

# Professional Master's Degree

## Clinical Nutrition in Medicine





## Professional Master's Degree Clinical Nutrition in Medicine

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/pk/medicine/professional-master-degree/master-clinical-nutrition-medicine](http://www.techtute.com/pk/medicine/professional-master-degree/master-clinical-nutrition-medicine)

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01

# Introduction

Nutrition is involved in the progression of pathologies, in some cases as an etiological factor and in others as a complication, which is why there is a growing interest in the study of feeding and nutritional support in a large number of pathologies. This program is aimed at updating physicians so that they can incorporate advances in clinical nutrition in order to improve their patients' prognosis.



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*New scenarios in Clinical Nutrition in Medicine push to develop new specialization programs in medicine that fit professionals' real needs so that they can incorporate advances in dietary management and improve patient prognosis"*



The Specialization in Clinical Nutrition in Medicine is an essential response from professionals to the healthcare and preventive needs of the population in terms of nutrition and health. An example of this is the growing implementation of Nutrition and Dietetics Units or Services led by physicians.

The Professional Master's Degree offers the student the possibility of deepening and updating knowledge, using the latest educational technology. It provides a global vision of Clinical Nutrition while focusing on the most important and innovative aspects of adult nutrition, with an update on the nutritional therapy of the most prevalent pathologies; as well as pediatric nutrition including from the intrauterine phase to adolescence and the diseases in which nutrition plays a highly relevant role.

This program provides specialization in the field of Clinical Nutrition in areas of particular interest such as:

- ♦ Nutrigenetics and Nutrigenomics
- ♦ Nutrition and obesity
- ♦ Sports nutrition
- ♦ Nutrition in chronic diseases
- ♦ Hospital dietetics
- ♦ Food allergies

This program is methodologically designed for distance learning in order to guarantee optimal supervision.

With this specialization, you will have the opportunity to undertake a program that brings together the most advanced and in-depth knowledge in the field, where a group of highly regarded professors with extensive international experience provides you with the most complete and up-to-date information on the latest advances and techniques in Clinical Nutrition.

This **Professional Master's Degree in Clinical Nutrition in Medicine** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ More than 100 clinical cases presented by experts in nutrition
- ♦ The graphic, schematic and practical contents of the course are designed to provide all the essential information required for professional practice
- ♦ It contains exercises where the self-assessment process can be carried out to improve learning
- ♦ Algorithm-based interactive learning system for decision-making for patients with feeding problems
- ♦ Clinical practice guidelines on the different pathologies related to nutrition
- ♦ All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*Update your knowledge with the Professional Master's Degree in Clinical Nutrition in Medicine"*

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*This Professional Master's Degree is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Clinical Nutrition in Medicine, you will obtain a qualification from TECH Technological University"*

Its teaching staff includes renowned specialists in nutrition based on clinical practice, who bring the experience of their work to this training.

The multimedia content developed with the latest educational technology will provide the physician with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the course. For this purpose, the physician will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of nutrition with extensive teaching experience.

*Incorporate the latest developments in clinical nutrition into your daily practice and improve your patient care.*

*You will be able to complete the Professional Master's Degree 100% online, adapting it to your needs and making it easier for you to take it while you carry out your full-time healthcare activity.*



# 02 Objectives

This Professional Master's Degree is oriented toward effectively updating the physician's knowledge of Clinical Nutrition, in order to provide quality care based on the latest scientific evidence that guarantees patient safety.





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*This refresher program will generate a sense of confidence when practicing medicine, which will help you grow both personally and professionally”*



## General Objectives

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- Update the physician's knowledge on new trends in human nutrition in both health and pathological situations through evidence-based medicine
- Promote work strategies based on the practical knowledge of the new trends in nutrition and its application to child and adult pathologies, where nutrition plays a fundamental role in the treatment
- Encourage the acquisition of technical skills and abilities, through a powerful audiovisual system, and the possibility of development through online simulation workshops and/or specific training
- Encourage professional stimulation through continuous education and research

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*A unique specialization that will allow you to acquire advanced training to develop in this field"*





## Specific Objectives

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### Module 1. New Developments in Food

- ♦ Review the basics of a balanced diet in the different stages of the life cycle, as well as in exercise
- ♦ Assess and calculate nutritional requirements in health and disease at any stage of the life cycle
- ♦ Review the new dietary guidelines, nutritional objectives, and recommended dietary allowances (RDA)
- ♦ Manage food databases and composition tables
- ♦ Acquire skills in reading and understanding new food labeling methods
- ♦ Update the drug-nutrient interaction and its implication in the patient's treatment
- ♦ Incorporate the possibilities of phytotherapy as an adjuvant treatment in clinical practice

### Module 2. Current Trends in Nutrition

- ♦ Update knowledge in nutrigenetics and nutrigenomics
- ♦ Identify the relationship between nutrition and immune status
- ♦ In-depth study of the circadian system as a key factor in nutrition
- ♦ Identify and classify foods, food products, and food ingredients
- ♦ Review the chemical composition of foods, their physicochemical properties, their nutritional value, their bioavailability, their organoleptic characteristics, and the modifications they undergo as a result of technological and culinary processes
- ♦ Get up to date on the composition and utilities of new foods

### Module 3. Assessment of Nutritional Status and Diet. Practical Application

- ♦ Analyze the different methods for assessing nutritional status
- ♦ Interpret and integrate anthropometric, clinical, biochemical, hematological, immunological, and pharmacological data in the patient's nutritional assessment and dietary-nutritional treatment
- ♦ Predict patients' nutritional risk
- ♦ Manage the different types of nutritional surveys to assess food intake
- ♦ Early detection and assessment of quantitative and qualitative deviations from the nutritional balance due to excess or deficiency
- ♦ Review basic aspects of food microbiology, parasitology, and toxicology related to food safety

### Module 4. Nutritional Consultation

- ♦ Review the psychological bases and biopsychosocial factors that affect human eating behavior
- ♦ Acquire teamwork skills as a unit in which professionals and other personnel-related to the diagnostic evaluation and treatment of dietetics and nutrition are structured in a uni or multidisciplinary and interdisciplinary way
- ♦ Know the basics of marketing, market research, and clientele that a nutritional practice should manage
- ♦ Delve into the techniques of interviewing and dietary counseling for the patient

### **Module 5. Sports Nutrition**

- ♦ Assess and prescribe physical activity as a factor involved in nutritional status
- ♦ Study the latest developments in exercise physiology
- ♦ Emphasize the importance of good hydration in all sports disciplines
- ♦ Get to know the most recent AMA recommendations
- ♦ Treat common eating disorders in sports such as vigorexia, orthorexia, or anorexia

### **Module 6. Clinical Nutrition and Hospital Dietetics**

- ♦ Delve into the management of hospital nutrition units
- ♦ Distinguish the different basal and therapeutic diets used in hospital settings
- ♦ Study the interaction between drugs and nutrients

### **Module 7. Nutrition in Digestive System Pathologies**

- ♦ Know the different oral alterations, as well as esophago-gastric alterations
- ♦ Address nutrition in post-surgical syndromes
- ♦ Study common food allergies and intolerances with gastrointestinal impact

### **Module 8. Nutrition in Endocrine-Metabolic Diseases**

- ♦ Explore the etiology, nutrigenetics, and nutrigenomics of obesity
- ♦ In-depth study of advances in diabetes mellitus and hypertension
- ♦ Know the most effective endoscopic and surgical treatments for endocrine metabolic diseases
- ♦ Update knowledge on dieting and obesity

### **Module 9. Nutrition in Kidney Diseases**

- ♦ Explore glomerular conditions and tubulopathies
- ♦ In-depth study of chronic renal insufficiencies

### **Module 10. Nutrition in Neurological Diseases**

- ♦ Study swallowing disorders
- ♦ Know the most important developments in Parkinson's and Alzheimer's disease
- ♦ In-depth study of cerebrovascular accidents
- ♦ Delve into disabling neuromuscular conditions

### **Module 11. Nutrition in Special Situations**

- ♦ Explore nutrition in the context of metabolic stress
- ♦ Broaden knowledge regarding the treatment of oncology patients
- ♦ Know the role of nutrition in immune-mediated diseases

### **Module 12. Nutrition in Deficiency Diseases**

- ♦ Study hospital malnutrition and fasting cycles
- ♦ Define a framework for action against anemia and hemochromatosis
- ♦ Further understanding of the relationship between diet and oral diseases

### **Module 13. Artificial Nutrition in Adults**

- ♦ Distinguish enteral and parenteral nutrition with their main characteristics
- ♦ Know the advances in home artificial nutrition

**Module 14. Physiology of Infant Nutrition**

- ♦ Apply Food Science and Nutrition to the practice of pediatric dietetics
- ♦ Update the different educational methods of application in health sciences, as well as communication techniques applicable to food and human nutrition with a special focus on children and adolescents
- ♦ Reflect on the usefulness of the school cafeteria as an educational vehicle
- ♦ Review the relation between physiology and nutrition in the different stages of infant development
- ♦ Analyze the implications of nutrition in the growth process and in the prevention and treatment of different childhood pathologies
- ♦ Identify the repercussion that a pregnant and lactating mother's nutrition has on the intrauterine growth and evolution of new-borns and infants
- ♦ Describe the nutritional requirements in the different periods of childhood
- ♦ Apply the knowledge acquired on nutritional assessment in pediatrics

**Module 15. Artificial Nutrition in Pediatrics**

- ♦ Explore the general Information about enteral and parenteral nutrition in pediatrics
- ♦ Study nutritional supplements as fundamental support of the conventional diet
- ♦ Understand the role of probiotics and prebiotics in infant feeding

**Module 16. Infant Malnutrition**

- ♦ Develop plans to prevent child malnutrition
- ♦ Address vitamin and trace element deficiencies with modern treatment methods
- ♦ In-depth study of the prevention and nutritional treatment of childhood obesity
- ♦ Know the most relevant psychosocial aspects of malnutrition

**Module 17. Childhood Nutrition and Pathologies**

- ♦ Study the role of nutrition in the various pathologies of childhood
- ♦ In-depth study of feeding difficulties and disorders in children
- ♦ Address common disorders such as bulimia and anorexia
- ♦ Delve into the nutrition of autistic, diabetic, oncological or bone disease children



*Train yourself for success with the help of this program with which you will learn to develop in the field of Clinical Nutrition in Medicine"*



# 03 Skills

After passing the assessments in this program, the physician will have acquired the necessary professional skills for quality, up-to-date medical practice based on the most recent scientific evidence.





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*With this program, you will be able to master the management of adult and pediatric patient nutrition"*



## General Skills

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- ♦ Possess and understand the knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- ♦ Know how to apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the area of study
- ♦ Integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments
- ♦ Know how to communicate conclusions, knowledge, and supporting arguments to specialized and non-specialized audiences in a clear and unambiguous way
- ♦ Acquire the learning skills that will enable further studying in a largely self-directed or autonomous manner







## Transversal skills

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- ◆ Develop within the Profession in terms of working with other Health Professionals, acquiring skills to work as a team
- ◆ Recognize the need to maintain your professional skills and keep them up to date, with special emphasis on autonomous and continuous learning of new information
- ◆ Develop the capacity for critical analysis and research in your professional field



*Improve patient care by taking advantage of the specialization offered by the Professional Master's Degree in Clinical Nutrition in Medicine"*



## Specific Skills

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- ◆ Describe balanced nutrition in the different stages of the life cycle, as well as in exercise
- ◆ Contrast nutritional requirements in health and disease situations at any stage of the life cycle
- ◆ Determine nutritional objectives and recommended daily allowances (RDA)
- ◆ Develop skills in reading and understanding food labeling
- ◆ Design a dietary plan of phytotherapy as an adjuvant treatment
- ◆ Question the different methods of assessing nutritional status
- ◆ Interpret all data in the nutritional assessment of the patient
- ◆ Develop food hygiene practices based on current legislation
- ◆ Design dietary treatment for oral cavity pathologies in adults, with special attention to sensory disorders and mucositis
- ◆ Indicate treatment for managing patients with swallowing problems
- ◆ Learn dietary guidelines for adults with chronic kidney failure and on dialysis
- ◆ Determine the role of the intestinal microbiota and its implications in pathologies
- ◆ Apply the different techniques and products of basic and advanced nutritional support related to patient nutrition
- ◆ Explore those patients with nutritional risk or malnutrition
- ◆ Observe and identify obesity, and determine its dietary or surgical treatment





- ◆ Describe the DASH diet and prescribe it as a treatment in cardiovascular disease
- ◆ Distinguish dietary management of patients with debilitating neuromuscular pathology and cerebrovascular accidents
- ◆ Analyze the importance of nutrition in childhood growth processes
- ◆ Question nutritional requirements at different stages of childhood
- ◆ Determine how to calculate the dietary needs and risks of child and adolescent athletes
- ◆ Describe current trends in neonatal nutrition
- ◆ Describe how milk banks work
- ◆ Screen children who are at nutritional risk for targeted support
- ◆ Design an assessment and monitoring plan for children with nutritional support
- ◆ Analyze the differences between probiotic and prebiotic foods, and their application in the infant stage
- ◆ Develop correct nutritional support for malnourished children
- ◆ Describe the etiology, repercussions, and treatment of childhood obesity
- ◆ Address the psychological and physiological aspects involved in eating disorders in young children
- ◆ Determine how to manage diabetic children's diet correctly
- ◆ Analyze and determine the nutritional support of pediatric oncological patients in different phases of the disease

04

# Course Management

Our teaching team, experts in Clinical Nutrition, are well known in the profession and are professionals with years of teaching experience who have come together to help you boost your career. To this end, they have developed this Professional Master's Degree with the latest developments in the field, that will allow you to train and enhance your skills in this sector.





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*Learn the latest advances in clinical nutrition from leading professionals”*

## International Guest Director

Dr. Sumantra Ray is an internationally recognized specialist in **Nutrition** and his main areas of interest are **Nutrition Education in Health Systems** and **Cardiovascular Disease Prevention**. With his outstanding experience in this health field, he has served as a consultant on special assignment for the **Nutrition Management** of the **World Health Organization** Headquarters in Geneva. He has also worked as **Director of Research** in Food Security, Health and Society in the Faculty of Humanities and Social Sciences at the University of Cambridge.

For his constant commitment to the dissemination of **healthy eating habits**, he has received the **Josephine Lansdell Award** from the British Medical Association. Specifically, this recognition highlighted his contributions related to nutrition and **Cardiovascular Prevention**. Also, as an international expert, he has participated in a work program on **Food, Nutrition and Education** in India, led by the University of Cambridge and funded by the UK Global Challenges Research Fund.

Dr. Sumantra Ray's studies are worldwide references, focusing on **global food security**, as it is a fundamental aspect for the development of societies. In addition, he has demonstrated his leadership skills as a **Senior Clinical Scientist** at the **Medical Research Council**, focusing on **Nutrition and Vascular Health** studies. In this position, he directed an experimental medicine facility dedicated to Human **Nutrition** studies.

Throughout his career he has authored more than **200 scientific publications** and has written the **Oxford Handbook of Clinical and Health Research**, aimed at strengthening the basic research skills of health care workers around the world. In this sense, he has shared his scientific findings in numerous presentations and congresses, in which he has participated in different countries.



## Dr. Ray, Sumantra

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- ♦ Executive Director and Founder, NNEdPro Global Nutrition and Health Centre, Cambridge, UK
- ♦ Director of Research in Food Security, Health and Society in the Faculty of Humanities and Social Sciences, University of Cambridge
- ♦ Co-Founder and President of the BMJ Scientific Journal Nutrition, Prevention and Health
- ♦ Presidential Advisor at the School of Advanced Studies on Food and Nutrition, University of Parma
- ♦ Vice President of the Conference of Medical Academic Representatives of the BMA
- ♦ Consultant on special assignment for the Nutrition Directorate of the World Health Organization Headquarters in Geneva
- ♦ Honorary International Dean of the Cordia Colleges in India
- ♦ Senior Clinical Scientist with the Medical Research Council
- ♦ Bachelor's Degree in Medicine

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*



## Management



### Ms. Auni3n Lavar3as, Mar3a Eugenia

- ◆ Pharmacist and Clinical Nutrition Expert
- ◆ "Author of the reference book in the field of Clinical Nutrition "Dietetic Management of Overweight in the Pharmacy Office". (Panamerican Medical Publishing House)
- ◆ Pharmacist with extensive experience in the public and private sector
- ◆ Pharmacist in Valencia Pharmacy
- ◆ Pharmacy Assistant in the British pharmacy and health and beauty retail chain Boots, UK
- ◆ Degree in Pharmacy and Food Science and Technology. University of Valencia
- ◆ Director of the University Course "Dermocosmetics in the Pharmacy Office"



