Professional Master's Degree

Sports Nutrition in Special Populations

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Professional Master's Degree
Sports Nutrition in Special Populations

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Accreditation: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/nutrition/professional-master-degree/master-sports-nutrition-special-populations**

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01

Introduction

In recent years, progress in Sports Nutrition has generated relevant changes in athletes and their respective preparation in high competition. In this way, it has been possible to reach determining factors such as adequate nutrition according to the physiology of the athlete and the discipline, reaching a better adaptation to achieve the highest objectives and goals in the elite of the sport. Given the importance of this area of knowledge, this academic program has been developed to provide the graduate with the highest level material enhancing their skills around the mechanisms of energy production based on the type of exercise performed. All this, including state-of-the-art multimedia resources and the revolutionary*Relearning*methodology.

Enroll now in this Professional Master's Degree! You will enter an elite program designed by the world's best online university, according to Forbes"

Although recently there have been great advances in the field of sports nutrition and an awareness about the improvement of performance in athletes, there is still a lack in the strategy and planning of the optimal diet for sports practice. Therefore, the importance of the presence of a specialist in the nutrition of each athlete in order to organize the nutritional system and thereby achieve the established goals.

In this sense, TECH offers the professional the most recent innovations in the field of Sports Nutrition. Therefore, this Professional Master's Degree emphasizes the approach to the management of skills to provide the athlete with the best tools when it comes to combining food. In this way, the specialist will delve into the integration of the different energy systems that make up the energy metabolism of the muscle.

In this way, specialists will enhance their skills in establishing the physiological and biochemical mechanism of diabetes both at rest and during exercise. In addition, graduates will delve into knowledge related to the energy and nutritional needs of athletes in different pathophysiological situations, in order to improve the performance of athletes in each of their disciplines.

The flexible schedule and the excellence of TECH, allows the professional to balance their daily work and personal activities with a unique and effective update. With no classroom attendance or classes with fixed schedules, the graduate is before an educational program that provides a real response to the needs of present and future physicians. In addition, this program has the special participation of a prestigious International Guest Director, who will give 10*Masterclasses* to delve into the most up-to-date contents in this field.

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

- The development of case studies presented by experts in Sports Nutrition
- The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- 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

This Professional Master's Degree provides you with multimedia support material and 10 Masterclasses delivered by an outstanding International Guest Director"

You will delve into vegetarianism and veganism in the history of sport, all thanks to the most innovative multimedia tools"

In this Professional Master's Degree you will learn the most current concepts in dietary strategies for the prevention and treatment of the injured athlete.

Bet on TECH! You will inquire into the mechanisms of energy production according to the type of exercise undertaken in only 7 months of online education.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn 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 during the course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Objectives

This Professional Master's Degree aims to provide the specialist with the latest knowledge and skills regarding the most important adaptations that may occur in athletes. In this sense, students will broaden their horizons with respect to the notable nutritional deficiencies that athletes present. Therefore, TECH has implemented this academic degree, which gives the professional the possibility of integrating their educational update with their other daily activities, since they will not have to be subject to a fixed schedule.

This Professional Master's Degree has been created with the intention of offering the graduate a high-quality and exclusive material in the area of Sports Nutrition"

General Objectives

- Manage advanced knowledge on nutritional planning in professional and non-professional athletes for the healthy performance of physical exercise
- Manage advanced knowledge on nutritional planning in professional athletes of various fields in order to achieve maximum sports performance
- Learn advanced knowledge about nutritional planning in professional athletes from team sports to achieve the highest sports performance
- Manage and consolidate the initiative and entrepreneurial spirit needed to launch projects related to nutrition in physical activity and sport
- Know how to incorporate the different scientific advances into one's own professional field
- Ability to work in a multidisciplinary environment
- Advanced understanding of the context in which their area of expertise is being developed
- Manage advanced skills in the detection of possible signs of nutritional changes associated with sports activities
- Manage the necessary skills through the teaching-learning process that will allow them to continue training and learning in the field of sports nutrition, both through the contacts established with professors and professionals of the Professional Master's Degree, as well as in an autonomous way
- Specialize in the structure of muscle tissue and its role in sports
- Gain knowledge about the energetic and nutritional needs of athletes in different pathophysiological situations
- Specialize in the energy and nutritional needs of athletes in different age and gender specific situations
- Specialize in dietary strategies for the prevention and treatment of the injured athlete
- Specialize in the energetic and nutritional needs of child athletes
- Specialize in the energetic and nutritional needs of Paralympic athletes

You will achieve your objectives thanks to TECH's teaching tools, which include explanatory videos, interactive summaries, complementary readings and much more"

Specific Objectives

Module 1. Muscle and Metabolic Physiology Related to 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
- Delve into the mechanisms of energy production according to the type of exercise undertaken
- Delve into the integration of the different energy systems that make up the muscle energy metabolism

Module 2. Athlete Assessment at Different Times of the Season

- Biochemical interpretation to detect nutritional deficits or overtraining states
- Interpretation of the different types of body composition in order to optimize the appropriate weight and fat percentage for the sport being practiced
- Perform the monitoring of the athlete throughout the season
- Plan seasonal schedules according to individual requirements

