

Hybrid Professional Master's Degree

Sports Nutrition Therapy





Hybrid Professional Master's Degree Sports Nutrition Therapy

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Recognition: 60 + 5 ECTS Credits

Teaching Hours: 1,620 h.

Website: www.techtute.com/in/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-sports-nutrition-therapy

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01

Introduction

Sports sciences have evolved and with them, healthcare protocols and technological resources have been implemented that, based on proper nutrition, can prevent different physical ailments in elite athletes. However, keeping up to date with these advances in the field of health can be challenging for specialists. That is why this degree offers an exceptional combination of theoretical and practical learning in relation to Sports Nutrition Therapy. To this end, this educational modality proposes, firstly, a period of 100% online study, from an interactive platform with various multimedia resources, lasting 1,500 hours. Then, the doctor will complete a 3-week intensive face-to-face stay in a renowned hospital center.



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Update your skills on energy expenditure monitoring of athletes of different disciplines through this excellent theoretical and practical TECH”

For several years, science and technology have been committed to guaranteeing high-performance athletes the best nutritional advice. For this reason, in recent times, there has been an increase in studies that analyze the impact of energy expenditure on the athlete's health and how to benefit their competitive results through a personalized diet according to their discipline and physiological characteristics. Likewise, this area of medicine also strives to find better opportunities for people with disabilities or chronic diseases such as diabetes to develop quality physical exercise and obtain champion results. At the same time, specialists often find it difficult to keep up to date on all these aspects due to the absence of comprehensive educational programs that address the theoretical and practical aspects of this field of care.

TECH, willing to break this pattern, proposes an innovative academic modality that stands out from any other competitor in the market, thinking about the interests and objectives of the medical professional. Therefore, this program consists of two distinct stages. First, the physician will have within his reach the most current concepts and theoretical knowledge of the subject in question. They will be able to access them through an interactive platform, with multiple multimedia resources, and 100% online. For the study of all these contents, the specialist will have 1,500 hours and the personalized guidance of a first class teaching staff.

Intensive and exhaustive clinical training in a state-of-the-art hospital institution. This stay will be carried out in 8-hour days, from Monday to Friday, for up to 3 weeks. During this time, the health professional will have access to the most modern technologies in the field of Sports Nutrition Therapy and will delve into its management and the applications that can be developed from them. At the same time, they will be able to use them to treat real patients with various pathologies. In addition, you will be supervised and accompanied at all times by experts with extensive experience in the field.

This **Hybrid Professional Master's in Therapeutic 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 Therapeutic Sports Nutrition professionals with experience in the management of sports patients with different dietary requirements
- ♦ Its graphic, schematic and practical contents provide scientific and assistance information on those medical disciplines that are essential for professional practice
- ♦ Comprehensive systematized action plans for the main pathologies
- ♦ Presentation of practical workshops on procedures diagnosis, and treatment techniques
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ 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



Add to the online study of the latest advances in Sports Nutrition Therapy, a first level clinical practice where you will strengthen your knowledge and skills with total guarantees"

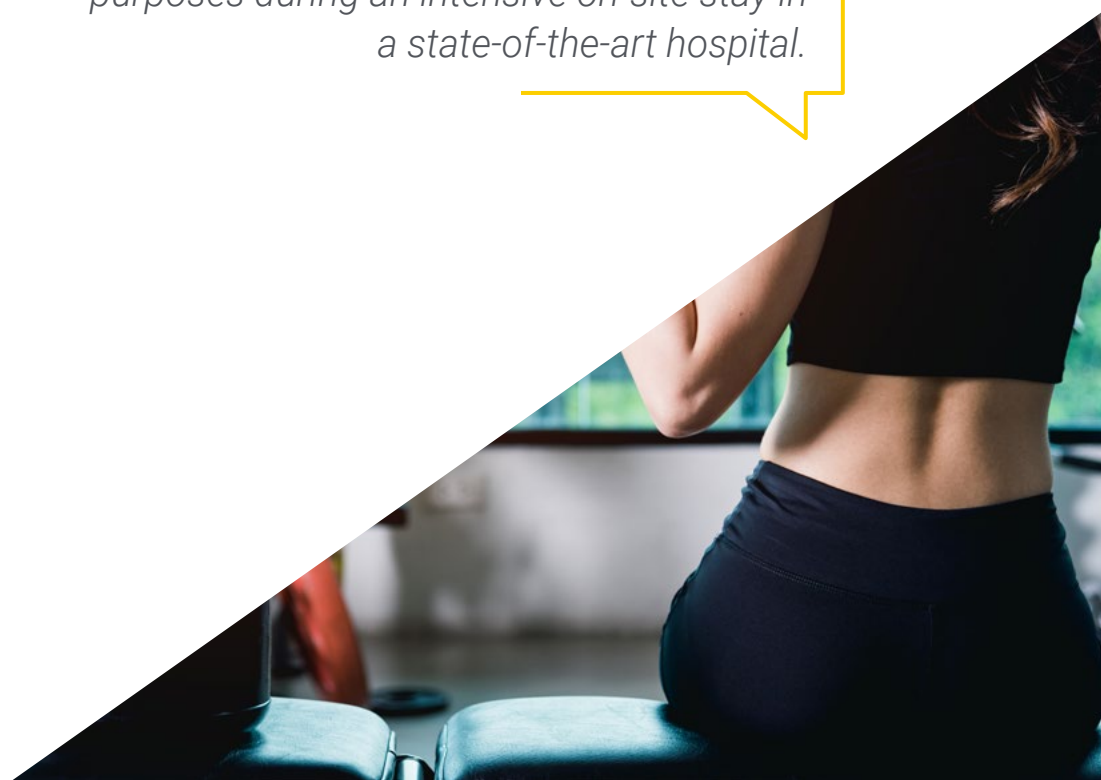
“ *At all times, throughout this degree, you will be accompanied and receive personalized guidance from leading experts”*