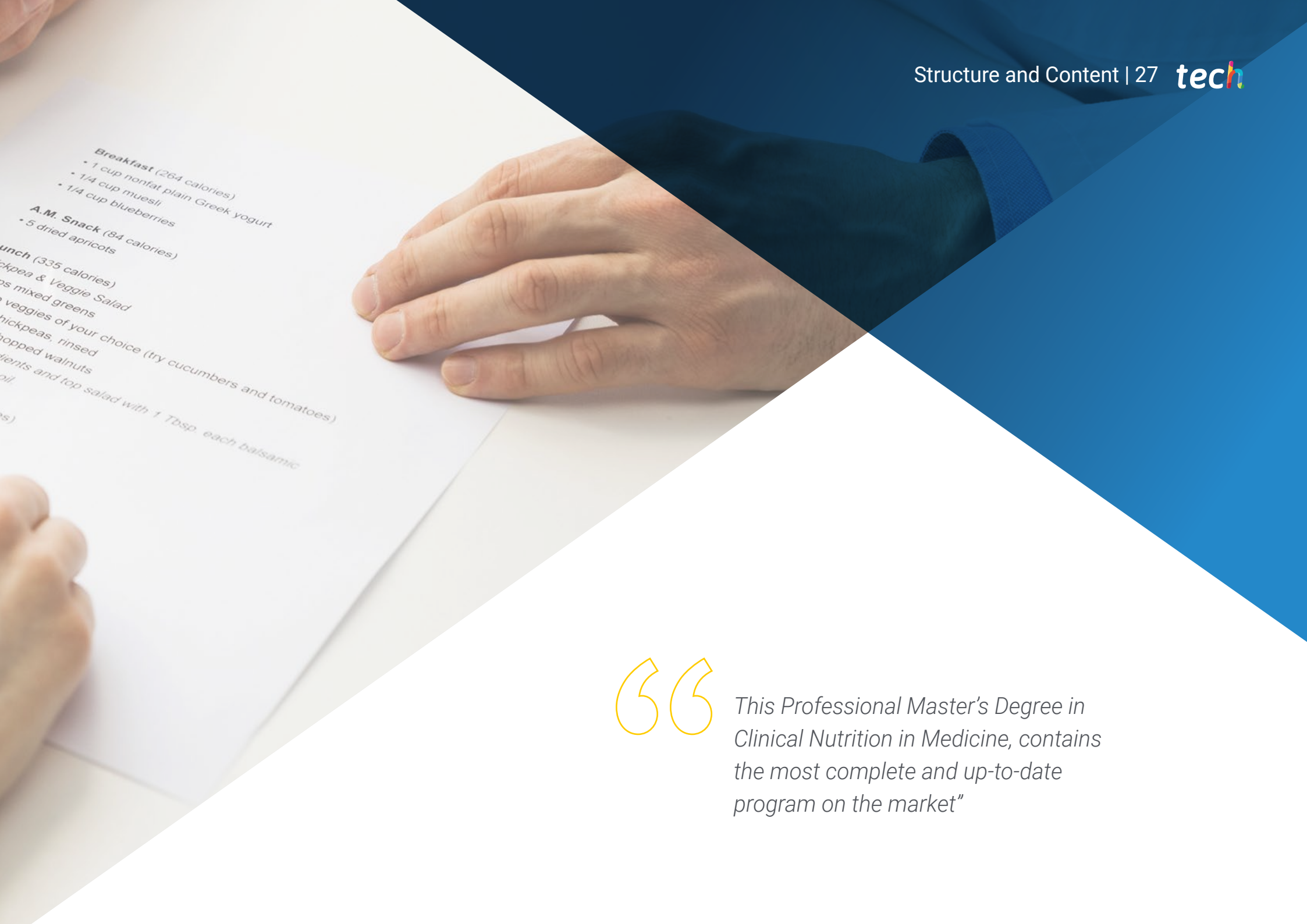
# 05

# Structure and Content

The structure of the curriculum has been designed by a team of professionals knowledgeable about the implications of specialization in nutrition based on clinical practice, aware of the current relevance of training and committed to quality teaching through new educational technologies.



• 2 cups  
• 3/4 cup  
• 1/2 cup of  
• 1/2 Tbsp. cl  
Combine ingred  
vinegar and olive  
**P.M. Snack (70 calories)**  
• 2 clementines  
**Dinner (434 calories)**  
• 1 3/4 cup Squash  
• 1/2 cup brown ric

A hand in a blue suit sleeve points to a list of meal options on a white document. The document is partially covered by a blue geometric shape. The list includes: Breakfast (264 calories), A.M. Snack (84 calories), and Lunch (335 calories).

**Breakfast** (264 calories)  
• 1 cup nonfat plain Greek yogurt  
• 1/4 cup muesli  
• 1/4 cup blueberries

**A.M. Snack** (84 calories)  
• 5 dried apricots

**Lunch** (335 calories)  
Chickpea & Veggie Salad  
• 1 cup chickpeas, rinsed  
• 1 cup mixed greens  
• 1/2 cup chickpeas of your choice (try cucumbers and tomatoes)  
• 1/4 cup chopped walnuts  
• 1/2 cup chickpeas and top salad with 1 Tbsp. each balsamic  
oil.  
(es)

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*This Professional Master's Degree in Clinical Nutrition in Medicine, contains the most complete and up-to-date program on the market”*



## Module 1. New Developments in Food

- 1.1. Molecular Foundations of Nutrition
- 1.2. Update on Food Composition
- 1.3. Food Composition Tables and Nutritional Databases
- 1.4. Phytochemicals and Non-Nutritive Compounds
- 1.5. New Food
  - 1.5.1. Functional Nutrients and Bioactive Compounds
  - 1.5.2. Probiotics, Prebiotics, and Synbiotics
  - 1.5.3. Quality and Design
- 1.6. Organic food
- 1.7. Transgenic Foods
- 1.8. Water as a Nutrient
- 1.9. Food Safety
  - 1.9.1. Physical, Chemical, and Microbiological Hazards
- 1.10. New labeling and consumer information
- 1.11. Phytotherapy Applied to Nutritional Pathologies

## Module 2. Current Trends in Nutrition

- 2.1. Nutrigenetics
- 2.2. Nutrigenomics
  - 2.2.1. Fundamentals
  - 2.2.2. Methods
- 2.3. Immunonutrition
  - 2.3.1. Nutrition-Immunity Interactions
  - 2.3.2. Antioxidants and Immune Function
- 2.4. Physiological Regulation of Feeding. Appetite and Satiety
- 2.5. Nutrition and the Circadian System. Timing is the Key





### Module 3. Assessment of Nutritional Status and Diet. Practical Application

- 3.1. Bioenergy and Nutrition
  - 3.1.1. Energy Needs
  - 3.1.2. Methods of Assessing Energy Expenditure
- 3.2. Assessment of Nutritional Status
  - 3.2.1. Body Composition Analysis
  - 3.2.2. Clinical Diagnosis. Symptoms and Signs
  - 3.2.3. Biochemical, Hematological, and Immunological Methods
- 3.3. Intake Assessment
  - 3.3.1. Methods for Analyzing Food and Nutrient Intake
  - 3.3.2. Direct and Indirect Methods
- 3.4. Update on Nutritional Requirements and Recommended Intakes
- 3.5. Nutrition in a Healthy Adult Objectives and Guidelines Mediterranean Diet
- 3.6. Nutrition in Menopause
- 3.7. Nutrition in the Elderly

### Module 4. Nutritional Consultation

- 4.1. How to Carry Out a Nutritional Consultation?
  - 4.1.1. Analysis of the Market and Competition
  - 4.1.2. Clientele
  - 4.1.3. Marketing. Social Networks
- 4.2. Psychology and Nutrition
  - 4.2.1. Psychosocial Factors Affecting Eating Behavior
  - 4.2.2. Interview Techniques
  - 4.2.3. Dietary Advice
  - 4.2.4. Stress Control
  - 4.2.5. Child and Adult Nutrition Education

### Module 5. Sports Nutrition

- 5.1. Physiology of Exercise
- 5.2. Physiological Adaptation to Different Types of Exercise
- 5.3. Metabolic Adaptation to Exercise. Regulation and Control
- 5.4. Assessing Athletes' Energy Needs and Nutritional Status
- 5.5. Assessing Athletes' Physical Ability
- 5.6. Nutrition in the Different Phases of Sports Practice
  - 5.6.1. Pre-Competition
  - 5.6.2. During
  - 5.6.3. Post-Competition
- 5.7. Hydration
  - 5.7.1. Regulation and Needs
  - 5.7.2. Types of Beverages
- 5.8. Dietary Planning Adapted to Different Sports
- 5.9. Ergonomic Aids
  - 5.9.1. AMA Recommendations
- 5.10. Nutrition in Sports Injury Recovery
- 5.11. Psychological Disorders Related to Practising Sport
  - 5.11.1. Eating Disorders: Bigorexia, Orthorexia, Anorexia
  - 5.11.2. Fatigue Caused by Overtraining
  - 5.11.3. The Female Athlete Triad
- 5.12. The Role of the Coach in Sports Performance

## Module 6. Clinical Nutrition and Hospital Dietetics

- 6.1. Management of Hospital Nutrition Units
  - 6.1.1. Nutrition in the Hospital Setting
  - 6.1.2. Food Safety in Hospitals
  - 6.1.3. Hospital Kitchen Organization
  - 6.1.4. Planning and Managing Hospital Diets. Dietary Code
- 6.2. Hospital Basal Diets
  - 6.2.1. Basal Diet in Adults
  - 6.2.2. Pediatric Basal Diet
  - 6.2.3. Ovo-Lacto-Vegetarian and Vegan Diet
  - 6.2.4. Diet Adapted to Cultural
- 6.3. Therapeutic Hospital Diets
  - 6.3.1. Unification of Diets and Personalized Menus
- 6.4. Bidirectional Drug-Nutrient Interaction

## Module 7. Nutrition in Digestive System Pathologies

- 7.1. Nutrition in Oral Disorders
  - 7.1.1. Taste
  - 7.1.2. Salivation
  - 7.1.3. Mucositis
- 7.2. Nutrition in Esophageal and Gastric Disorders
  - 7.2.1. Gastroesophageal Reflux
  - 7.2.2. Gastric Ulcers
  - 7.2.3. Dysphagia
- 7.3. Nutrition in Post-Surgical Syndromes
  - 7.3.1. Gastric Surgery
  - 7.3.2. Small Intestine
- 7.4. Nutrition in Bowel Function Disorders
  - 7.4.1. Constipation
  - 7.4.2. Diarrhea

- 7.5. Nutrition in Malabsorption Syndromes
- 7.6. Nutrition in Colonic Pathology
  - 7.6.1. Irritable Bowel
  - 7.6.2. Diverticulosis
- 7.7. Nutrition in Inflammatory Bowel Disease (IBD)
- 7.8. Most Frequent Food Allergies and Intolerances with Gastrointestinal Effects
- 7.9. Nutrition in Liver Diseases
  - 7.9.1. Portal Hypertension
  - 7.9.2. Hepatic Encephalopathy
  - 7.9.3. Liver Transplant
- 7.10. Nutrition in Biliary Diseases. Biliary Lithiasis
- 7.11. Nutrition in Pancreatic Diseases
  - 7.11.1. Acute Pancreatitis
  - 7.11.2. Chronic Pancreatitis

## Module 8. Nutrition in Endocrine-Metabolic Diseases

- 8.1. Dyslipidemia and Arteriosclerosis
- 8.2. Diabetes Mellitus
- 8.3. Hypertension and Cardiovascular Disease
- 8.4. Obesity
  - 8.4.1. Etiology. Nutrigenetics and Nutrigenomics
  - 8.4.2. Pathophysiology of Obesity
  - 8.4.3. Diagnosis of the Disease and its Comorbidities
  - 8.4.4. Multidisciplinary Team in Obesity Treatment
  - 8.4.5. Dietary Treatment. Therapeutic Possibilities
  - 8.4.6. Pharmacological Treatment. New Drugs
  - 8.4.7. Psychological Treatment
    - 8.4.7.1. Intervention Models
    - 8.4.7.2. Treatment of Associated Eating Disorders



- 8.4.8. Surgical Treatments
  - 8.4.8.1. Indications
  - 8.4.8.2. Techniques
  - 8.4.8.3. Complications
  - 8.4.8.4. Dietary Management
  - 8.4.8.5. Metabolic Surgery
- 8.4.9. Endoscopic Treatments
  - 8.4.9.1. Indications
  - 8.4.9.2. Techniques
  - 8.4.9.3. Complications
  - 8.4.9.4. Patient Dietary Management
- 8.4.10. Physical Activity in Obesity
  - 8.4.10.1. Assessment of the Patient's Functional Capacity and Activity
  - 8.4.10.2. Activity-based Prevention Strategies
  - 8.4.10.3. Intervention in the Treatment of the Disease and Associated Pathologies
- 8.4.11. Update on Diet and Obesity Studies
- 8.4.12. International intervention strategies for the control and prevention of obesity

## Module 9. Nutrition in Kidney Diseases

- 9.1. Glomerular Disorders and Tubulopathies
- 9.2. Predialysis Chronic Renal Failure
- 9.3. Chronic Renal Failure and Dialysis
- 9.4. Gout and Hyperuricemia

## Module 10. Nutrition in Neurological Diseases

- 10.1. Swallowing Disorders
- 10.2. Disabling Neuromuscular Disorders
- 10.3. Stroke
- 10.4. Parkinson's Disease
- 10.5. Alzheimer's Disease

## Module 11. Nutrition in Special Situations

- 11.1. Nutrition in Metabolic Stress Situations
  - 11.1.1. Sepsis
  - 11.1.2. Polytrauma
  - 11.1.3. Burns
  - 11.1.4. Transplant Recipient
- 11.2. Oncology Patient Nutrition
  - 11.2.1. Surgical Management
  - 11.2.2. Chemotherapy Treatment
  - 11.2.3. Radiotherapy Treatment
  - 11.2.4. Bone Marrow Transplant
- 11.3. Immune Diseases
  - 11.3.1. Acquired Immunodeficiency Syndrome

## Module 12. Nutrition in Deficiency Diseases

- 12.1. Malnutrition
  - 12.1.1. Hospital Malnutrition
  - 12.1.2. The Fasting and Refeeding Cycle
- 12.2. Anemia hemochromatosis
- 12.3. Vitamin Deficiencies
- 12.4. Osteoporosis
- 12.5. Oral Disease and its Relation to Diet

## Module 13. Artificial Nutrition in Adults

- 13.1. Enteral Nutrition
- 13.2. Parenteral Nutrition
- 13.3. Artificial Nutrition at Home
- 13.4. Adapted Oral Nutrition

## Module 14. Physiology of Infant Nutrition

- 14.1. Influence of Nutrition on Growth and Development
- 14.2. Nutritional Requirements in the Different Periods of Childhood
- 14.3. Nutritional Assessment in Children
- 14.4. Physical Activity Evaluation and Recommendations
- 14.5. Nutrition During Pregnancy and its Impact on the newborn
- 14.6. Current Trends in the Premature New-born Nutrition
- 14.7. Nutrition in Lactating Women and its Impact on the Infant
- 14.8. Nutrition of Newborns with Intrauterine Growth Delay. Implications on Metabolic Diseases
- 14.9. Breastfeeding
  - 14.9.1. Human Milk as a Functional Food
  - 14.9.2. Process of Milk Synthesis and Secretion
  - 14.9.3. Reasons for it to be Encouraged
- 14.10. Human Milk Banks
  - 14.10.1. Milk Bank Operation and Indications
- 14.11. Concept and Characteristics of the Formulae Used in Infant Feeding
- 14.12. The Move to a Diversified Diet. Complementary Feeding During the First Year of Life
- 14.13. Feeding 1 to 3-year-old children
- 14.14. Feeding During the Stable Growth Phase. Schoolchild Nutrition
- 14.15. Adolescent Nutrition. Nutritional Risk Factors
- 14.16. Child and Adolescent Athlete Nutrition
- 14.17. Other Dietary Patterns for Children and Adolescents. Cultural, Social, and Religious Influences on Childhood Nutrition
- 14.18. Prevention of Childhood Nutritional Diseases. Objectives and Guidelines

## Module 15. Artificial Nutrition in Pediatrics

- 15.1. Concept of Nutritional Therapy
  - 15.1.1. Evaluation of Patients in Need of Nutritional Support
  - 15.1.2. Indications
- 15.2. General Information about Enteral and Parenteral Nutrition
- 15.3. Dietary Products Used for Sick Children or Children with Special Needs
- 15.4. Implementing and Monitoring Patients with Nutritional Support
  - 15.4.1. Critical Patients
  - 15.4.2. Patients with Neurological Pathologies
- 15.5. Artificial Nutrition at Home
- 15.6. Nutritional Supplements to Support the Conventional Diet
- 15.7. Probiotics and prebiotics in Infant Feeding