Module 3. Water Sports

- Delve into the 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 water sports

Module 4. Extreme Conditions

- Differentiate between the main performance limiting factors caused by climate
- Develop an acclimatization plan appropriate to the situation given
- Delve into the physiological adaptations due to altitude
- Establish the correct individual hydration guidelines according to the climate

Module 5. 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 athletes
- Manage skills to provide the athlete with the most effective tools to combine foods

Module 6. Athletes with Type 1 Diabetes

- Establish the physiological and biochemical mechanism of diabetes both at rest and during exercise
- Delve into how the different insulins or medications work in patients with diabetes
- Assess the nutritional requirements for people with diabetes both in their daily life and in exercise to improve their health
- Delve into the necessary knowledge to be able to plan nutrition for athletes of different disciplines with diabetes, in order to improve their health and performance
- Establish the current state of evidence on ergogenic aids in patients with diabetes

Module 7. Nutrition in Parathletes

- Gain a deep understanding of the differences between the different categories of parathletes and their physiological-metabolic limitations
- Determine the nutritional requirements of the different parathletes in order to establish a specific nutritional plan
- Delve into the knowledge necessary to establish interactions between the intake of drugs in these athletes and nutrients, to avoid nutrient deficits
- Understand the body composition of parathletes in different sport categories
- Apply current scientific evidence on nutritional ergogenic aids

Module 8. Sports by Weight Category

- Establish the different characteristics and needs within sports by weight category
- Gain in-depth knowledge on the nutritional strategies in the athlete's preparation in preparation for competition
- Optimize the improvement of body composition through nutritional approach

Module 9. Different Stages or Specific Population Groups

- Explain the particular physiological characteristics to be taken into account in the nutritional approach of different groups of people
- Gain an in-depth understanding about the external and internal factors that influence the nutritional approach to these groups

Module 10. 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

03

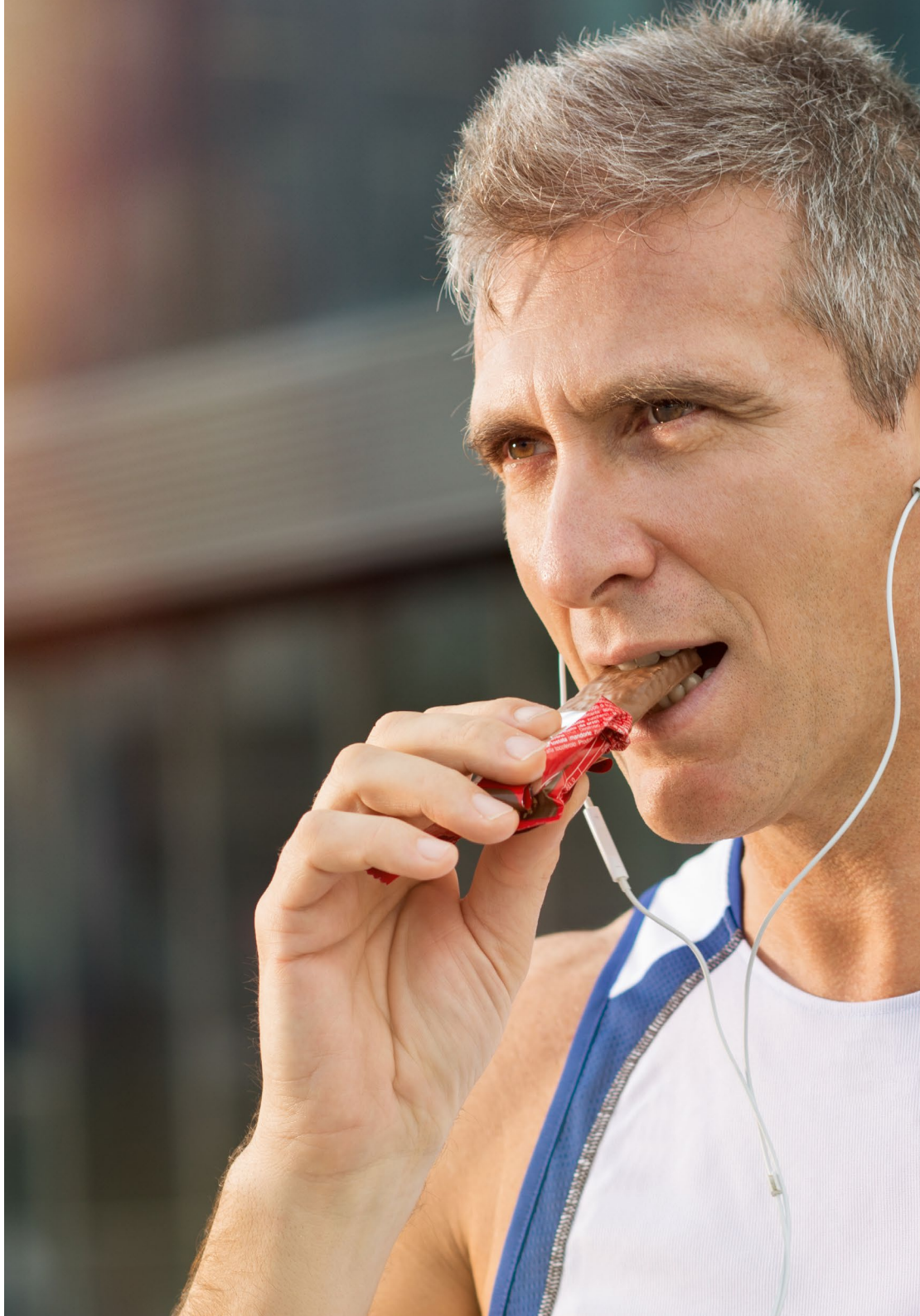
Skills

The Professional Master's Degree in Sports Nutrition in Special Populations will provide the professional with the opportunity to acquire a wide range of essential skills in this field of study. In this way, students will develop innovative knowledge in the differences at metabolic level during exercise in people with diabetes, enhancing their skills in the current scientific evidence on the management of ergogenic aids in parathletes. In this way, specialists will focus their knowledge on the differences that exist between the different categories, according to their physical and cognitive limitations.

Delve into the metabolic pathways for ATP resynthesis during exercise based on the latest scientific studies that only TECH can provide"

General Skills

- Develop in very diverse situations the physiological conditions as the nutritional objective during sports practice
- Train professionals at the highest level as specialists within a multidisciplinary group to maximize sports performance and proper recovery
- Learn and master in a practical and rigorous way the different special situations that can derive from sports practice
- Learn how to design nutritional programs and follow up of the athlete with special needs, all of this adapted to the different sports disciplines in order to obtain the maximum sports performance
- Broaden the necessary knowledge to be able to cover a wide spectrum of possible athletes, as well as to satisfy their nutritional needs
- Teach the different strategies to be able to solve and anticipate problems that may arise during a competition or training
- Learn to solve the doubts that may arise when dealing with an athlete, as well as to teach in the best possible way the basic aspects of nutrition to an athlete



Specific Skills

- Approach the biochemistry and metabolism of exercise from a scientific and practical point of view, partially renouncing the complexity of the subject matter
- Plan the different phases of the season and enhance its performance
- Apply a hydrodynamic movement where body composition and a correct energetic efficiency in the application of strength play a fundamental role
- Integrate the respective physiological adaptations due to hypoxia
- Provide the athlete with the best food choices and combinations
- Address the physiological and biochemical aspects necessary to understand how diabetes affects both daily life and exercise
- Acquire the necessary knowledge to establish a nutritional plan for people with diabetes who want to take care of their health and athletes of different modalities based on the current scientific evidence
- Acquire the necessary knowledge to detect nutritional problems and to establish a nutritional planning for this type of athletes
- Update their knowledge based on current scientific evidence, on the management of ergogenic aids in parathletes, in order to improve their sports performance
- Learn how to control nutrition in order to accelerate the recovery process so that the athlete can return to competition as soon as possible after an injury
- Address the differences that exist between the different categories, according to their physical and cognitive limitations

04

Course Management

This degree has an important teaching team made up of leading experts in the field of Sports Nutrition, with extensive knowledge in Pharmacology and nutrient interactions. In this way, highly qualified specialists have a robust knowledge of nutritional planning in parathletes with spinal cord injuries and cerebral palsy and acquired brain injuries. In addition, graduates will take on the various challenges presented to them during the development of the academic program.

TECH has incorporated to this Professional Master's Degree a teaching staff with extensive background and experience in energy requirements and hydration in parathletes"

International Guest Director

Jamie Meeks has demonstrated throughout her career her dedication to **Sports Nutrition**. After graduating from Louisiana State University with a degree in Sports Nutrition, she quickly rose to prominence. Her talent and commitment were recognized when she received the prestigious **Young Dietitian of the Year award** from the Louisiana Dietetic Association, an achievement that marked the beginning of a successful career.

After completing her undergraduate degree, Jamie Meeks continued her education at the University of Arkansas, where she completed her internship in **Dietetics**. She then went on to earn a Master's Degree in Kinesiology with a specialization in **Exercise Physiology** from Louisiana State University. Her passion for helping athletes reach their full potential and her tireless commitment to excellence make her a leading figure in the sports and nutrition community.

Her deep knowledge in this area led her to become the first **Director** of **Sports Nutrition** in the history of Louisiana State University's athletic department. There, she developed innovative programs to meet the dietary needs of athletes and educate them on the importance of **proper nutrition** for **optimal performance**.

Subsequently, she has held the position of **Director** of **Sports Nutrition** for the NFL's **New Orleans Saints.** In this role, she is dedicated to ensuring that professional players receive the best nutritional care possible, working closely with coaches, trainers, physical trainers and medical staff to optimize individual performance and health.

As such, Jamie Meeks is considered a true leader in her field, being an active member of several professional associations and participating in the advancement of **Sports Nutrition** on a national level.
In this regard, she is also a member of the **Academy of Nutrition and Dietetics** and the **Association of Chartered and Professional Sports Dietitians.**

Ms. Meeks, Jamie

- Director of Sports Nutrition for the New Orleans Saints of the NFL, Louisiana, United States
- Sports Nutrition Coordinator at Louisiana State University
- Registered Dietitian by the Academy of Nutrition and Dietetics
- Certified Specialist in Sports Dietetics
- Master's Degree in Kinesiology with specialization in Exercise Physiology from the Louisiana State University
- Graduate in Dietetics from Louisiana State University
- Member of: Louisiana Dietetic Association Association of Collegiate and Professional Sports Dietitians,
  Cardiovascular and Wellness Sports Nutrition Dietetic Practice Group

Thanks to TECH you will be able to learn with the best professionals in the world"

Management

Dr. Marhuenda Hernández, Javier

- Professional Soccer Clubs Nutritionist
- Head of Sports Nutrition. Albacete Balompie SAD Club
- Head of Sports Nutrition. Catholic University of Murcia, UCAM Murcia Football Club.
- Scientific Advisor. Nutrium
- Nutritional Advisor. Impulse Center
- Teacher and Coordinator of Postgraduate Studies.
- PhD 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

Dr. Martínez Noguera, Francisco Javier

- Sports nutritionist at CIARD-UCAM
- Sports nutritionist at Jorge Lledó Physiotherapy Clinic
- Research assistant at CIARD-UCAM
- Sports nutritionist at UCAM Murcia Football Club
- Nutritionist at SANO Center
- Sports nutritionist at UCAM Murcia Basketball Club
- PhD in Sports Science from the Catholic University San Antonio de Murcia
- Degree in Human Nutrition and Dietetics at the Catholic University San Antonio of Murcia
- Master's Degree in Nutrition and Food Safety at the Catholic University San Antonio of Murcia

Dr. Ramírez Munuera, Marta

- Sports Nutritionist expert in strength sports
- Nutritionist. M10 Health and Fitness. Health and Sports Center
- Nutritionist. Mario Ortiz Nutrition
- Courses and workshops on Sports Nutrition Trainer
- Speaker at conferences and seminars on Sports Nutrition.
- Degree in Human Nutrition and Dietetics. San Antonio Murcia Catholic University
- Master's Degree in Nutrition in Physical Activity and Sport. San Antonio de Murcia Catholic University

Dr. Arcusa Saura, Raúl

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

Dr. Montoya Castaño, Johana

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

05

Structure and Content

This Professional Master's Degree has been created to provide the graduate with an elite update in micronutrient intake of special interest during injury within the Sports Nutrition sector. For this reason, competences concerning protein sources in vegan/ vegetarian nutrition will be enhanced. In this sense, TECH provides multiple innovative pedagogical tools accompanied by the *Relearning* system, which leads to consolidate the key concepts in a shorter period of time.

A syllabus developed by experts, providing the best support with multiple audiovisual tools that only TECH offers"

Module 1. Muscular and Metabolic Physiology Related to 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. Lipolisis
- 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. Athlete Assessment at Different Times of the Season

2.1. Biochemical Assessment
- 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. Vacation 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. Water Sports

3.1. History of Water Sports
- 3.1.1. Olympics and Major Tournaments
- 3.1.2. Water Sports Today

3.2. Performance Limitations
- 3.2.1. Water Sports in the Water (Swimming, Water polo...)
- 3.2.2. Water Sports on the Water (Surfing, Sailing, Canoeing...)

3.3. The Basic Characteristics of Water Sports
- 3.3.1. Water Sports in the Water (Swimming, Water polo...)
- 3.3.2. Water Sports on the Water (Surfing, Sailing, Canoeing, etc.)

3.4. Water 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. Pre-competition
- 3.7.1. 3 Hours Before
- 3.7.2. 1 Hour Before

3.8. During Competition
- 3.8.1. Carbohydrates
- 3.8.2. Hydration

3.9. After the 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 VOmax

4.7. Nutrition and Hydration in Cold Climates
- 4.7.1. Hydration
- 4.7.2. Carbohydrates

Module 5. Vegetarianism and Veganism

5.1. Vegetarianism and Veganism in the History of Sport
- 5.1.1. The Beginnings of Veganism in Sport
- 5.1.2. Vegetarian Athletes Today

5.2. Different Types of Vegan Food
- 5.2.1. The Vegan Athlete
- 5.2.2. The Vegetarian Athlete

5.3. Common Errors in the Vegan Athlete
- 5.3.1. Energy Balance
- 5.3.2. Protein Consumption

5.4. Vitamin B12
- 5.4.1. B12 Supplementation
- 5.4.2. Bioavailability of Spirulina Algae

5.5. Protein Sources in the Vegan/Vegetarian Diet
- 5.5.1. Protein Quality
- 5.5.2. Environmental Sustainability

5.6. Other Key Nutrients in Vegans
- 5.6.1. Conversion of ALA to EPA/DHA
- 5.6.2. Fe, Ca, Vit-D and Zn

5.7. Biochemical Assessment/Nutritional Deficiencies
- 5.7.1. Anemia
- 5.7.2. Sarcopenia

5.8. Vegan vs. Omnivorous Food
- 5.8.1. Evolutionary Food
- 5.8.2. Current Food

5.9. Ergogenic Aids
- 5.9.1. Creatine
- 5.9.2. Vegetable Protein

5.10. Factors that Decrease Nutrient Absorption
- 5.10.1. High Fiber Intake
- 5.10.2. Oxalates

Module 6. Athletes with Type 1 Diabetes

6.1. Knowing about Diabetes and its Pathology
- 6.1.1. The Incidence of Diabetes
- 6.1.2. Pathophysiology of Diabetes
- 6.1.3. The Consequences of Diabetes

6.2. Exercise Physiology in People with Diabetes
- 6.2.1. Maximal, Submaximal Exercise and Muscle Metabolism during Exercise
- 6.2.2. Differences in the Metabolic Level during Exercise in People with Diabetes

6.3. Exercise in People with Type 1 Diabetes
- 6.3.1. Exercise in People with Type 1 Diabetes
- 6.3.2. Exercise Duration and Carbohydrate Intake

6.4. Exercise in People with Type 2 Diabetes. Blood Sugar Control
- 6.4.1. Risks of Physical Activity in People with Type 2 Diabetes
- 6.4.2. Benefits of Exercise in People with Type 2 Diabetes

6.5. Exercise in Children and Adolescents with Diabetes
- 6.5.1. Metabolic Effects of Exercise
- 6.5.2. Precautions during Exercise

6.6. Insulin Therapy and Exercise
- 6.6.1. Insulin Infusion Pump
- 6.6.2. Types of Insulins

6.7. Nutritional Strategies during Sport and Exercise in Type 1 Diabetes
- 6.7.1. From Theory to Practice
- 6.7.2. Carbohydrate Intake Before, During and After Physical Exercise
- 6.7.3. Hydration Before, During and After Physical Exercise

6.8. Nutritional Planning in Endurance Sports
- 6.8.1. Marathon
- 6.8.2. Cycling

6.9. Nutritional Planning in Team Sports
- 6.9.1. Soccer
- 6.9.2. Rugby

6.10. Sports Supplements and Diabetes
- 6.10.1. Potentially Beneficial Supplements for Athletes with Diabetes

Module 7. Parathletes

7.1. Classification and Categories in Parathletes
- 7.1.1. What is a Parathlete?
- 7.1.2. How are Parathletes Classified?

7.2. Sports Science in Parathletes
- 7.2.1. Metabolism and Physiology
- 7.2.2. Biomechanics
- 7.2.3. Psychology

7.3. Energy Requirements and Hydration in Parathletes
- 7.3.1. Optimal Energy Demands for Training
- 7.3.2. Hydration Planning before, during and after Training and Competitions

7.4. Nutritional Problems in the Different Categories of Parathletes According to Pathology or Anomaly
- 7.4.1. Spinal Cord Injuries
- 7.4.2. Cerebral Palsy and Acquired Brain Injuries
- 7.4.3. Amputees
- 7.4.4. Vision and Hearing Impairment
- 7.4.5. Intellectual Impairments

7.5. Nutritional Planning in Parathletes with Spinal Cord Injury and Cerebral Palsy and Acquired Brain Injuries
- 7.5.1. Nutritional Requirements (Macro and Micronutrients)
- 7.5.2. Sweating and Fluid Replacement during Exercise

7.6. Nutritional Planning in Amputee Parathletes
- 7.6.1. Energy Requirements
- 7.6.2. Macronutrients
- 7.6.3. Thermoregulation and Hydration
- 7.6.4. Nutritional Issues Related to Prosthetics

7.7. Planning and Nutritional Problems in Parathletes with Vision-Hearing Impairment and Intellectual Impairment
- 7.7.1. Sports Nutrition Problems with Visual Impairment: Retinitis Pigmentosa, Diabetic Retinopathy, Albinism, Stagardt's Disease and Hearing Pathologies.
- 7.7.2. Sports Nutrition Problems in Parathletes with Intellectual Deficiencies: Down Syndrome, Autism and Asperger's and Phenylketonuria

7.8. Body Composition in Parathletes
- 7.8.1. Measurement Techniques
- 7.8.2. Factors Influencing the Reliability of Different Measurement Methods
- 7.8.3. Pharmacology and Nutrient Interactions
- 7.8.4. Different Types of Drugs Taken by Parathletes
- 7.8.5. Micronutrient Deficiencies in Parathletes

7.9. Ergogenic Aids
- 7.9.1. Potentially Beneficial Supplements for Parathletes
- 7.9.2. Adverse Effects on Health and Contamination and Doping Problems Due to the Intake of Ergogenic Aids

Module 8. Sports by Weight Category

8.1. Characteristics of the Main Sports by Weight Category
- 8.1.1. Regulation
- 8.1.2. Categories

8.2. Programming of the Season
- 8.2.1. Competitions
- 8.2.2. Macrocycle

8.3. Body Composition
- 8.3.1. Combat Sports
- 8.3.2. Weightlifting

8.4. Stages of Muscle Mass Gain
- 8.4.1. % Body Fat
- 8.4.2. Programming

8.5. Definition Stages
- 8.5.1. Carbohydrates
- 8.5.2. Protein

8.6. Pre-competition
- 8.6.1. Peek Week
- 8.6.2. Before Weighing

8.7. During Competition
- 8.7.1. Practical Applications
- 8.7.2. Timing

8.8. After the Competition
- 8.8.1. Hydration
- 8.8.2. Protein

8.9. Ergogenic Aids
- 8.9.1. Creatine
- 8.9.2. Whey Protein

Module 9. Different Stages or Specific Population Groups

9.1. Nutrition in the Female Athlete
- 9.1.1. Limiting Factors
- 9.1.2. Requirements

9.2. Menstrual Cycle
- 9.2.1. The Luteal Phase
- 9.2.2. The Follicular Phase

9.3. Triad
- 9.3.1. Amenorrea
- 9.3.2. Osteoporosis

9.4. Nutrition in the Pregnant Female Athlete
- 9.4.1. Energy Requirements
- 9.4.2. Micronutrients

9.5. The Effects of Physical Exercise on the Child Athlete
- 9.5.1. Strength Training
- 9.5.2. Endurance Training

9.6. Nutritional Education in the Child Athlete
- 9.6.1. Sugar
- 9.6.2. Eating Disorders

9.7. Nutritional Requirements in the Child Athlete
- 9.7.1. Carbohydrates
- 9.7.2. Proteins

9.8. Changes Associated with Aging
- 9.8.1. % Body Fat
- 9.8.2. Muscle Mass

9.9. Main Problems in the Older Athlete
- 9.9.1. Joints
- 9.9.2. Cardiovascular Health

9.10. Interesting Supplements for Older Athletes
- 9.10.1. Whey Protein
- 9.10.2. Creatine

Module 10. The Injury Period

10.1. Introduction

10.2. Prevention of Injuries in Athletes
- 10.2.1. Relative Energy Availability in Sport
- 10.2.2. Oral Health and Injury Implications
- 10.2.3. Fatigue, Nutrition and Injuries
- 10.2.4. Sleep, Nutrition and Injuries

10.3. Phases of Injury

10.3.1. Immobilization Phase. Inflammation and Changes Occurring during this Phase
- 10.3.2. Return of Activity Phase

10.4. Energy Intake during the Period of Injury

10.5. Macronutrient Intake during the Period of Injury
- 10.5.1. Carbohydrate Intake
- 10.5.2. Fat Intake
- 10.5.3. Protein Intake

10.6. Intake of Micronutrients of Special Interest during Injury

10.7. Sports Supplements with Evidence during the Period of Injury
- 10.7.1. Creatine
- 10.7.2. Omega 3
- 10.7.3. Others

10.8. Tendon and Ligament Injuries
- 10.8.1. Introduction to Tendon and Ligament Injuries. Tendon Structure
- 10.8.2. Collagen, Gelatin and Vitamin C. Can they Help?
- 10.8.3. Other Nutrients Involved in Collagen Synthesis

