

# Hybrid Professional Master's Degree Sports Nutrition



## Hybrid Professional Master's Degree Sports Nutrition

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1,620 h.

Website: [www.techtute.com/in/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-sports-nutrition](http://www.techtute.com/in/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-sports-nutrition)

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# 01

# Introduction

Advances in Sports Nutrition have increased in recent years, offering better strategies for the performance of athletes and a correct absorption of the nutrients needed for physical activity. However, not all specialists manage to keep up to date with the latest developments in this discipline. This degree offers a complete update on the most recent protocols and tools applied in this field. Unlike other programs, it does so through an unique educational modality in which two learning stages are integrated. The first one is online and deals with the theoretical aspects of these topics. It is followed by a practical and on-site internship in a prestigious clinical center, under the close supervision of leading experts.





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*Get up to date on the latest trends in Sports Nutrition, with the best teachers and an educational program based on a syllabus that will expand your knowledge like no other in the educational market”*

For several years now, scientific and technological innovation in the Nutrition field of Nutrition has allowed the development of much more accurate protocols for the nutritional requirements of each patient. In the case of high performance sports, these innovations have also brought important benefits and, today, the sector has precise and increasingly personalized protocols. Keeping constantly up-to-date on developments in these academic fields can be cumbersome for specialists. Most of the time, the programs are either not properly up-to-date or they have a prevailing high theoretical load.

TECH wants to differentiate itself in this context from a degree where the theoretical and practical study of Sports Nutrition is integrated in an ideal way. Therefore, this Hybrid Professional Master's Degree will provide the health professional, first of all, with a 100% online study period, from a platform with multiple interactive features. This moment of the educational process will not be governed by pre-established evaluation schedules or restrictive schedules. In this way, the student will have the opportunity to choose when and where to access the content. Moreover, it will be supported by innovative didactic methods such as *Relearning* to consolidate knowledge in a fast and flexible way.

Then, after passing the first stage, you will carry out a first level clinical practice in a health institution with the best resources in the field of Sports Nutrition. From them, you will offer treatments and follow-up protocols in situ to real patients with different nutritional requirements. Throughout this phase, specialists will be accompanied by an associate tutor, who will be responsible for familiarizing them with different professional dynamics. They will also be able to exchange experiences and doubts with other prestigious experts. This on-site internship will last 3 weeks, distributed in 8-hour shifts, from Monday to Friday. Upon completion, the specialist will be ready to exercise his new knowledge in an optimal way and with total guarantees of assimilation.

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

- ♦ Development of more than 100 clinical cases presented by Sports Nutrition in Medicine in professionals
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Comprehensive systematized action plans for the main pathologies in the internal medicine unit
- ♦ Presentation of practical workshops on procedures, diagnosis, and treatment techniques in athlete patients
- ♦ Algorithm-based interactive learning system for decision-making in the presented Doctor situations
- ♦ Practical clinical guides on approaching different pathologies
- ♦ 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
- ♦ In addition, you will be able to carry out a clinical internship in one of the best hospitals in the world

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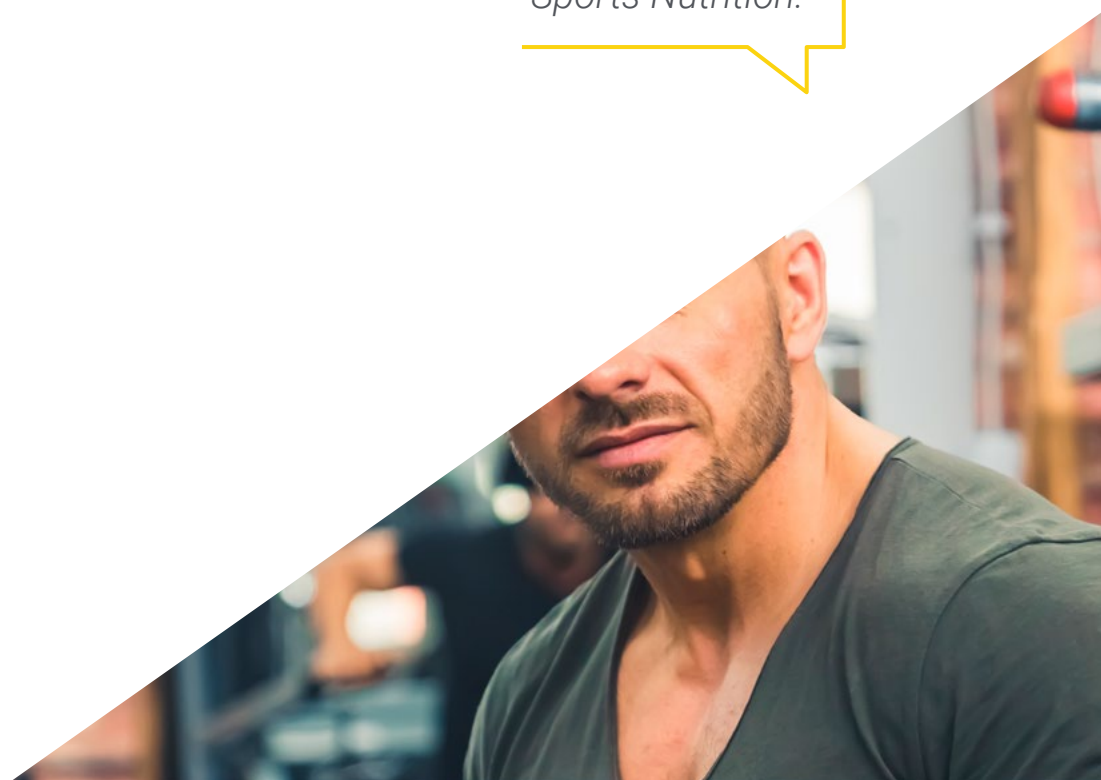
*For the intensive and on-site internship included in this degree, you will have access to facilities of international clinical prestige in the approach of problems related to Sports Nutrition”*

In this Hybrid Professional Master's Degree, with a vocational nature and blended learning modality, the program is aimed at updating nursing professionals who demand a high level of qualification. In this proposed Professional Master's Degree, of a professionalizing nature and blended learning modality, the program is aimed at updating professionals of Sports Nutrition in Medicine, with the most up-to-date knowledge.

Thanks to its multimedia content developed with the latest educational technology, they will allow the health professional to learn in a contextual and situated learning environment, i.e., a simulated environment that will provide immersive learning 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 students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*This Hybrid Professional Master's Degree will make you an expert in the creation of food composition tables according to nutritional data for sportsmen and women.*

*Enroll now with TECH and you will get a much more in depth update than in other degrees about the fundamental novelties of Sports Nutrition.*



02

# Why Study this Hybrid Professional Master's Degree?

Sports Nutrition is currently facing many challenges and opportunities, always in search of the best nutritional care for athletes. For this reason, this Hybrid Professional Master's Degree aims to update the specialist on the main advances in this field. Unlike other programs, it does so through an innovative educational modality where theoretical and practical learning are unified in an exceptional way. In this way, each TECH graduate will achieve the maximum mastery of this discipline and will be able to apply its innovations in daily professional practice.







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*TECH will open the doors of a prestigious health institution where you will apply in a practical way everything you have learned in the theoretical phase of this very complete Hybrid Professional Master's Degree"*

### **1. Updating from the Latest Technology Available**

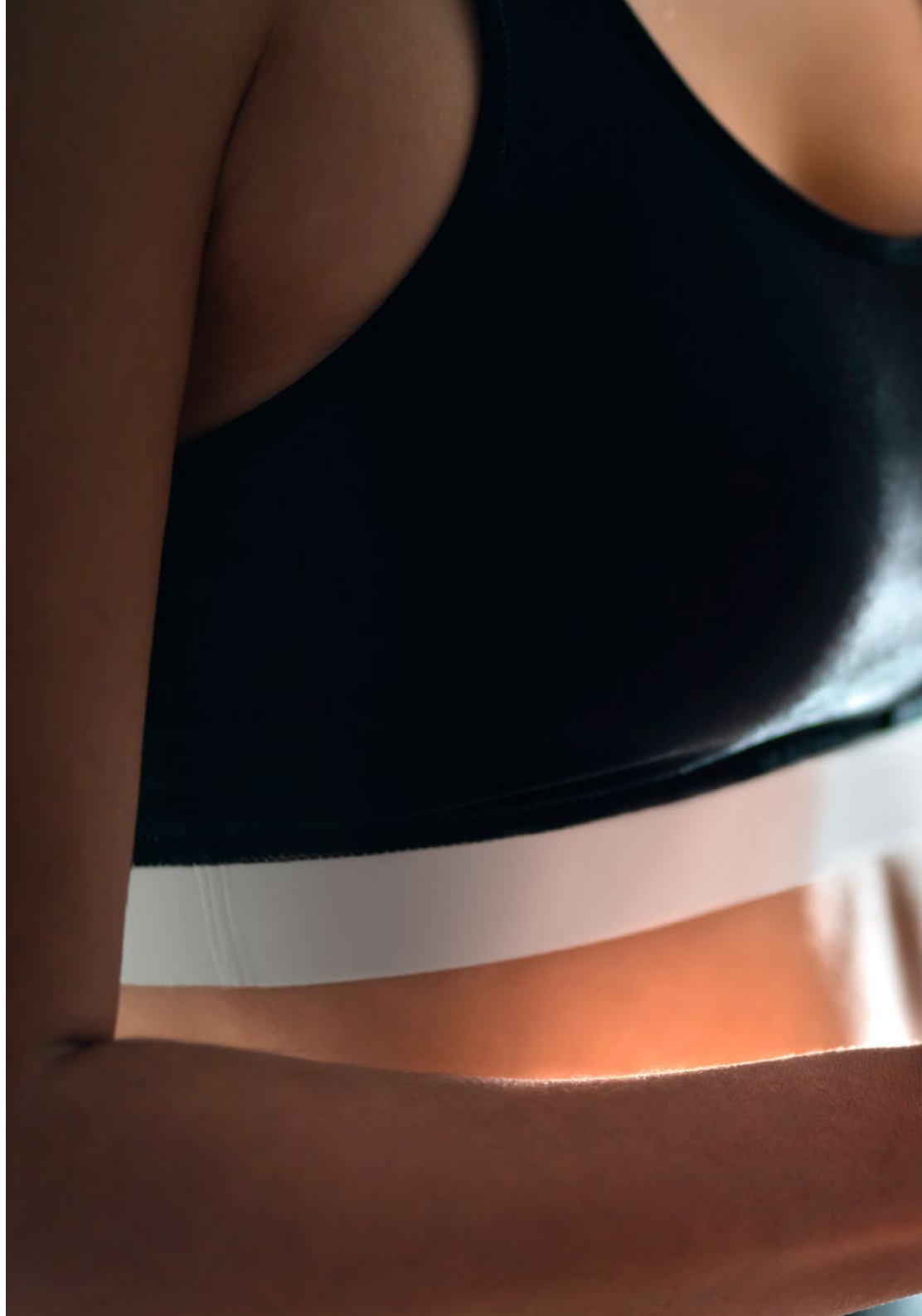
This Hybrid Professional Master's Degree delves into the most innovative applications and procedures that can be performed with the most current tools of Sports Nutrition. After completing the different phases of study, the specialists will know how to manipulate them correctly and apply them for the benefit of better diagnostic, treatment and follow-up results for their patients.

### **2. Gaining In-depth Knowledge from the Experience of Top Specialists**

Throughout this program, the specialists will be accompanied at all times by leading experts. During the theoretical phase, they will have a teaching staff of excellence and then, in the practical phase, they will work directly with Sports Nutrition professionals who develop the contents of this degree in first level hospital centers. In addition, you will have an associate tutor who will guide your processes in a personalized way.

### **3. Entering First-Class Clinical Environments**

TECH carefully selects all the centers that are part of the integrated to this Hybrid Professional Master's Degree. These instances will guarantee the professional access to a prestigious clinical environment within the field of sports nutrition. In this way, they will be able to directly analyze the work dynamics of a Doctor demanding, rigorous and exhaustive area of nursing.





#### **4. Combining the Best Theory with State-of-the-Art Practice**

Few programs manage to combine theoretical and practical learning of its contents. However, this is not TECH's case. Professionals who opt for this Hybrid Professional Master's Degree will have the opportunity to acquire skills in both directions, since the degree will apply all the contents studied online in an on-site and intensive internship of 3 weeks' duration.

#### **5. Expanding the Boundaries of Knowledge**

To perform the professional internship of this Hybrid Professional Master's Degree, TECH offers centers of international importance. In this way, the specialist will be able to expand his frontiers and keep up to date with the best professionals, who practice in first class hospitals and in different latitudes. A unique opportunity that only TECH, the largest online university in the world, could offer.