## Module 16. Infant Malnutrition

- 16.1. Childhood Malnutrition and Undernutrition
  - 16.1.1. Psychosocial Aspects
  - 16.1.2. Pediatric Assessment
  - 16.1.3. Treatment and Monitoring
- 16.2. Nutritional Anemias
  - 16.2.1. Other Nutritional Anemias in Childhood
- 16.3. Vitamin and Trace Element Deficiencies
  - 16.3.1. Vitamins
  - 16.3.2. Trace Elements
  - 16.3.3. Detection and Treatment
- 16.4. Fats in Infant Diets
  - 16.4.1. Essential fatty acids
- 16.5. Childhood Obesity
  - 16.5.1. Prevention
  - 16.5.2. Impact of Childhood Obesity
  - 16.5.3. Nutritional Treatment

## Module 17. Childhood Nutrition and Pathologies

- 17.1. Nutrition of Children with Oral Pathologies
- 17.2. Nutrition in Acute Diarrhea Situation
- 17.3. Nutrition of Infants and Children with Gastroesophageal Reflux
- 17.4. Nutrition in Children with Celiac Disease
- 17.5. Nutrition in Children with Inflammatory Bowel Disease
- 17.6. Nutrition in Children with Digestive Malabsorption Syndrome
- 17.7. Nutrition in Children with Constipation
- 17.8. Nutrition in Children with Liver Disease
- 17.9. Feeding Difficulties and Disorders in Children
  - 17.9.1. Physiological Aspects
  - 17.9.2. Psychological Aspects
- 17.10. Eating Disorders
  - 17.10.1. Anorexia
  - 17.10.2. Bulimia
  - 17.10.3. Others
- 17.11. Inborn Errors of Metabolism
  - 17.11.1. Principles for Dietary Treatment
- 17.12. Nutrition in Dyslipidemias
- 17.13. Nutrition in Diabetic Children
- 17.14. Nutrition in Autistic Children
- 17.15. Nutrition in Children with Cancer
- 17.16. Nutrition in Children with Chronic Pulmonary Pathology
- 17.17. Nutrition in Children with Nephropathy
- 17.18. Nutrition in Children with Food Allergies and/or Intolerances
- 17.19. Childhood and Bone Pathology Nutrition



06

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gervas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.



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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*





At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.





# 07 Certificate

The Professional Master's Degree in Clinical Nutrition In Medicine guarantees you, in addition to the most rigorous and up-to-date training, access to a Professional Master's degree issued by TECH Technological University.



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*Successfully complete this training  
and receive your university degree  
without travel or laborious paperwork”*



This **Professional Master's Degree in Clinical Nutrition in Medicine** contains the most complete and up-to-date scientific program on the market.

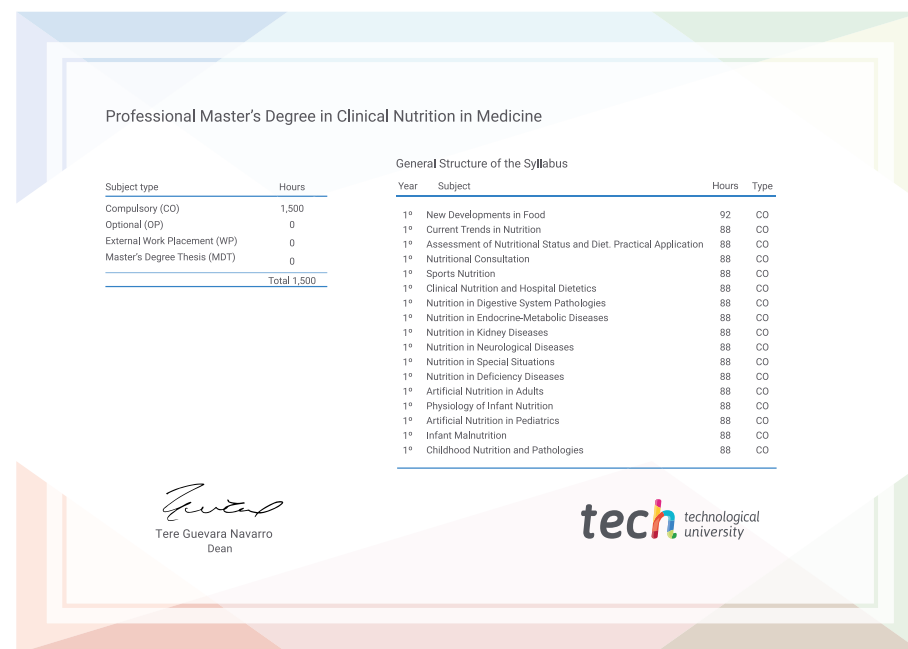
After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Clinical Nutrition in Medicine**

Modality: **online**

Duration: **12 months**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present quality

online training

development languages

virtual classroom

**tech** technological  
university

## Professional Master's Degree

Clinical Nutrition  
in Medicine

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree Clinical Nutrition in Medicine