In this Master's program, of a professionalizing nature and blended learning modality, the program is aimed at updating professionals in Sports Nutrition Therapy. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge into daily practice, and the theoretical-practical elements will facilitate the updating of knowledge and allow decision making in patient management.

Thanks to its multimedia content elaborated with the latest educational technology, they will allow the medical professional to obtain situated and contextual learning, that is to say, a simulated environment that will provide immersive learning programmed to train in real situations. This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

To complete the theoretical phase of this Hybrid Professional Master's Degree, you will have 1,500 hours of access to its 100% online learning platform and multimedia resources of the highest didactic value.

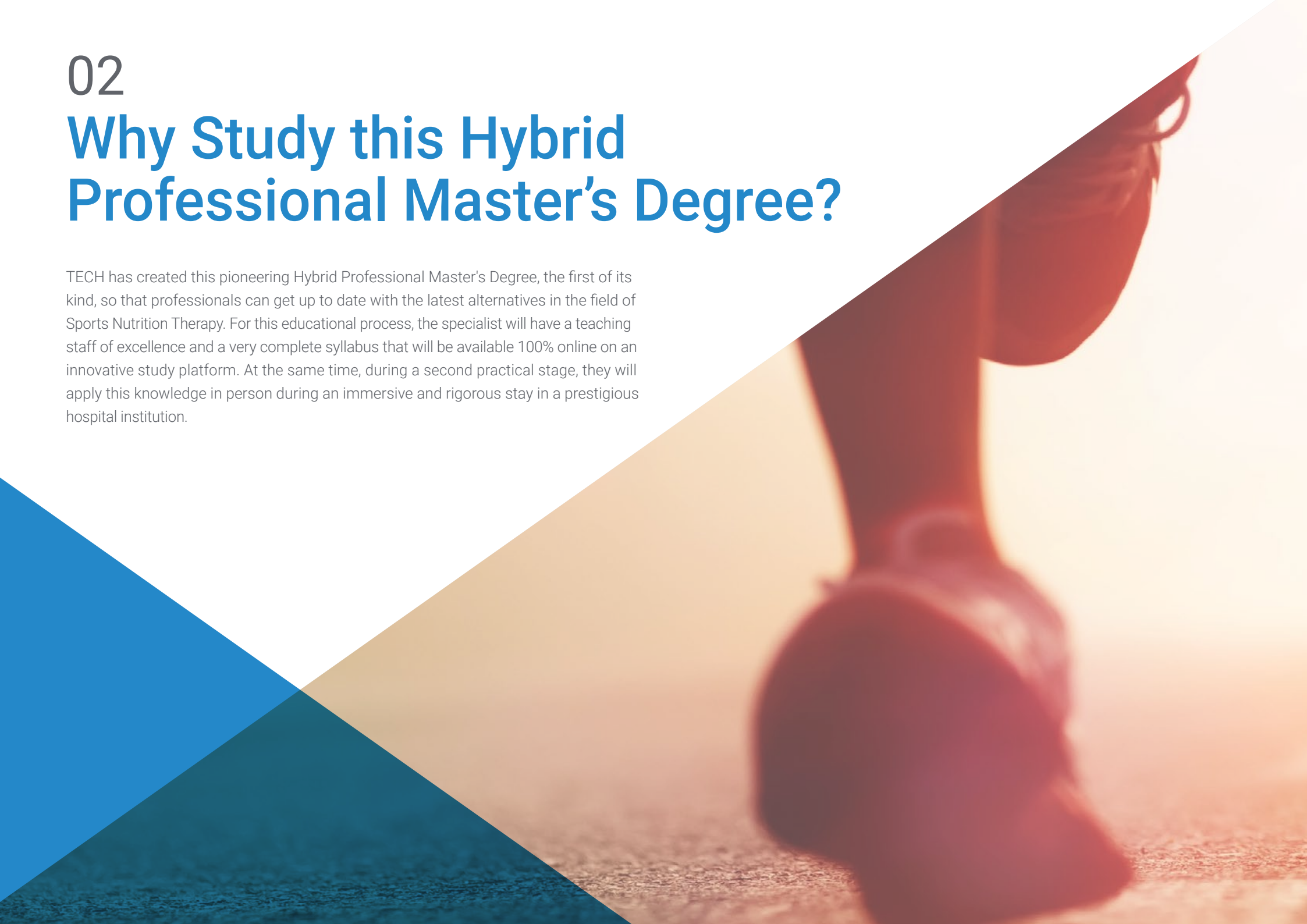
Get up to date on advances in the field of precision Sports Nutrition for therapeutic purposes during an intensive on-site stay in a state-of-the-art hospital.



