Master's Degree
Sports Nutrition in Special Populations

tech global university

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Master's Degree
Sports Nutrition in Special Populations

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

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

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01

Introduction

The area of Nutrition has progressed in recent years thanks to scientific studies, which delve into the properties of foods and their adequate intake to obtain favorable healthy results. In this context, pharmacists need relevant information for both nutritional and pharmacological advice on adverse drugs for athletes and para-athletes. In this line, TECH has created a program that provides the most advanced knowledge on supplements, nutritional planning according to pathologies or energy intake in injured athletes. All this, in addition, with advanced multimedia content that students can access, comfortably 24 hours a day, from any electronic device with internet connection.

This Master's Degree leads you to an efficient update of your knowledge on Sports Nutrition in Special Populations"

Nutrition and Pharmaceutics are increasingly going together. The incorporation of new nutritional supplements and pharmacological products to address various pathologies requires an advanced knowledge on the part of professionals who wish to provide adequate advice in this field, going in depth into the latest scientific advances in this field.

In this sense, this update is even more relevant if the attention is given to athletes and people with special characteristics such as diabetics, pregnant women or vegans. In response to this need, TECH has created this Master's Degree that provides pharmacists with the most current knowledge and under the highest clinical rigor on Sports Nutrition in Special Populations.

A 12-month educational journey, where students will delve into the muscular and metabolic physiology related to exercise, the assessment of the athlete at different times of the season or nutritional planning in athletes and para-athletes. All this, in addition, through video summaries of each topic, videos in detail, specialized readings and case studies prepared by a teaching team with extensive professional experience in the field of Sports Nutrition.

In addition, the pharmacists will be able to access all this information whenever they want through a mobile device, *Tablet* or computer with internet connection. In this way, without classes with fixed schedules and with maximum flexibility, professionals will be able to obtain the update they are looking for.

An unique opportunity that only TECH offers, who provides in this Master's Degree the most relevant information and with the most innovative pedagogical system, which adapts to professionals seeking an update, without neglecting their work and / or personal environment.

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

- The development of practical cases presented by experts in Nutrition and Dietetics
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used 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

Become up to date on doping problems due to the ingestion of ergogenic aids in para-sportsmen"

A qualification that will allow you to be up to date on the different types of drugs ingested by para-athletes today"

Update your knowledge on the biochemical assessment and possible nutritional deficiencies of a vegan athlete.

Reduce the long hours of study and memorization thanks to the Relearning system used by TECH in all its programs.

The program's teaching staff includes professionals from the industry who contribute their work experience to this 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.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

The objective of this program is to offer pharmacists the most advanced and rigorous knowledge on Sports Nutrition. For this reason, TECH provides access to first class didactic material, developed by an excellent teaching team specialized in Nutrition and Dietetics. Thanks to this combination, students will successfully achieve their objectives and improve their nutritional counseling skills.

This program will lead you to specialize in Sports Nutrition and to apply the latest scientific advances in dietary adaptation in diabetic patients or pregnant women"

General Objectives

- Handle 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, entrepreneurial spirit to implement projects related to nutrition in physical activity and sport
- Know how to incorporate the different scientific advances into one' s own professional field
- Develop the ability to work in a multidisciplinary environment
- Enhance the 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 in the 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 energetic and nutritional needs of athletes in the different situations specific to age and gender
- 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

With this 100% online program you will be able to improve the sports performance of patients, thanks to the application of the most appropriate nutritional strategy"

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 understanding of the most important changes that occur in athletes
- Delve into the mechanisms of energy production according to the type of exercise undertaken
- Further understanding of the interaction between the different energy systems that make up the muscle energy metabolism

Module 2. Evaluation of the Athlete at Different Times of the Season

- Interprete biochemical factors to detect nutritional deficits or overtraining states
- Use of the different methods of body composition to optimize the weight and fat percentage appropriate to the sport practiced
- Perform the monitoring of the athlete throughout the season
- Perform the Plan seasonal schedules according to individual requirements

Module 3. Watersports

- 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 watersports

Module 4. Adverse 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 sportsmen and sportswomen
- Manage skills to provide the athlete with the best tools when combining foods

Module 6. The Type 1 Diabetic Athlete

- Establish the physiological and biochemical mechanism of diabetes both at rest and during exercise
- Develop an in-depth understanding of how the different insulins or medications used by diabetics work
- 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 Performance Enhancing Drugs in diabetics

Module 7. Parathletes

- Delve into the differences between the various categories of parathletes and their physiological-metabolic limitations
- Determine the nutritional requirements of the different para-sportsmen in order to establish a specific nutritional plan
- Further the knowledge necessary to establish interactions between the ingestion of pharmaceuticals 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
- Understand in depth the different nutritional strategies for preparing the athlete for competition
- Optimize the improvement of body composition through nutritional approach

Module 9. Different Stages or Specific Population Groups

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

Module 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

After passing the assessments on the Master's Degree in Sports Nutrition in Special Populations, the professional will have acquired the necessary skills for a quality and up-to-date practice based on the most innovative teaching methodology.