*You will have full practical immersion at the center of your choice"*

# 03 Objectives

This Hybrid Professional Master's Degree in Sports Nutrition will provide the specialist with an up-to-date mastery of the most innovative methodologies and tools for the approach of high-performance athletes with specific nutritional requirements. This educational program is superior to others of its kind in the market since the graduate will develop theoretical and practical competencies within the same learning model. In this way, the graduates will immediately distinguish themselves in the labor market due to their ability to face different problems within this health sector.



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*Enroll now in this Hybrid Professional Master's Degree and update your knowledge about the specific guidelines for nutritional requirements and recommended intakes of healthy adults"*



## General Objective

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- ♦ As part of its main objectives, TECH's Hybrid Professional Master's Degree in Sports Nutrition promotes a complete update on the new trends in this discipline and its basis in the latest scientific and technological evidence. In addition, the program strives to promote work strategies based on the practical knowledge of the most modern currents in reference to nutrition and its application to all kinds of pathologies, where the therapeutic approach is essential. Through these professional goals, the graduate will obtain the advantages of a learning process that unites theory and practice of this specialty like no other



*You will achieve, through this Hybrid Professional Master's Degree, the optimal training to explore the nutritional requirements in situations of metabolic stress"*





## Specific Objectives

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### **Module 1. New Developments in Food**

- ♦ 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

### **Module 2. Current Trends in Nutrition**

- ♦ Early detection and evaluation of quantitative and qualitative deviations from the nutritional balance due to excess or deficiency
- ♦ Describe the composition and utilities of new foods

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

- ♦ Explain the different techniques and products of basic and advanced nutritional support related to the nutrition of the patient
- ♦ Explain the correct use of ergogenic aids

### **Module 4. Sports Nutrition**

- ♦ Explain the current anti-doping regulations
- ♦ Identify psychological disorders related to the practice of sport and nutrition

### **Module 5. Muscle and Metabolic Physiology Associated with Exercise**

- ♦ Gain an in-depth understanding of the structure of skeletal muscle
- ♦ Understand in depth the functioning of skeletal muscle
- ♦ Delve into the understanding of the most important changes that occur in athletes
- ♦ To delve into the mechanisms of energy production based on the type of exercise performed
- ♦ Further understanding of the interaction between the different energy systems that make up the muscle energy metabolism

### **Module 6. Vegetarianism and Veganism**

- ♦ Differentiate between the different types of vegetarian athletes
- ♦ Gain an in-depth understanding of the main mistakes made
- ♦ Treat the notable nutritional deficiencies of sportsmen and sportswomen
- ♦ Manage skills to provide the athlete with the most effective tools to combine foods

### **Module 7. Different Stages or Specific Population Groups**

- ♦ Explain the specific physiological characteristics to be taken into account in the nutritional approach of different groups
- ♦ Understand in depth the external and internal factors that influence the nutritional approach to these groups







### **Module 8. Nutrition for Functional Recovery and Rehabilitation**

- ♦ Approach the concept of integral nutrition as a key element in the process of readaptation and functional recovery
- ♦ Distinguish the different structures and properties of both macronutrients and micronutrients
- ♦ Prioritize the importance of both water intake and hydration in the recovery process
- ♦ Analyze the different types of phytochemicals and their essential role in improving the state of health and regeneration of the organism

### **Module 9. Nutrition, Health and Disease Prevention: Current Issues and Recommendations for the General Population**

- ♦ Analyze patient's eating habits, as well as their problems and motivation
- ♦ Update nutritional recommendations based on scientific evidence for their application in clinical practice
- ♦ Prepare for the design of nutritional education strategies and patient care

### **Module 10. Assessment of Nutritional Status and Calculation of Personalized Nutritional Plans, Recommendations and Monitoring**

- ♦ Adequate assessment of the clinical case, interpretation of causes and risks
- ♦ Personalized calculation of nutritional plans taking into account all individual variables
- ♦ Planning nutritional plans and models for a complete and practical recommendation

# 04 Skills

Upon completion of both phases of this Hybrid Professional Master's Degree, the specialist will have a high capacity to apply therapeutic and follow-up methods to different nutritional pathologies. These skills will undoubtedly be based on the latest scientific and technological evidence that TECH has managed to compile in this unique educational program.





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*You will learn, throughout this degree, the most innovative protocols to optimize protein intake for athletes through the absorption of micronutrients”*



## General Skills

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- Apply new trends in Sports Nutrition with their Patients
- Develop the new trends in nutrition depending on the adult's pathologies
- Investigate the nutritional problems of your patients

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*Thanks to this program you will specialize in differentiating the nutritional status from the athlete's body composition and by means of biochemical, hematological and immunological methods of recent application”*





## Specific Skills

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- ◆ Assess patients' nutritional status
- ◆ Determine patients' nutritional problems and apply the most appropriate treatments and diets in each case
- ◆ Master food compositions, identify their utilities and add them to the diets of patients who need them
- ◆ Know the anti-doping rules
- ◆ Seek help for patients with psychological disorders related to nutrition and the practice of sports
- ◆ Be up to date on food safety and be aware of potential food hazards
- ◆ Identify athletes' energy needs and provide them with appropriate diets

# 05

# Course Management

The teachers of this degree have been chosen by TECH due to their extensive experience in Sports Nutrition. All of them have a distinguished track record for their advanced technical knowledge and knowledge about the handling of complex working equipment. These teachers have made a meticulous selection of different innovative procedures that are currently gaining ground in the discipline in question. With their excellent advice, the specialist will be able to consolidate new skills and offer elite athletes better assistance for their nutritional requirements.



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*The best teachers have chosen the up-to-date modules that make up this first-class academic program, which you can access only through TECH"*

## International Guest Director

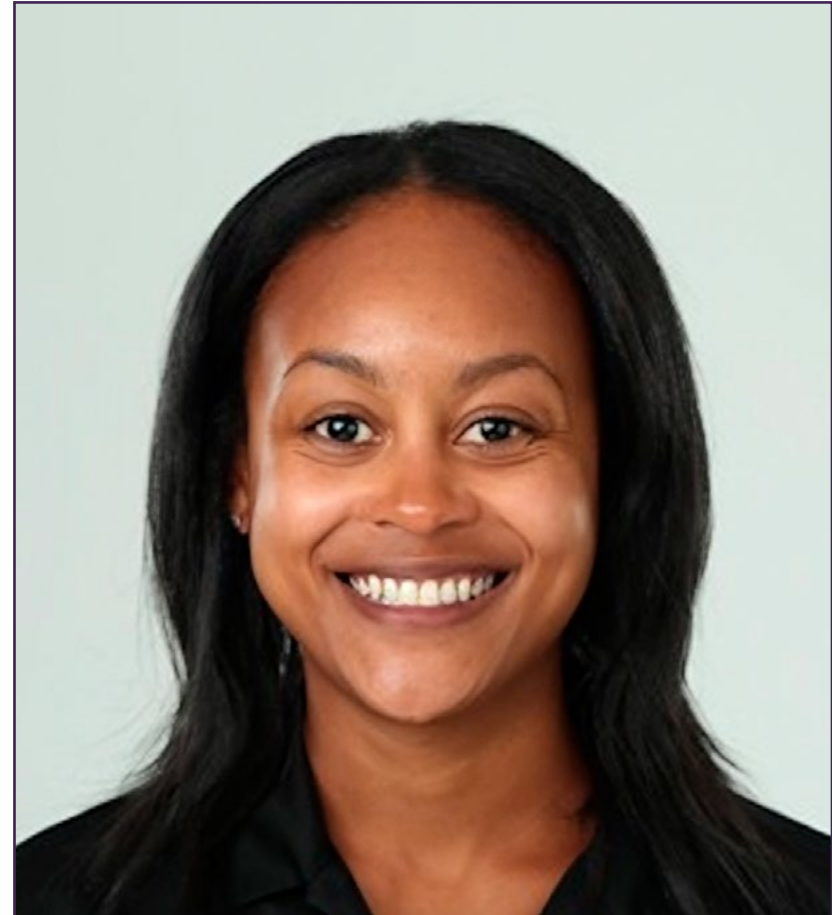
Shelby Johnson has a distinguished career as a Sports Nutritionist, specializing in college sports in the United States. In fact, her experience and specific knowledge in this area have been key in her goal of contributing to the best performance of high performance athletes.

As Director of Sports Nutrition at Duke University, she has provided nutritional and health assistance to student athletes. In addition, she has served on the nutritionist staff at the University of Missouri and on the University of Florida soccer, lacrosse and women's basketball teams.

Likewise, her commitment to offer young athletes the best nutritional advice during their training and competitions has led her to perform a remarkable work in this professional field. In this way, in order to guarantee the best attention to athletes, she has been in charge of performing body composition analysis and building personalized plans, according to each person's objective. She has also guided athletes on the most appropriate diets for their physical efforts, in order to contribute to their full performance and avoid health problems.

During her professional career, Shelby Johnson has worked in sports nutrition, and her ability to adapt to different disciplines has allowed her to broaden her areas of expertise and offer much more precise attention.

As such, thanks to its training and experience, it has created a Food Sensitivity Policy for Sports Health, seeking to highlight the relevance of proper nutrition for health. Therefore, her goal has always been to disseminate any information that helps athletes to become aware of the best nutrients, vitamins and foods to achieve their goals.





## Dña. Johnson, Shelby

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- Director of Sports Nutrition at Duke University, Durham, U.S.A.
- Nutrition Consultant
- Nutritionist for the soccer, lacrosse and women's basketball teams at the University of Florida.
- Specialist in Sports Nutrition
- Master's Degree in Applied Physiology and Kinesiology from the University of Florida.
- Bachelor's Degree in Dietetics from Lipscomb University

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

## Management



### Dr. Pérez de Ayala, Enrique

- ♦ Head of the Sports Medicine Department at La Policlínica Gipuzkoa
- ♦ Degree in Medicine from the Autonomous University of Barcelona
- ♦ Master's Degree in Evaluation of Bodily Injury
- ♦ Expert in Biology and Sports Medicine from the University Pierre et Marie Curie
- ♦ Former head of the Sports Medicine Department of the Real Sociedad de Fútbol
- ♦ Member of the Spanish Association of Football Team Doctors, Spanish Federation of Sports Medicine, Spanish Society of Aerospace Medicine

## Professors

### Ms. Urbeltz, Uxue

- ♦ BPX Instructor, Patronato de Deportes de San Sebastian
- ♦ Dietician in Policlínica Gipuzkoa
- ♦ Diploma in Dietetics and Nutrition
- ♦ Degree in Innovation Engineering in Food Processes and Products by the Public University of Navarra
- ♦ Online Postgraduate Course in Microbiota by Regenera
- ♦ Certified in Anthropometrist - Level I and II by the Internacional Society for the Advancement of Kinanthropometry (ISAK)

### Ms. Aldalur Mancisidor, Ane

- ♦ Dietitian Specializing in Plant-Based Diets
- ♦ Degree in Nursing
- ♦ Higher Technical Degree in Dietetics and Nutrition by Cebanc
- ♦ Expert in Eating Disorders and Sports Nutrition
- ♦ Member of the Dietetics Office the Basque Health Service



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*Enroll now and advance in your field of work with a comprehensive program that will allow you to put into practice everything you have learned”*

# 06

## Educational Plan

This syllabus has been designed taking into account the latest scientific and technological evidence in the field of Sports Nutrition. Therefore, its educational modules include innovative elements such as the recent criteria and tools for the assessment of nutritional status or those essential for the calculation of personalized dietary plans. At the same time, it examines the current contributions about muscle physiology and metabolic behavior in athletes. For the mastery of all these subjects TECH provides, in addition to the conventional theoretical learning resources, a wide range of multimedia products such as infographics and videos. This will enable the students to expand their knowledge in a faster and more flexible way.





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*With this TECH program, you will dedicate 1,500 hours to the theoretical learning of the latest innovations related to Sports Nutrition”*

### 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 Symbiotics
  - 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 Hazards
  - 1.9.2. Chemical Hazards
  - 1.9.3. Microbiological Hazards
- 1.10. New labelling 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. Psychology and Nutrition
- 2.6. Nutrition and Sleep
- 2.7. Update on Nutritional Objectives and Recommended Intakes
- 2.8. New Evidence on the Mediterranean Diets

### 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. The Mediterranean Diet
- 3.6. Nutrition in Menopause
- 3.7. Nutrition in the Elderly

### Module 4. Sports Nutrition

- 4.1. Physiology of Exercise
- 4.2. Physiological Adaptation to Different Types of Exercise
- 4.3. Metabolic Adaptation to Exercise. Regulation and Control
- 4.4. Assessing Athletes' Energy Needs and Nutritional Status
- 4.5. Assessing Athletes' Physical Ability
- 4.6. Nutrition in the Different Phases of Sports Practice
  - 4.6.1. Pre-Competition
  - 4.6.2. During
  - 4.6.3. After the Competition
- 4.7. Hydration
  - 4.7.1. Regulation and Needs
  - 4.7.2. Types of Beverages
- 4.8. Dietary Planning Adapted to Different Sports
- 4.9. Ergogenic Aids and Current Anti-Doping Regulations

- 4.9.1. AMA and AEPSAD Recommendations
- 4.10. Nutrition in Sports Injury Recovery
- 4.11. Psychological Disorders Related to Practising Sport
  - 4.11.1. Eating Disorders: Bigorexia, Orthorexia, Anorexia
  - 4.11.2. Fatigue Caused by Overtraining
  - 4.11.3. The Female Athlete Triad
- 4.12. The Role of the Coach in Sports Performance

### Module 5. Muscle and Metabolic Physiology Associated with Exercise

- 5.1. Cardiovascular Adaptations Related to Exercise
  - 5.1.1. Increased Systolic Volume
  - 5.1.2. Decreased Heart Rate
- 5.2. Ventilatory Adaptations Related to Exercise
  - 5.2.1. Changes in the Ventilatory Volume
  - 5.2.2. Changes in Oxygen Consumption
- 5.3. Hormonal Adaptations Related to Exercise
  - 5.3.1. Cortisol
  - 5.3.2. Testosterone
- 5.4. Muscle Structure and Types of Muscle Fibers
  - 5.4.1. Muscle Fiber
  - 5.4.2. Type I Muscle Fiber
  - 5.4.3. Type II Muscle Fibers
- 5.5. The Concept of Lactic Threshold
- 5.6. ATP and Phosphagen Metabolism
  - 5.6.1. Metabolic Pathways for ATP Resynthesis during Exercise
  - 5.6.2. Phosphagen Metabolism
- 5.7. Carbohydrate Metabolism
  - 5.7.1. Carbohydrate Mobilization during Exercise
  - 5.7.2. Types of Glycolysis
- 5.8. Lipid Metabolism

- 5.8.1. Lipolysis
- 5.8.2. Fat Oxidation during Exercise
- 5.8.3. Ketone Bodies
- 5.9. Protein Metabolism
  - 5.9.1. Ammonium Metabolism
  - 5.9.2. Amino Acid Oxidation
- 5.10. Mixed Bioenergetics of Muscle Fibers
  - 5.10.1. Energy Sources and their Relation to Exercise
  - 5.10.2. Factors Determining the Use of One or Another Energy Source during Exercise

### Module 6. Vegetarianism and Veganism

- 6.1. Vegetarianism and Veganism in the History of Sport
  - 6.1.1. The Beginnings of Veganism in Sport
  - 6.1.2. Vegetarian Athletes Today
- 6.2. Different Types of Vegetarian Food
  - 6.2.1. The Vegan Athlete
  - 6.2.2. The Vegetarian Athlete
- 6.3. Common Errors in the Vegan Athlete
  - 6.3.1. Energy Balance.
  - 6.3.2. Protein Consumption
- 6.4. Vitamin B12
  - 6.4.1. B12 Supplementation
  - 6.4.2. Bioavailability of Spirulina Algae
- 6.5. Protein Sources in the Vegan/Vegetarian Diet
  - 6.5.1. Protein Quality
  - 6.5.2. Environmental Sustainability
- 6.6. Other Key Nutrients in Vegans
  - 6.6.1. Conversion of ALA to EPA/DHA
  - 6.6.2. Fe, Ca, Vit-D and Zn
- 6.7. Biochemical Evaluation/Nutritional Shortcomings

- 6.7.1. Anaemia
- 6.7.2. Sarcopenia
- 6.8. Vegan Diet vs. Omnivorous Diet
  - 6.8.1. Evolutionary Food
  - 6.8.2. Current Food
- 6.9. Ergogenic Aids
  - 6.9.1. Creatine
  - 6.9.2. Vegetable Protein
- 6.10. Factors that Decrease Nutrient Absorption
  - 6.10.1. High Fiber Intake
  - 6.10.2. Oxalates

- 7.7.1. Carbohydrates
- 7.7.2. Proteins
- 7.8. Changes Associated with Aging
  - 7.8.1. % Body Fat
  - 7.8.2. Muscle Mass
- 7.9. Main Problems in the Older Athlete
  - 7.9.1. Joints
  - 7.9.2. Cardiovascular Health
- 7.10. Interesting Supplements for Older Athletes
  - 7.10.1. Whey Protein
  - 7.10.2. Creatine

## Module 7. Different Stages or Specific Population Groups

- 7.1. Nutrition in the Female Athlete
  - 7.1.1. Limiting Factors
  - 7.1.2. Requirements
- 7.2. Menstrual Cycle
  - 7.2.1. Luteal Phase
  - 7.2.2. Follicular Phase
- 7.3. Triad
  - 7.3.1. Amenorrhea
  - 7.3.2. Osteoporosis
- 7.4. Nutrition in the Pregnant Female Athlete
  - 7.4.1. Energy Requirements
  - 7.4.2. Micronutrients
- 7.5. The Effects of Physical Exercise on the Child Athlete
  - 7.5.1. Strength Training
  - 7.5.2. Endurance Training
- 7.6. Nutritional Education in the Child Athlete
  - 7.6.1. Sugar
  - 7.6.2. Eating Disorders
- 7.7. Nutritional Requirements in the Child Athlete

## Module 8. Nutrition for Functional Recovery and Rehabilitation

- 8.1. Integral Nutrition as a Key Element in Injury Prevention and Recovery
- 8.2. Carbohydrates
- 8.3. Proteins
- 8.4. Fats
  - 8.4.1. Saturation
  - 8.4.2. Unsaturated
    - 8.4.2.1. Monounsaturated
    - 8.4.2.2. Polyunsaturated
- 8.5. Vitamins.
  - 8.5.1. Water soluble
  - 8.5.2. Fat soluble
- 8.6. Minerals
  - 8.6.1. Macrominerals
  - 8.6.2. Microminerals
- 8.7. Fibre
- 8.8. Water
- 8.9. Phytochemicals
  - 8.9.1. Phenols
  - 8.9.2. Tioles
  - 8.9.3. Terpenes
- 8.10. Food Supplements for Prevention and Functional Recovery



## Module 9. Nutrition, Health and Disease Prevention: Current Issues and Recommendations for the General Population

- 9.1. Feeding Habits in the Current Population and Health Risks
- 9.2. Mediterranean and Sustainable Diet
  - 9.2.1. Recommended Dietary Pattern
- 9.3. Comparison of Dietary Patterns or "Diets"
- 9.4. Nutrition in Vegetarians
- 9.5. Childhood and Adolescence
  - 9.5.1. Nutrition, Growth and Development
- 9.6. Adults
  - 9.6.1. Nutrition for the Improvement of Quality of Life
  - 9.6.2. Prevention
  - 9.6.3. Treatment of disease
- 9.7. Pregnancy and Lactation Recommendations
- 9.8. Recommendations in Menopause
- 9.9. Advanced Age
  - 9.9.1. Nutrition in Aging
  - 9.9.2. Changes in Body Composition
  - 9.9.3. Abnormalities
  - 9.9.4. Malnutrition
- 9.10. Nutrition in Athletes

## Module 10. Assessment of Nutritional Status and Calculation of Personalized Nutritional Plans, Recommendations and Monitoring

- 10.1. Medical History and Background
  - 10.1.1. Individual Variables Affecting Nutritional Plan Response.
- 10.2. Anthropometry and Body Composition
- 10.3. Assessment of Eating Habits
  - 10.3.1. Nutritional Assessment of Food Consumption
- 10.4. Interdisciplinary Team and Therapeutic Circuits
- 10.5. Calculation of Energy Intake
- 10.6. Calculation of Recommended Macro- and Micronutrient Intakes

- 10.7. Quantity and Frequency of Food Consumption Recommendations
  - 10.7.1. Dietary Patterns
  - 10.7.2. Education
  - 10.7.3. Distribution of Daily Feedings
- 10.8. Diet Planning Models
  - 10.8.1. Weekly Menus
  - 10.8.2. Daily Intake
  - 10.8.3. Methodology by Food Exchanges
- 10.9. Hospital Nutrition
  - 10.9.1. Dietary Models
  - 10.9.2. Decision Algorithms
- 10.10. Educational
  - 10.10.1. Psychological Aspects
  - 10.10.2. Maintenance of Feeding Habits
  - 10.10.3. Discharge Recommendations



*You will be able to study wherever and whenever you want the theoretical contents of this degree thanks to its innovative 100% online learning platform"*

# 07

## Clinical Internship

At the end of the theoretical and online learning period of this Hybrid Professional Master's Degree, TECH has contemplated the realization of an on-site internship. After this internship, the specialists will have access to renowned hospitals. There, they will apply the contents learned through the direct assistance of real cases during 3 rigorous weeks.



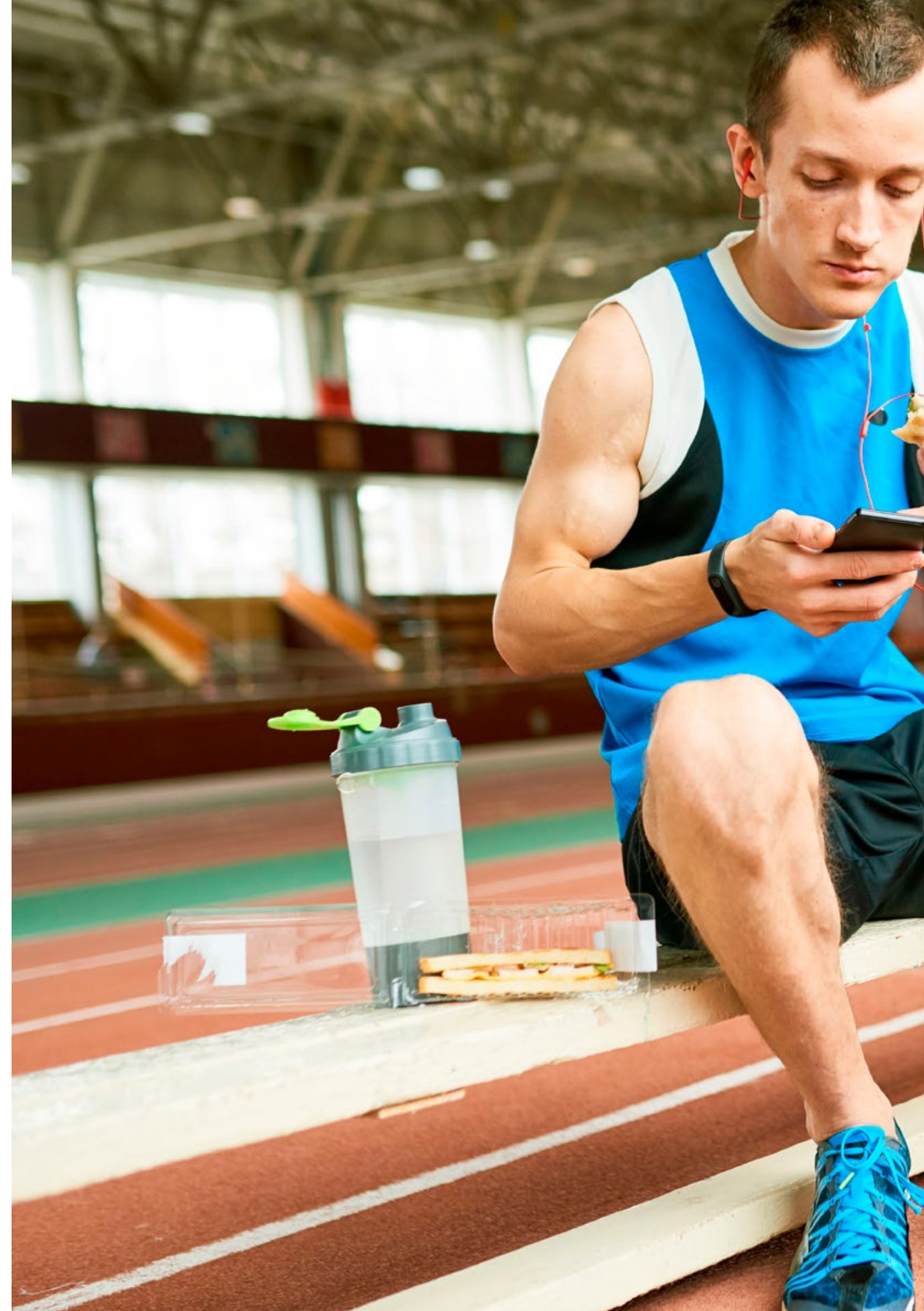
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*This clinical internship will broaden your professional horizons, opening the doors of hospital institutions located in different geographical locations"*

The practical phase of this educational program is composed of 120 hours of educational preparation in a reference medical facility. Hence, the specialists will complete 8-hour days, from Monday to Friday, under the supervision of an associate tutor who will assign them responsibilities and specific tasks for the approach of real cases with complex pathologies such as Anorexia or Sports Vigorexia.

On the other hand, the graduates will also be able to interact with other professionals of the institution who will exchange their experiences and skills with them. At the same time, they will have access to modern and high-end equipment for physiological examination and effective calculation of their nutritional requirements. As a result, upon completion of this on-site educational phase, the graduates will have a theoretical and practical update on the main novelties in their field of interest and will be ready to put them into practice.

The practical part will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for veterinary praxis (learning to be and learning to relate).





The procedures described below will form the basis of the practical part of the internship, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:

Module	Practical Activity
<b>New Developments in Food and Nutrition</b>	Perform Food Composition Tables according to Nutritional Databases
	Incorporating transgenic foods into contemporary dietary approaches
	Apply patient analysis techniques based on Nutrigenetics and Nutrigenomics
	Assess the implications of phytochemicals and non-nutritional compounds in the daily diet of the athlete
<b>Nutritional Consultation Methodologies</b>	Address Physiological Adaptation to Different Types of Exercise Physical
	Train modern guidelines on Hydration in sports practice
	Periodically examine the basis of physiological regulation of eating, appetite and satiety
	Explore nutritional requirements in situations of metabolic stress
<b>Assessment of Nutritional Status and Diet</b>	Determine energy expenditure by specific assessment methods
	Differentiate the nutritional status from the athlete's body composition and by biochemical, hematological and immunological methods
	Apply specific nutritional objectives and guidelines for nutritional requirements and recommended intakes of healthy adults
	Prevent eating disorders such as Vigorexia, Orthorexia, Anorexia through the necessary psychological assistance
<b>Precision Nutrition in Sports</b>	Incorporate hydrolyzed collagen with other food products to increase the absorption of polysaccharides and natural collagen
	Prevent gastrointestinal problems through energy drinks and gels made with hydrogel technology
	Optimize protein intake through the absorption of micronutrients, such as vitamin D

## Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



## General Conditions of the Internship Program

The general terms and conditions of the internship program agreement shall be as follows:

**1. TUTOR:** During the Internship Program, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

**2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE:** If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

**5. EMPLOYMENT RELATIONSHIP:** The Internship Program shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. DOES NOT INCLUDE:** The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

# 08

## Where Can I Do the Clinical Internship?

The internship of this Hybrid Professional Master's Degree is distinctive with respect to other academic programs prevailing in the market due to its on-site nature. During this learning phase, the specialists will have access to prestigious health institutions where they will apply the subjects learned in a theoretical way in the direct care of athletes with different nutritional requirements. In this way, during 3 weeks, the student will acquire a deeper knowledge of the contents studied and their correct execution, incorporating different advances to their daily professional practice.







“

*Enhance your theoretical preparation with a 3-week intensive internship at the most prestigious centers in the field of Sports Nutrition”*



The student will be able to complete the practical part of this Hybrid Professional Master's Degree at the following centers:



Medicine

### Centro Médico Villanueva de la Cañada

Country	City
Spain	Madrid

Address: C. Arquitecto Juan de Herrera, 2, 28691 Villanueva de la Cañada, Madrid

Health center with services in the main clinical specialties and diagnostic tests.

**Related internship programs:**

- Clinical Nutrition in Pediatrics
- Primary Care Clinical Ultrasound



Medicine

### Prosystem Nutrición

Country	City
Spain	Madrid

Address: C. Fresno, 23, 28522 Rivas-Vaciamadrid, Madrid

Clinic focused on physical activity and nutritional planning

**Related internship programs:**

- Sports Nutrition
- Rehabilitation Nutrition for Nursing



Medicine

### Hospital HM Regla

Country	City
Spain	León

Address: Calle Cardenal Landázuri, 2, 24003, León

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Update on Psychiatric Treatment in Minor Patients



Medicine

### Hospital HM Nou Delfos

Country	City
Spain	Barcelona

Address: Avinguda de Vallcarca, 151, 08023 Barcelona

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Aesthetic Medicine
- Clinical Nutrition in Medicine



Medicine

### Hospital HM Nuevo Belén

Country	City
Spain	Madrid

Address: Calle José Silva, 7, 28043, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- General and Digestive System Surgery
- Clinical Nutrition in Medicine



Medicine

### Policlínico HM Distrito Telefónica

Country	City
Spain	Madrid

Address: Ronda de la Comunicación, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Optical Technologies and Clinical Optometry
- General and Digestive System Surgery



Medicine

### Policlínico HM Gabinete Velázquez

Country	City
Spain	Madrid

Address: C. de Jorge Juan, 19, 1º 28001, 28001, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Clinical Nutrition in Medicine
- Aesthetic Plastic Surgery



Medicine

### Policlínico HM Las Tablas

Country	City
Spain	Madrid

Address: C. de la Sierra de Atapuerca, 5, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Nursing in the Traumatology Department
- Diagnosis in Physiotherapy



Medicine

### **Policlínico HM Moraleja**

Country	City
Spain	Madrid

Address: P.º de Alcobendas, 10, 28109, Alcobendas, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Rehabilitation Medicine in Acquired Brain Injury Management



Medicine

### **Hospital HM Sanchinarro**

Country	City
Spain	Madrid

Address: Calle de Oña, 10, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care



Medicine

### **Olympus Center**

Country	City
Spain	Madrid

Address: Calle de Palos de la Frontera, 16, 28012 Madrid

Olympus Center specializes in meeting the objectives of the person, according to their physical condition.

**Related internship programs:**

- High Performance in Sports
- Fitness Instructor

09

# 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.





“

*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. Gérvas, 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.