02

Why Study this Hybrid Professional Master's Degree?

TECH has created this pioneering Hybrid Professional Master's Degree, the first of its kind, so that professionals can get up to date with the latest alternatives in the field of Sports Nutrition Therapy. For this educational process, the specialist will have a teaching staff of excellence and a very complete syllabus that will be available 100% online on an innovative study platform. At the same time, during a second practical stage, they will apply this knowledge in person during an immersive and rigorous stay in a prestigious hospital institution.



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TECH gives you access to prestigious international experts and the opportunity to update your knowledge with them from renowned healthcare centers located in different cities and continents"

1. Update from the latest technology available

Through this degree, the specialist will be updated in the use of the most modern technological tools related to Sports Nutrition Therapy. From this intensive study process, both theoretical and practical, graduates will be able to perfect their skills and will be able to implement the highest quality health care in their daily lives.

2. Gain in-depth knowledge from the experience of top specialists

With the help of this Hybrid Professional Master's Degree, the healthcare professional will have access to a teaching staff of excellence. Through them, you will be updated on the latest trends in clinical management and the most comprehensive follow-up methodologies for healthy athletes and Paralympic athletes. At the same time, during the practical stay that comprises the second part of this learning model, they will deploy their new knowledge under the careful guidance of the best experts in the sector.

3. Enter first-class clinical environments

After a thorough review of the most prestigious centers in relation to the field of Sports Nutrition Therapy, TECH has chosen those institutions where medical technology and health personnel converge in an exceptional way for the clinical practice of this degree. This way, the specialist will have within their reach the best tools and practical advisors to acquire a more exhaustive and rigorous update.





Why Study this Hybrid Professional | 11 tech Master's Degree?

4. Combine the best theory with state-of-the-art practice

This two-part academic program stands out in the educational landscape for its ability to integrate theoretical knowledge with practical practice. These facilities are made possible by the fact that, in its second stage, the degree includes an on-site stay fully supervised by a renowned tutor, who will assign specific tasks and support the updating of the graduate's skills.

5. Expand the boundaries of knowledge

TECH, as an educational institution of international scope, has access to hospital centers located in different parts of the world. Thus, the physician who opts for this program to get up to date will be able to expand their skills from different frontiers and exercise their knowledge alongside the most recognized experts in the global healthcare scenario.



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

03

Objectives

This Hybrid Professional Master's Degree in Sports Nutrition Therapy is a reference in the educational panorama due to its updated theoretical and practical contents. This curriculum will boost the specialist in his professional career through a more versatile training and adjusted to the use of modern technologies from the clinical care point of view. Likewise, the fulfillment of the general and specific objectives of this degree will be supervised by experts with extensive therapeutic and teaching experience who will ensure the graduate a complete mastery of the latest trends in this area of health.



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You will broaden your knowledge of the nutritional and energetic needs of athletes at an infant age and Paralympic athletes through this Hybrid Professional Master's Degree"



General Objective

- This TECH academic program aims to develop multiple educational goals. On the one hand, this degree aims to provide its students with the most advanced knowledge on nutritional planning in professional and non-professional athletes, for the healthy performance of physical exercise. On the other hand, this degree aims to provide its students with the most advanced knowledge on nutritional planning in professional and non-professional athletes, for the healthy performance of physical exercise. In addition, they will be updated on the energy and nutritional needs of athletes with different pathophysiological conditions, marked by gender, age or disability

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You will apply, by means of TECH, the most modern techniques for the analysis of nutritional requirements of sports patients, based on Nutrigenetics and Nutrigenomics”





Specific Objectives

Module 1. 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 most important adaptations that occur in athletes
- ♦ Delve into the mechanisms of energy production according to the type of exercise carried out
- ♦ Explore the interaction between the different energy systems that make up the muscle energy metabolism

Module 2. Athlete assessment at different times of the season

- ♦ Detect nutritional deficits or states of overtraining by means of the biochemistry of the human body
- ♦ Interpretation of the different types of body composition in order to optimize the appropriate weight and fat percentage for the sport being practised
- ♦ Learn how to monitor the athlete throughout the season
- ♦ Plan the periods of the season according to their requirements

Module 3. Watersports

- ♦ Manage most important characteristics of the main water sports
- ♦ Understand the demands and requirements associated with sports activities in aquatic environments
- ♦ Distinguish between the nutritional needs of different watersports

Module 4. Adverse Conditions

- ◆ Know the main performance limiting factors caused by climate
- ◆ Develop an acclimatization plan appropriate to the situation given
- ◆ Delimit in the physiological adaptations due to altitude
- ◆ Establish the correct individual hydration guidelines according to the climate

Module 5. Sports by Weight Category

- ◆ Examine the different characteristics and needs within sports by weight category
- ◆ Understand in depth the nutritional strategies in the preparation of the athlete for competition
- ◆ Optimize through a nutritional approach the improvement of body composition

Module 6. Vegetarianism and Veganism

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

Module 7. Different Stages or Specific Population Groups

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



Module 8. The Injury Period

- ◆ Determine the different phases of the injury
- ◆ Help in the prevention of injuries
- ◆ Improve the prognosis of the injury
- ◆ Develop a nutritional strategy to meet the changing nutritional requirements during the injury period