In just 12 months you will expand your skills to provide nutritional advice to athletes who come to the pharmacy for information on nutritional supplements"

General Skills

- Apply to their patients the new trends in Sports Nutrition in Special Groups
- Apply new trends in nutrition according to adult pathologies
- Investigate the nutritional problems of your patients

You will obtain, with this program, vital information on the detection of possible signs of nutritional alternation associated with sports practice"

Specific Skills

- Manage and consolidate the initiative and entrepreneurial spirit to implement projects related to nutrition in physical activity and sport
- Manage advanced skills to detect possible signs of nutritional alteration associated with sports practice
- 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 energetic and nutritional needs of child athletes
- Specialize in the energetic and nutritional needs of Paralympic athletes

04

Course Management

Professionals who enter this Master's Degree will have at their disposal an excellent teaching team made up of authentic specialists in Nutrition and Dietetics. Their extensive experience in this sector provides security to students who wish to obtain the latest information on Sports Nutrition from the hands of real experts in this field. In addition, given their human quality they will be able to resolve any doubts that may arise regarding the content of this program.

The best professionals in Sports Nutrition will show you the latest advances in this sector and its direct application in Special Populations"

International Guest Director

Jamie Meeks has proven throughout her career her dedication to Sports Nutrition. After graduating from Louisiana State University with a degree in Sports Nutrition, he 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 bachelor's degree, Jamie Meeks continued her education at the University of Arkansas, where she completed her internship in Dietetics. She then went on to obtain 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 Collegiate and Professional Sports Dietitians.

Dr. Meeks, Jamie

- Director of Sports Nutrition for the New Orleans Saints of the NFL, Louisiana, United States
- Coordinator of Sports Nutrition at Louisiana State University
- Registered Dietitian by the Academy of Nutrition and Dietetics
- Certified Specialist in Sports Dietetics
- Master's Degree in Kinesiology with a specialization in Exercise Physiology from 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

- Nutritionist in professional soccer clubs
- Head of Sports Nutrition. Club Albacete Balompié SAD
- Head of Sports Nutrition. Catholic University of Murcia, UCAM Murcia Football Club
- Scientific Advisor Nutrium
- Nutritional Advisor Centro Impulso
- Teacher and coordinator of Postgraduate studies.
- Doctor in Nutrition and Food Safety. San Antonio de Murcia Catholic University
- Degree in Human Nutrition and Dietetics. San Antonio de Murcia Catholic University
- Master's Degree in Clinical Nutrition. San Antonio de Murcia Catholic University
- Academic Spanish Academy of Nutrition and Dietetics (AEND)

Professors

Dr. 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 de Murcia Catholic University

Dr. Arcusa Saura, Raúl

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

Dr. Ramírez Munuera, Marta

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

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
- Graduate in Human Nutrition and Dietetics from the Catholic University San Antonio of Murcia
- Master's Degree in Nutrition and Food Safety from the Catholic University San Antonio of Murcia

05

Structure and Content

The syllabus of this Master's Degree is structured in such a way that the professional pharmacist will obtain in just 12 months the most current and relevant information on Sports Nutrition. And, in addition, it will do so through innovative multimedia content that will take you to delve dynamically in muscle and metabolic physiology related to exercise, ergogenic aids, food supplementation and adaptation of food to vegan athletes, diabetics or pregnant women. All this, with multimedia didactic material that can be accessed 24 hours a day, from any electronic device with internet connection.

Get a theoretical and practical perspective on sports nutrition in pregnant athletes who need a diet adapted to their condition"

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. 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. Assessment of the athlete at different times 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. 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, Europeans and 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. Physiology from Aquatic Sports
- 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. Per Competition
- 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 VO2 Max

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 Evaluation/Nutritional Shortcomings
- 5.7.1. Anaemia
- 5.7.2. Sarcopenia

5.8. Vegan Diet vs. Omnivorous Diet
- 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. The Type 1 Diabetic Athlete

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 Para Athletes 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 Para Athletes 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 Para Athletes with Vision-Hearing Impairment and Intellectual Impairment
- 7.7.1. