitchen, recipes cover lactose-free and gluten-free recipes and the importance of cross contamination of specific allergens.

Condition and Disease States Modules

9

Module 9: Celiac Disease

This module is a detailed overview of Celiac Disease, including the process of diagnosis and treatment. The course includes a review of the evidence on non-Celiac gluten sensitivity. Key points behind the pathophysiology of Celiac Disease as well as the health risks associated with Celiac Disease is covered. Attendees learn about the social impact of gluten sensitivity and cook gluten-free recipes in the kitchen.

10

Module 10: Renal

Students receive an overview of the mechanisms of hypertension in the body and its health effects. While discussing the most common sources of sodium in the American diet, students explore the connection between sodium intake and hypertension. Content covers how potassium intake relates to cardiovascular and chronic kidney disease and learn about major dietary sources of potassium. Hands-on programming explores the five primary tastes and learn effective flavor-building techniques and ingredients to reduce sodium intake, including the use of umami to enhance flavor in place of salt.

11

Module 11: Diabetes Mellitus

The Diabetes module covers different categorizations of diabetes in terms of symptoms, how one is diagnosed, and possible long-term effects on the body. Next is an overview of carbohydrates, including distinguishing sources of complex carbohydrates and simple carbohydrates as well as whole and refined grains. Students will identify approaches to aid in controlling sugar intake, with a focus on portion size and frequency of intake. Programming covers the science-based research pertaining to artificial and natural sweeteners, reviews the scientific literature related to high fructose corn syrup, and examines the consequences of consuming sugary beverages. In-kitchen activities identify healthy substitutes for common snacks and learn to read food labels to evaluate a food's healthfulness.

12

Module 12: Heart Disease

The Heart Disease module begins by discussing cholesterol: its types, functions in the body, and sources. The programming turns to understanding the impact of saturated vs. unsaturated fats and omega-3 vs. omega-6 fatty acids on hyperlipidemia. Learners will understand the health impacts of animal sources of fats vs. plant sources of fats and explore the fat sources of highly processed foods. Sources of land animal proteins are discussed to identify which sources may be healthier, both for the consumer as well as the planet.

13

Module 13: Cancer Nutrition: Prevention and Diet After Diagnosis

This module focuses on the effect that diet can have, both preventatively and post-diagnosis, on cancer patients. This examines certain foods and antioxidants linked to cancer risk reduction, with a focus on phytochemicals and their common sources; also discussed is the role of obesity and alcohol consumption in certain types of cancer. Programming outlines dietary support and counseling strategies during cancer

treatment, including the special needs of chemotherapy patients, and prepare antioxidant-rich recipes in the kitchen.

14

Module 14: Obesity & Weight Management

Module 14 covers the health and financial effects of the epidemic of obesity and examines the association between caloric intake and expenditure. Participants learn to calculate individual caloric needs based on qualifiers such as maturity, sex, and activity level. Content includes appropriate portion sizes and covers how monitoring nutrient intake through portioning meals and controlling calorie intake can be an effective weight management strategy. Research on various diets and their impact on weight loss and maintenance is reviewed. In the kitchen, participants work to define energy-dense foods vs. nutrient-dense foods and recognize the significance of energy density in weight management.

Foods Across the Lifecycle

15

Module 15: Nutrition and Aging

The module introduces the participants to the physiological changes, nutritional needs, risks for malnutrition, and adaptive approaches to food preparation and consumption in the older adult population. Basic screening tools for malnutrition, how to develop dietary interventions, and educate older adults and their family members about how to eat healthfully in their later years. In the kitchen meals focus on varying levels of texture modification, with careful attention on palatability and eye appeal.

16

Module 16: Pregnancy Nutrition

The pregnancy module explores changes in nutrition requirements during pregnancy, including BMI-based weight gain recommendations as well as changes in metabolism, caloric, and exercise needs. This includes recent research into maternal nutritional outcomes as well as which foods should be avoided in pregnancy, their sources, which micronutrients are important and their common sources, and the importance of portion sizes. Hands-on programming focuses on preparing foods high in these important nutrients while being mindful of nutrient density and portion sizes.