Module 9. Parathletes

- ◆ Deepen in the differences between the different categories of para-sportsmen and their physiological-metabolic constraints
- ◆ Recognize the nutritional needs of the different athletes in order to establish a precise nutritional plan
- ◆ Master the knowledge necessary to establish interactions between the intake of drugs in these athletes and nutrients, in order to avoid deficits
- ◆ Understand the body composition of para-athletes in different sport categories
- ◆ Apply current scientific evidence on nutritional ergogenic aids

Module 10. The Type 1 Diabetic Athlete

- ◆ Establish the physiological and biochemical mechanism of diabetes both at rest and during exercise
- ◆ Evaluate how the different insulins or medications used by diabetics work
- ◆ Assess the nutritional requirements for people with diabetes in their daily life and exercise to improve their health
- ◆ Plan nutrition for athletes of different disciplines with diabetes to improve their health and performance
- ◆ Know the current evidence on ergogenic aids in diabetics

04 Skills

At the end of both learning stages of this Hybrid Professional Master's Degree, the health professional will master the most modern and demanded healthcare skills in order to offer patients a quality Sports Nutrition Therapy. These skills, at the same time, will be supported by the most refuted scientific and clinical evidence.





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Through this Hybrid Professional Master's Degree, you will explore the most up-to-date criteria on physiological adaptation to different types of exercise and incorporate these protocols into your daily practice immediately"



General Skills

- Apply new trends in therapeutic sports nutrition to your patient's treatment
- Implementation of new nutrition trends according to adult pathologies
- Investigate the nutritional problems of your patients

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Get up to date on the latest guidelines on Hydration in sports practice during the theoretical and practical phases of this excellent TECH program"





Specific Skills

- ◆ Consolidate the initiative and entrepreneurial spirit to start projects related to nutrition in physical activity and sport
- ◆ Manage advanced skills in the detection of possible signs of nutritional changes associated with sports activities
- ◆ Master the structure of muscle tissue and its implication in sport
- ◆ Know the energetic and nutritional needs of athletes in different physiopathological situations
- ◆ Assess the energetic and nutritional needs of child athletes
- ◆ Evaluate the energetic and nutritional needs of Paralympic athletes

05

Course Management

For this Hybrid Professional Master's Degree in Sports Nutrition Therapy, TECH has composed a first class teaching staff. Thus, the doctor will have access to the most qualified professionals at the moment and who already apply in their consultations and general clinical activity the most advanced procedures and technologies for this specialty. They have taken on the challenge of composing a syllabus with the most updated contents of this health area and they have fulfilled it, providing theoretical concepts and other audiovisual resources of great didactic value. Their personalized advice will get the specialist up to date in the fastest and most flexible way.



“

The most prestigious professionals in the field of Sports Nutrition Therapy make up this excellent teaching staff"

Management



Dr. Marhuenda Hernández, Javier

- ◆ Nutritionist in professional soccer clubs
- ◆ Head of Sports Nutrition. Albacete Balompié Club SAD
- ◆ Head of Sports Nutrition. Universidad Católica de Murcia, UCAM Murcia Club de Fútbol Catholic University of Murcia, UCAM Murcia Football Club
- ◆ Scientific Advisor. Nutrium
- ◆ Nutritional Advisor. Impulse Center
- ◆ Teacher and Coordinator of Postgraduate Studies
- ◆ Doctor in Nutrition and Food Safety. San Antonio Murcia Catholic University
- ◆ Degree in Human Nutrition and Dietetics. San Antonio Murcia Catholic University
- ◆ Master's Degree in Clinical Nutrition. San Antonio Murcia Catholic University
- ◆ Academic. Spanish Academy of Nutrition and Dietetics (AEND)

Professors

Mr. Arcusa Saura, Raúl

- ◆ Nutritionist. Castellón Sports Club
- ◆ Nutritionist in several semi-professional clubs in Castellón
- ◆ Researcher. San Antonio Murcia Catholic University
- ◆ Undergraduate and Graduate Teaching
- ◆ Graduate in Human Nutrition and Dietetics
- ◆ Master's Degree in Nutrition in Physical Activity and Sport

Ms. Montoya Castaño, Johana

- ◆ Sports Nutritionist
- ◆ Nutritionist. Ministry of Sports of Colombia (Mindeportes)
- ◆ Scientific Advisor. Bionutrition, Medellín
- ◆ Undergraduate Professor of Sports Nutrition
- ◆ Nutritionist Dietitian. University of Antioquia
- ◆ Master in Nutrition in Physical Activity and Sport. San Antonio Murcia Catholic University

Ms. Ramírez Munuera, Marta

- ◆ Sports Nutritionist expert in strength sports
- ◆ Nutritionist. M10 Health and Fitness. Health and Sports Center
- ◆ Nutritionist. Mario Ortiz Nutrition
- ◆ Trainer at Courses and Workshops on Sports Nutrition
- ◆ Speaker at Sports Nutrition Conferences and Seminars
- ◆ Degree in Human Nutrition and Dietetics. San Antonio Murcia Catholic University
- ◆ Master in Nutrition in Physical Activity and Sport. San Antonio Murcia Catholic University
- ◆ Master's Degree in Nutrition in Physical Activity and Sport by the UCAM



The professors chosen by TECH for this Hybrid Professional Master's Degree have achieved success through a highly updated professional praxis based on the latest scientific evidence"

06

Educational Plan

The syllabus of this program includes a large number of academic modules where the most recent innovations in the field of Sports Nutrition Therapy are included. Among the subjects that stand out in this program is a deep tour of the muscular and metabolic pathologies that are related to physical exercise and high performance athletic activity. It then explores the contributions of proper nutrition to prevent injuries and other physiological damage that may result from the intensive practice of a sport. It also examines the most common nutritional requirements in healthy athletes, children and Paralympic athletes.



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This educational program is based on modern didactic methodologies such as Relearning to update the specialist with respect to the most complex knowledge"

Module 1. Muscle and Metabolic Physiology Associated with Exercise

- 1.1. Cardiovascular Adaptations Related to Exercise
 - 1.1.1. Increased Systolic Volume
 - 1.1.2. Decreased Heart Rate
- 1.2. Ventilatory Adaptations Related to Exercise
 - 1.2.1. Changes in the Ventilatory Volume
 - 1.2.2. Changes in Oxygen Consumption
- 1.3. Hormonal Adaptations Related to Exercise
 - 1.3.1. Cortisol
 - 1.3.2. Testosterone
- 1.4. Muscle Structure and Types of Muscle Fibers
 - 1.4.1. Muscle Fiber
 - 1.4.2. Type I Muscle Fiber
 - 1.4.3. Type II Muscle Fibers
- 1.5. The Concept of Lactic Threshold
- 1.6. ATP and Phosphagen Metabolism
 - 1.6.1. Metabolic Pathways for ATP Resynthesis during Exercise
 - 1.6.2. Phosphagen Metabolism
- 1.7. Carbohydrate Metabolism
 - 1.7.1. Carbohydrate Mobilization during Exercise
 - 1.7.2. Types of Glycolysis
- 1.8. Lipid Metabolism
 - 1.8.1. Lipolysis
 - 1.8.2. Fat Oxidation during Exercise
 - 1.8.3. Ketone Bodies
- 1.9. Protein Metabolism
 - 1.9.1. Ammonium Metabolism
 - 1.9.2. Amino Acid Oxidation
- 1.10. Mixed Bioenergetics of Muscle Fibers
 - 1.10.1. Energy Sources and their Relation to Exercise
 - 1.10.2. Factors Determining the Use of One or Another Energy Source during Exercise

Module 2. The Evaluation of the Athlete at Different Moments of the Season

- 2.1. Biochemical Evaluation
 - 2.1.1. Blood Count:
 - 2.1.2. Overtraining Markers
- 2.2. Anthropometric Assessment
 - 2.2.1. Body composition
 - 2.2.2. ISAK Profile
- 2.3. Preseason
 - 2.3.1. High Workload
 - 2.3.2. Assuring Caloric and Protein Intake
- 2.4. Competitive Season
 - 2.4.1. Sports Performance
 - 2.4.2. Recovery between Games
- 2.5. Transition Period
 - 2.5.1. Vocational Period
 - 2.5.2. Changes in Body Composition
- 2.6. Travel
 - 2.6.1. Tournaments during the Season
 - 2.6.2. Off-Season Tournaments (World Cups, European Cups and The Olympic Games)
- 2.7. Athlete Monitoring
 - 2.7.1. Basal Athlete Status
 - 2.7.2. Evolution during the Season
- 2.8. Sweat Rate Calculation
 - 2.8.1. Hydric Losses
 - 2.8.2. Calculation Protocol
- 2.9. Multidisciplinary Work
 - 2.9.1. The Role of the Nutritionist in the Athlete's Environment
 - 2.9.2. Communication with the Rest of the Areas
- 2.10. Doping
 - 2.10.1. WADA List
 - 2.10.2. Anti-doping Tests

Module 3. Watersports

- 3.1. History of Watersports
 - 3.1.1. Olympics and Major Tournaments
 - 3.1.2. Watersports Today
- 3.2. Performance Limitations
 - 3.2.1. Aquatic Sports in the Water (Swimming, Water polo, etc.)
 - 3.2.2. Aquatic Sports on the Water (Surfing, Sailing, Canoeing, etc.)
- 3.3. The Basic Characteristics of Water Sports
 - 3.3.1. Aquatic Sports in the Water (Swimming, Water polo, etc.)
 - 3.3.2. Aquatic Sports on the Water (Surfing, Sailing, Canoeing, etc.)
- 3.4. Aquatic Sports Physiology
 - 3.4.1. Energy Metabolism
 - 3.4.2. Athlete Biotype
- 3.5. Education
 - 3.5.1. Strength
 - 3.5.2. Resistance
- 3.6. Body composition
 - 3.6.1. Swimming
 - 3.6.2. Water polo
- 3.7. Precompetition
 - 3.7.1. 3 Hours Before
 - 3.7.2. 1 Hour Before
- 3.8. Precompetition
 - 3.8.1. Carbohydrates
 - 3.8.2. Hydration
- 3.9. Post-Competition
 - 3.9.1. Hydration
 - 3.9.2. Protein
- 3.10. Ergogenic Aids
 - 3.10.1. Creatine
 - 3.10.2. Caffeine

Module 4. Adverse Conditions

- 4.1. The History of Sport in Extreme Conditions
 - 4.1.1. Winter Competitions throughout History
 - 4.1.2. Competitions in Hot Environments Today
- 4.2. Performance Limitations in Hot Climates
 - 4.2.1. Dehydration
 - 4.2.2. Fatigue
- 4.3. Basic Characteristics in Hot Climates
 - 4.3.1. High Temperature and Humidity
 - 4.3.2. Acclimatization
- 4.4. Nutrition and Hydration in Hot Climates
 - 4.4.1. Hydration and Electrolytes
 - 4.4.2. Carbohydrates
- 4.5. Performance Limitations in Cold Climates
 - 4.5.1. Fatigue
 - 4.5.2. Bulky Clothing
- 4.6. Basic Characteristics in Cold Climates
 - 4.6.1. Extreme Cold
 - 4.6.2. Reduced V_{O2} Max
- 4.7. Nutrition and Hydration in Cold Climates
 - 4.7.1. Hydration
 - 4.7.2. Carbohydrates

Module 5. Sports by Weight Category

- 5.1. Characteristics of the Main Sports by Weight Category
 - 5.1.1. Regulation
 - 5.1.2. Categories
- 5.2. Programming of the Season
 - 5.2.1. Competitions
 - 5.2.2. Macrocycle
- 5.3. Body composition
 - 5.3.1. Combat Sports
 - 5.3.2. Weightlifting

- 5.4. Stages of Muscle Mass Gain
 - 5.4.1. Body Fat Percentage
 - 5.4.2. Programming
- 5.5. Definition Stages
 - 5.5.1. Carbohydrates
 - 5.5.2. Protein
- 5.6. Precompetition
 - 5.6.1. Peak Week
 - 5.6.2. Before Weighing
- 5.7. Precompetition
 - 5.7.1. Practical Applications
 - 5.7.2. *Timing*
- 5.8. Post-Competition
 - 5.8.1. Hydration
 - 5.8.2. Protein
- 5.9. Ergogenic Aids
 - 5.9.1. Creatine
 - 5.9.2. Whey Protein

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 Naturopathic 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 Assessment/Nutritional Deficiencies
 - 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

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
 - 7.7.1. Carbohydrates
 - 7.7.2. Proteins
- 7.8. Changes Associated with Aging
 - 7.8.1. Body Fat Percentage
 - 7.8.2. Muscle Mass
- 7.9. Main Problems in Older Athletes
 - 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 8. The Injury Period

- 8.1. Introduction
- 8.2. Prevention of Injuries in Athletes
 - 8.2.1. Relative Energy Availability in Sport
 - 8.2.2. Oral Health and Injury Implications
 - 8.2.3. Fatigue, Nutrition and Injuries
 - 8.2.4. Sleep, Nutrition and Injuries
- 8.3. Phases of Injury
 - 8.3.1. Immobilization Phase. Inflammation and Changes Occurring during this Phase
 - 8.3.2. Return of Activity Phase

- 8.4. Energy Intake during the Period of Injury
- 8.5. Macronutrient Intake during the Period of Injury
 - 8.5.1. Carbohydrate Intake
 - 8.5.2. Fat Intake
 - 8.5.3. Protein Intake
- 8.6. Intake of Micronutrients of Special Interest during Injury
- 8.7. Sports Supplements with Evidence during the Period of Injury
 - 8.7.1. Creatine
 - 8.7.2. Omega 3
 - 8.7.3. Others
- 8.8. Tendon and Ligament Injuries
 - 8.8.1. Introduction to Tendon and Ligament Injuries. Tendon Structure
 - 8.8.2. Collagen, Gelatin and Vitamin C. Can they Help?
 - 8.8.3. Other Nutrients Involved in Collagen Synthesis
- 8.9. The Return to Competition
 - 8.9.1. Nutritional Considerations in the Return to Competition
- 8.10. Interesting Case Studies in Scientific Injury Literature

Module 9. Parathletes

- 9.1. Classification and Categories in Parathletes
 - 9.1.1. What is a Parathlete?
 - 9.1.2. How are Parathletes Classified?
- 9.2. Sports Science in Parathletes
 - 9.2.1. Metabolism and Physiology
 - 9.2.2. Biomechanics
 - 9.2.3. Psychology
- 9.3. Energy Requirements and Hydration in Parathletes
 - 9.3.1. Optimal Energy Demands for Training
 - 9.3.2. Hydration Planning before, during and after Training and Competitions