10.9. The Return to Competition
- 10.9.1. Nutritional Considerations in the Return to Competition

10.10. Interesting Case Studies in Scientific Injury Literature

06

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

> *TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"*

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

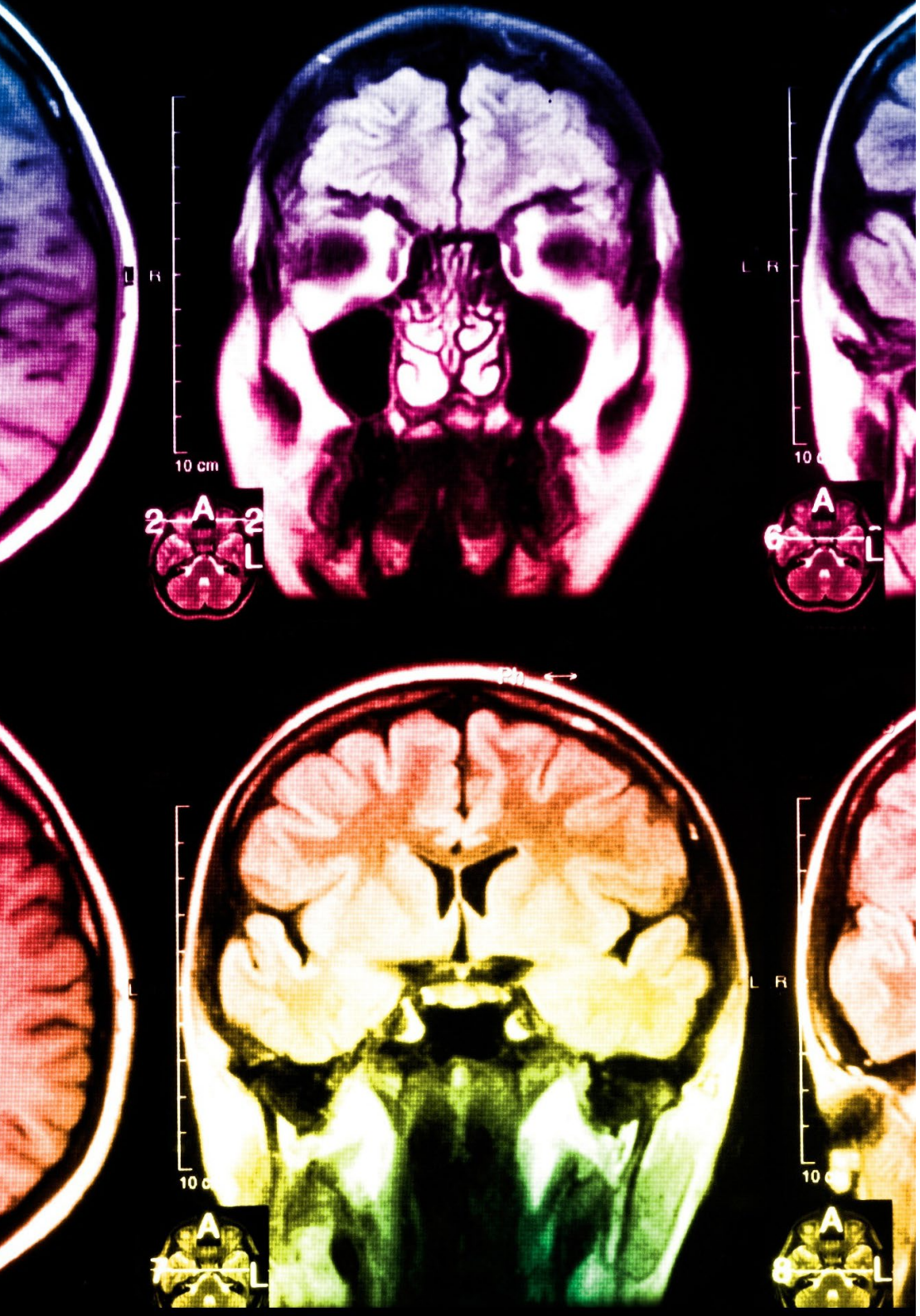
In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

"The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

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 assess 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.



The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the quality of teaching, quality of materials, course structure and objectives is excellent. Not surprisingly, the institution became the best rated university by its students on the Trustpilot review platform, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