17

Module 17: Pediatric Nutrition: A Family Approach to Healthy Children

The pediatric modules covers a family centered approach to pediatric nutrition and examines childhood obesity statistics and consequences. This examines common pediatric diets, their shortcomings, and provides guidelines for healthy alternatives, with a brief look at infant feeding. In the kitchen recipes reinforce the idea of “kid-friendly” meals and prepare different kid-friendly recipes.



Specialized Topics

18 ***Module 18: Sports Nutrition***
In this module the nutritional requirements of athletes, including hydration and increased protein needs based on lean body mass, are reviewed. This considers the different types of athletes and consider their unique nutritional requirements, while also touching on the macronutrient content of meals before, during, and after exercise. In the kitchen students make homemade sports drinks as well as pre-event and post-event meals for optimum support.

19 ***Module 19: Myths, Fad Diets, Supplements and Controversies***
This module explores nutrition-related fads, myths, and misconceptions and covers optimal conditions for weight loss and management, while exploring the literature on proven methods of supplementation and nutrition. In the kitchen students prepare nourishing recipes and discuss ingredient quality, while introducing sensory evaluation of food.

20 ***Module 20: Food safety & Sanitation***
This is a comprehensive module that covers identification of unsafe cooking situations and cooking safety, including details about the temperature danger zone, cross contamination, and safe cooking temperatures. Programing takes a thorough look at the most common causes of food borne illness and explore the steps that can be taken to prevent food borne illnesses when it comes to storage and reheating foods in a professional kitchen.

Topics Under Construction

21 ***Module 21: Food Security.***

22 ***Module 22: Technology in the Kitchen***

23 ***Module 23: Advanced Micronutrients***

24 ***Module 24: Eating Disorders***

25 ***Module 25: Nutrition for Cognitive Impairment***



Culinary Medicine in Foodservice Implementation

The Culinary Medicine program can be used in a variety of methods, including selectively incorporating modules into existing curriculum, a tiered certificate program, and full Culinary Medicine certification in collaboration with the Culinary Medicine Specialist Board.

1. Incorporation into Existing Curriculum

The 20-module course set can be grouped to fit into a semester course format. In this schema students would be qualified to sit for the certification exam. For each module, nutrition theory is delivered online and the application portion can be offered virtually or face-to-face.

Course Number	Course Title	Lecture Hours	Lab Hours
CULN XXXX Culinary Medicine Part I	**Module 1:** Introduction to Culinary Medicine **Module 2:** Macronutrients **Module 3:** Micronutrients **Module 4:** Gastrointestinal Tract: Digestion, Absorption, & Metabolism	4	16
CULN XXXX Culinary Medicine Part II	**Module 5:** Recipe Modification **Module 6:** Calorie and Nutrient Density: Plant Forward Cuisine **Module 7:** Anti-Inflammatory Diet **Module 8:** Celiac Disease	4	16
CULN XXXX Culinary Medicine Part III	**Module 9:** Renal **Module 10:** Diabetes **Module 11:** Heart Disease **Module 12:** Cancer Nutrition: Prevention and Diet After Diagnosis	4	16
CULN XXXX Culinary Medicine Part IV	**Module 13:** Nutrition & Aging; Texture modification **Module 14:** Pregnancy Nutrition **Module 15:** Pediatric Nutrition: A Family Approach to Healthy Children **Module 16:** Allergy and Intolerance	4	16
CULN XXXX Culinary Medicine Part V	**Module 17:** Obesity & Weight Management **Module 18:** Sports Nutrition **Module 19:** Myths, Fad Diets, Supplements and Controversies **Module 20:** Food Safety and Sanitation	4	16



2. Tiered Certificate Programs

There are two tiers of certificates available. The Tier 3 level is suitable for all culinary and baking and pastry students. This path includes the 6 core modules with at least 20 contact hours of programming each with an evaluation step.