- 9.4. Nutritional Problems in the Different Categories of Para Athletes According to Pathology or Anomaly
 - 9.4.1. Spinal Cord Injuries
 - 9.4.2. Cerebral Palsy and Acquired Brain Injuries
 - 9.4.3. Amputees
 - 9.4.4. Vision and Hearing Impairment
 - 9.4.5. Intellectual Impairments
- 9.5. Nutritional Planning in Parathletes With Spinal Cord Injury, Cerebral Palsy and Acquired Brain Injuries
 - 9.5.1. Nutritional Requirements (Macro and Micronutrients)
 - 9.5.2. Sweating and Fluid Replacement during Exercise
- 9.6. Nutritional Planning in Amputee Parathletes
 - 9.6.1. Energy Requirements
 - 9.6.2. Macronutrients
 - 9.6.3. Thermoregulation and Hydration
 - 9.6.4. Nutritional Issues Related to Prosthetics
- 9.7. Planning and Nutritional Problems in Para Athletes with Vision-Hearing Impairment and Intellectual Impairment
 - 9.7.1. Sports Nutrition Problems With Vision Impairment: Retinitis Pigmentosa, Diabetic Retinopathy, Albinism, Stargardt's Disease and Hearing Pathologies
 - 9.7.2. Sports Nutrition Problems With Intellectual Deficiencies: Down Syndrome, Autism, Aspergers Syndrome and Phenylketonuria
- 9.8. Body Composition in Parathletes
 - 9.8.1. Measurement Techniques
 - 9.8.2. Factors Influencing the Reliability of Different Measurement Methods
- 9.9. Pharmacology and Nutrient Interactions
 - 9.9.1. Different Types of Drugs Taken by Parathletes
 - 9.9.2. Micronutrient Deficiencies in Parathletes
- 9.10. Ergogenic Aids
 - 9.10.1. Potentially Beneficial Supplements for Parathletes
 - 9.10.2. Adverse Effects on Health and Contamination and Doping Problems Due to the Intake of Ergogenic Aids

Module 10. The Type 1 Diabetic Athlete

- 10.1. Knowing about Diabetes and its Pathology
 - 10.1.1. The Incidence of Diabetes
 - 10.1.2. Pathophysiology of Diabetes
 - 10.1.3. The Consequences of Diabetes
- 10.2. Exercise Physiology in People with Diabetes
 - 10.2.1. Maximal, Submaximal Exercise and Muscle Metabolism during Exercise
 - 10.2.2. Differences in the Metabolic Level during Exercise in People with Diabetes
- 10.3. Exercise in People with Type 1 Diabetes
 - 10.3.1. Exercise in People with Type 1 Diabetes
 - 10.3.2. Exercise Duration and Carbohydrate Intake
- 10.4. Exercise in People with Type 2 Diabetes. Blood Sugar Control
 - 10.4.1. Risks of Physical Activity in People with Type 2 Diabetes
 - 10.4.2. Benefits of Exercise in People with Type 2 Diabetes
- 10.5. Exercise in Children and Adolescents with Diabetes
 - 10.5.1. Metabolic Effects of Exercise
 - 10.5.2. Precautions during Exercise
- 10.6. Insulin Therapy and Exercise
 - 10.6.1. Insulin Infusion Pump
 - 10.6.2. Types of Insulins
- 10.7. Nutritional Strategies during Sport and Exercise in Type 1 Diabetes
 - 10.7.1. From Theory to Practice
 - 10.7.2. Carbohydrate Intake Before, During and After Physical Exercise
 - 10.7.3. Hydration Before, During and After Physical Exercise
- 10.8. Nutritional Planning in Endurance Sports
 - 10.8.1. Marathon
 - 10.8.2. Cycling
- 10.9. Nutritional Planning in Team Sports
 - 10.9.1. Soccer
 - 10.9.2. Rugby
- 10.10. Sports Supplements and Diabetes
 - 10.10.1. Potentially Beneficial Supplements for Athletes with Diabetes

07

Clinical Internship

To complete this qualification, the specialist must complete a practical, on-site stay in a reference therapeutic clinical center. During this training period, they will apply the theoretical contents acquired for the benefit of real patients and with the help of the most advanced technology.



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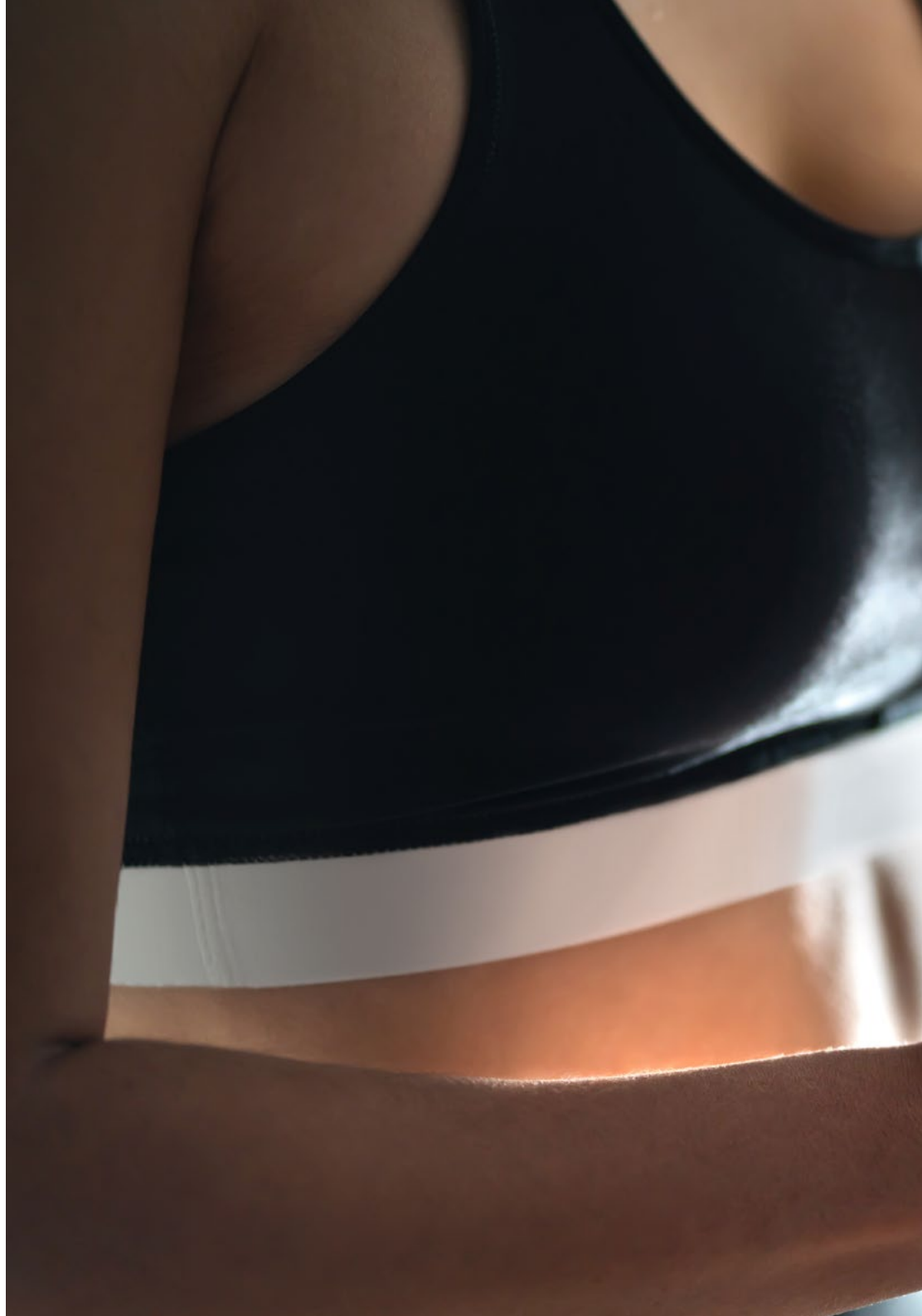
During the second stage of this Hybrid Professional Master's Degree, you will develop precise professional practices for the benefit of real patients such as the monitoring of nutritional requirements for athletes with Diabetes”