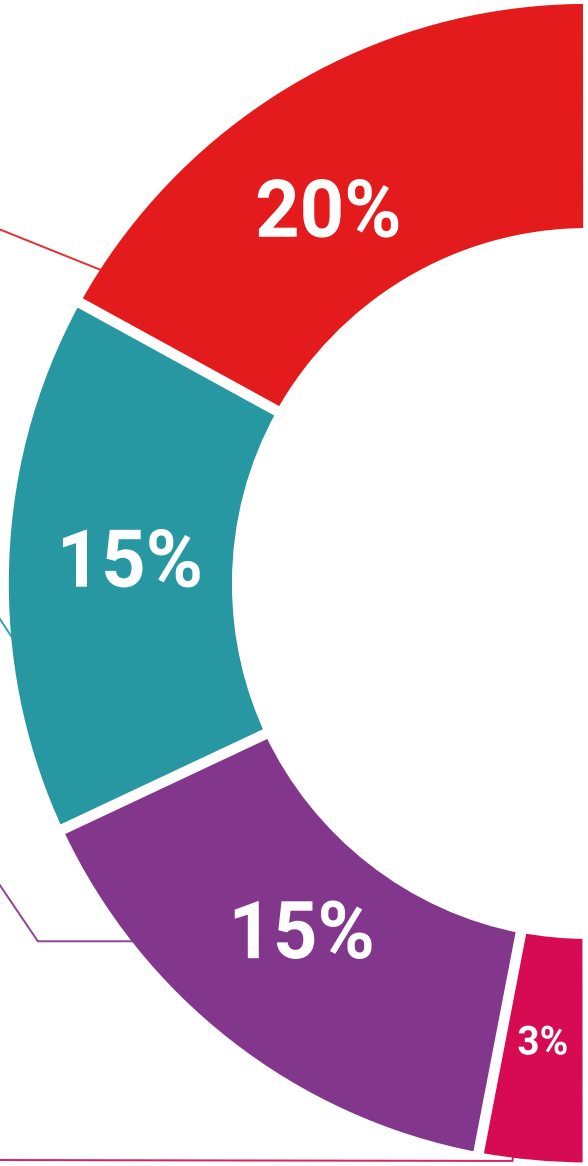
Interactive Summaries

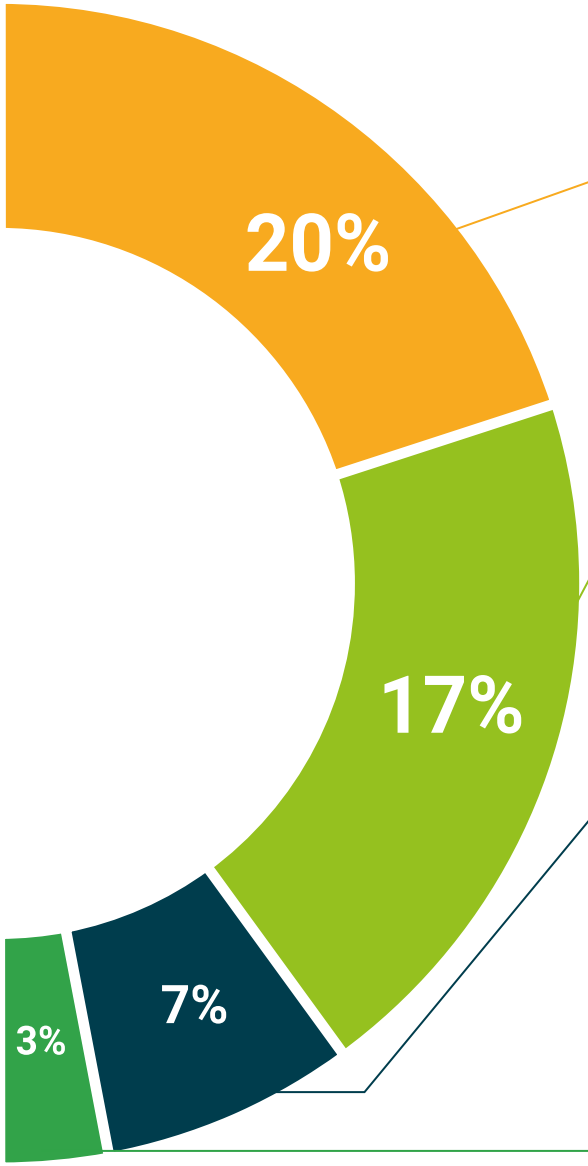
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence for future difficult decisions.

Quick Action Guides

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

07

Certificate

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

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

This private qualification will allow you to obtain a **Professional Master's Degree diploma in Sports Nutrition in Special Populations** 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 private qualification**, 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: **Professional Master's Degree in**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Professional Master's Degree in Sports Nutrition in Special Populations

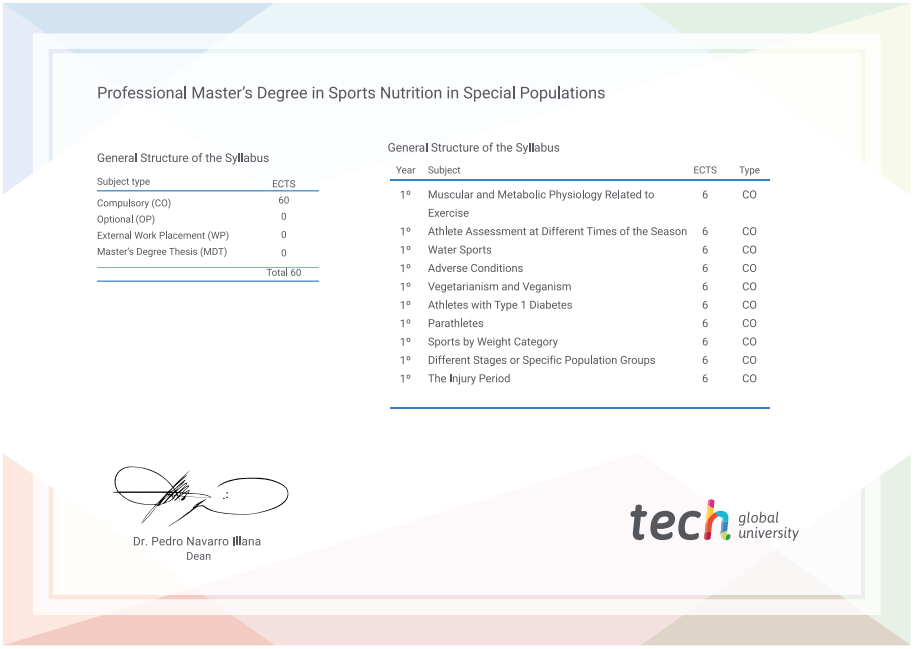
This is a private qualification of 1,800 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates


Professional Master's Degree in Sports Nutrition in Special Populations

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Muscular and Metabolic Physiology Related to Exercise	6	CO
1º	Athlete Assessment at Different Times of the Season	6	CO
1º	Water Sports	6	CO
1º	Adverse Conditions	6	CO
1º	Vegetarianism and Veganism	6	CO
1º	Athletes with Type 1 Diabetes	6	CO
1º	Parathletes	6	CO
1º	Sports by Weight Category	6	CO
1º	Different Stages or Specific Population Groups	6	CO
1º	The Injury Period	6	CO

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Dean

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

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Professional Master's Degree
Sports Nutrition in Special Populations

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Accreditation: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Professional Master's Degree

Sports Nutrition in Special Populations

Endorsed by the NBA

tech global university