Tier	Topics Offered	Designation & Badge
Three	1. Introduction to Culinary Medicine 2. Macronutrient Nutrition 3. Micronutrient Nutrition 4. Gastrointestinal Tract: Digestion, Absorption and Metabolism 5. Recipe Modification 6. Calorie and Nutrient Density: Plant Forward Cuisine 7. Anti-Inflammatory Diet 8. Allergy and Intolerance 9. Celiac Disease	HEALTH meets FOOD **Tier Three Certificate** Certificate in Culinary Medicine

The Tier 2 level is suitable for advanced culinary students. This path includes the 6 core modules with access to all 20 modules and a requirement of at least 30 contact hours of programming each with an evaluation step.

Tier	Topics Offered	Designation & Badge
Two	1. Introduction to Culinary Medicine 2. Macronutrient Nutrition 3. Micronutrient Nutrition 4. Gastrointestinal Tract: Digestion, Absorption and Metabolism 5. Recipe Modification 6. Calorie and Nutrient Density: Plant Forward Cuisine 7. Anti-Inflammatory Diet 8. Allergy and Intolerance 9. Celiac Disease 10. Renal Diet 11. Diabetes and Nutrition 12. Heart Disease and Diet 13. Cancer Nutrition: Prevention and Diet After Diagnosis 14. Obesity & Weight Management 15. Geriatric Diet & Texture Modification 16. Pregnancy Nutrition 17. Pediatric Nutrition: A Family Approach to Healthy Children 18. Sports Nutrition 19. Myths, Fad Diets, Supplements and Controversies 20. Food Safety and Sanitation	HEALTH meets FOOD **Tier Two Certificate** Certificate in Culinary Medicine



3. Certified Culinary Medicine Professional

The top tier for Culinary Medicine certificate programs is the Tier 1 Certified Culinary Medicine Professional (CCMP). The CCMP program requires at least 45 contact hours, a capstone project, and a proctored certification exam. There is an opportunity to offer the certification concurrent with associate or bachelor's degree programs or as continuing education series to foodservice professionals and alumni.

Tier	Topics Offered	Designation & Badge
One	1. Introduction to Culinary Medicine 2. Macronutrient Nutrition 3. Micronutrient Nutrition 4. Gastrointestinal Tract: Digestion, Absorption and Metabolism 5. Recipe Modification 6. Calorie and Nutrient Density: Plant Forward Cuisine 7. Anti-Inflammatory Diet 8. Allergy and Intolerance 9. Celiac Disease 10. Renal Diet 11. Diabetes and Nutrition 12. Heart Disease and Diet 13. Cancer Nutrition: Prevention and Diet After Diagnosis 14. Obesity & Weight Management 15. Geriatric Diet & Texture Modification 16. Pregnancy Nutrition 17. Pediatric Nutrition: A Family Approach to Healthy Children 18. Sports Nutrition 19. Myths, Fad Diets, Supplements and Controversies 20. Food Safety and Sanitation + Capstone Project (required) + Certification Exam (required)	Tier One Certified Culinary Medicine Professional (CCMP)

References

1. Palmer J, Leontos C. Nutrition training for chefs: taste as an essential determinant of choice. J Am Diet Assoc. 1995 Dec;95(12):1418-21. doi: 10.1016/S0002-8223(95)00372-X. PMID: 7594145.

2. America's Eating Habits: Food Away From Home, EIB-196 USDA, Economic Research Service

3. (Bertoldo J, Hsu R, Reid T, Righter A, Wolfson JA. Attitudes and beliefs about how chefs can promote nutrition and sustainable food systems among students at a US culinary school. Public Health Nutr. 2022 Feb;25(2):498-510. doi: 10.1017/S1368980021003578. Epub 2021 Aug 20. PMID: 34416925; PMCID: PMC8858328.0)