The second part of this Hybrid Professional Master's Degree in Sports Nutrition Therapy consists of 3 weeks of classroom learning in an international reference center. The specialist will have to complete 8 consecutive 8-hour days, from Monday to Friday, where they will apply the knowledge developed in the theoretical phase and will contribute to the treatment and clinical advice of real patients.

An assistant tutor will be in charge of supervising this academic stage and also of assigning new professional tasks and analyzing the correct execution of assistance procedures. At the same time, the physician will have the opportunity to interact with other experts and also learn about their professional methodologies.

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 medical practice (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
Assessment of the nutritional status and diet of the elite athlete	Determination of energy expenditure by specific assessment methods
	Differentiate the nutritional status based on 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
Precision Nutrition in Sports	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
Nutrition for the diabetic athlete and para-athlete	Evaluate the different insulins or medications used by diabetics and determine how their use is best suited to the physical exercise performed by the sick athlete
	Monitor the nutritional requirements for people with diabetes both in daily life and during exercise in their daily life as well as in exercise, to improve their health
	Implement precision nutritional ergogenic aids for athletes with secondary pathologies
	Establish a specific nutritional plan for the para-athlete depending on their physiological and metabolic limitations
	Adequately measure the interactions between drug intake in these athletes and nutrients to avoid deficits
New advances in food and nutrition of the athlete	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
	Incorporate transgenic foods into contemporary dietary approaches
	Train modern guidelines on Hydration in sports practice
	Periodically examine the basis of physiological regulation of nutrition, appetite and satiety
	Explore physiological adaptation to different types of physical exercise

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 internship program 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 agreement for the program are as follows:

1. TUTOR: During the Hybrid Professional Master's Degree, 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 Hybrid Professional Master's Degree, 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 Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. 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 Hybrid Professional Master's Degree 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 on-site practice of this degree will take place in a medical institution equipped with the most modern technology related to Sports Nutrition Therapy. These centers also have the most qualified experts who already apply innovative protocols related to Precision Nutrition for the benefit of athletes with individualized energy requirements. Of all those elements, TECH graduates will be able to make the most of all these elements, becoming top-level specialists by developing skills that are widely sought after in medical practice.





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Performs innovative procedures for the therapeutic dietary supervision of high performance athletes, during the 3 weeks of intensive practical stay that this degree provides”



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



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

Policlínico HM Sanchinarro

Country	City
Spain	Madrid

Address: Av. de Manoteras, 10, 28050, Madrid

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

Related internship programs:

- Gynecological Care for Midwives
- Nursing in the Digestive Tract Department



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Take advantage of this opportunity to surround yourself with expert professionals and learn from their work methodology”

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.





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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.



10 Certificate

The Hybrid Professional Master's Degree in Sports Nutrition Therapy guarantees, in addition to the most rigorous and updated training, access to a Hybrid Professional Master's Degree issued by TECH Thecnological University.



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

This program will allow you to obtain your **Hybrid Professional Master's Degree certificate in Sports Nutrition Therapy** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

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

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

Duration: **12 months**

Certificate: **TECH Technological University**

Recognition: **60 + 5 ECTS Credits**

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

Therapeutic Sports Nutrition

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Recognition: 60 + 5 ECTS Credits

Teaching Hours: 1,620 h.

Hybrid Professional Master's Degree Therapeutic Sports Nutrition