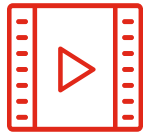
*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

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

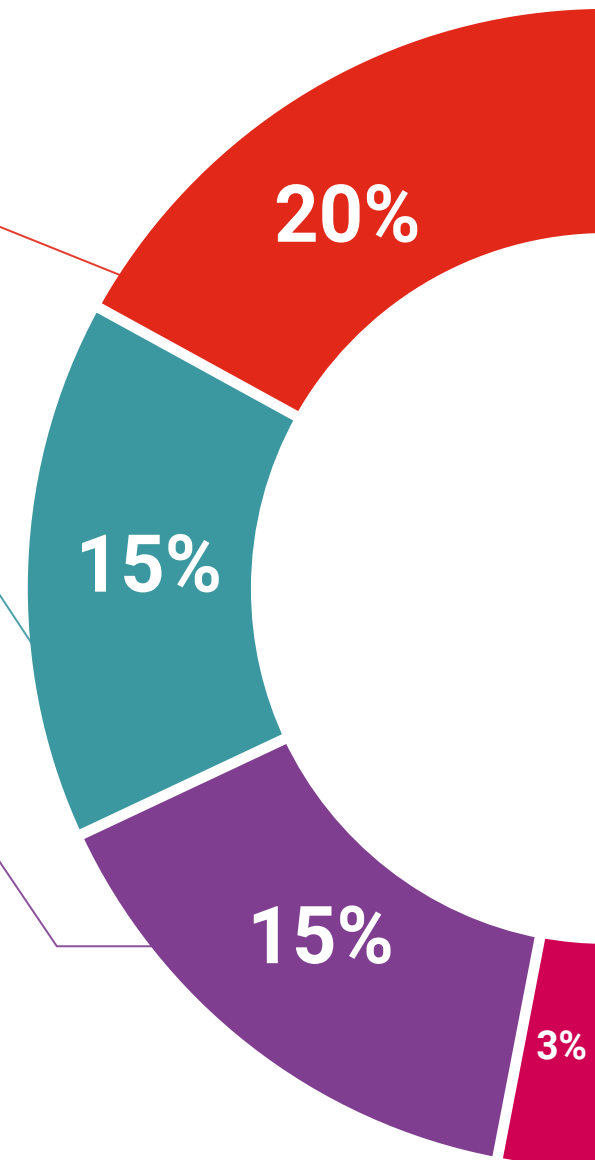
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

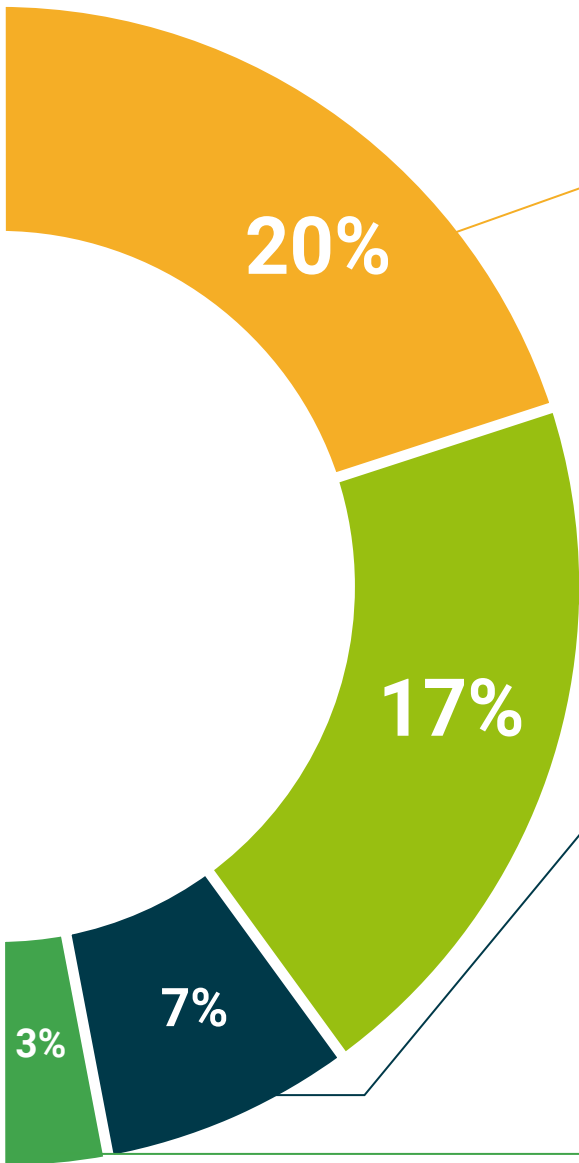
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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.



# 10 Certificate

The Hybrid Professional Master's Degree in Sports Nutrition guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Professional Master's Degree issued by TECH Technological University.





*Successfully complete this program  
and receive your university qualification  
without having to travel or fill out laborious  
paperwork"*

This **Hybrid Professional Master's Degree in Sports Nutrition** contains the most complete and up-to-date program on the professional and educational field.

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

In addition to the certificate, students will be able to obtain an academic transcript, as well as a certificate outlining the contents of the program. In order to do so, students should contact their academic advisor, who will provide them with all the necessary information.

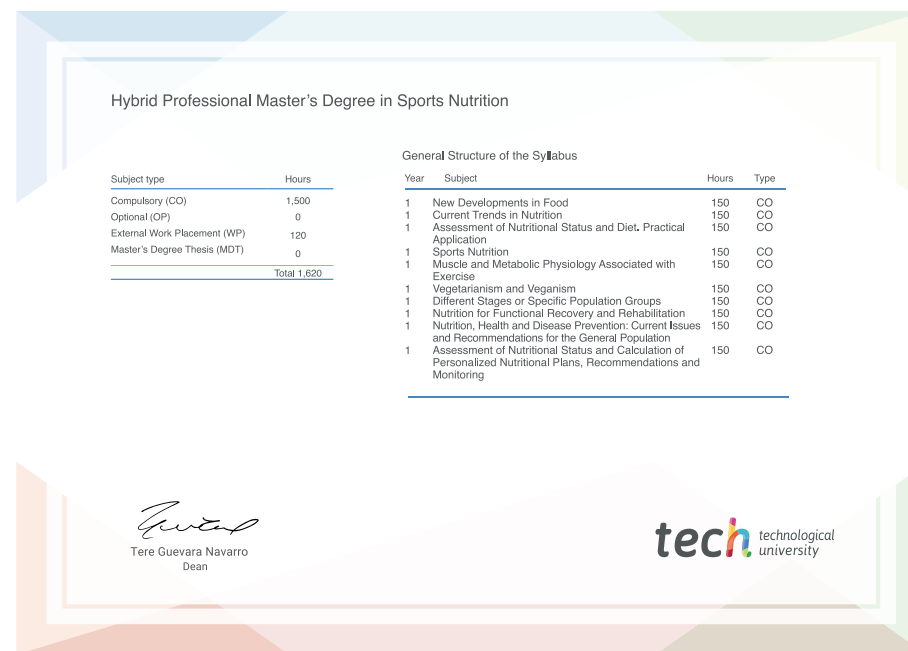
Title: **Hybrid Professional Master's Degree in Sports Nutrition**

Course Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Technological University**

Teaching Hours: **1,620 h.**



\*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.



## Hybrid Professional Master's Degree Sports Nutrition

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1,620 h.

# Hybrid Professional Master's Degree

## Sports Nutrition

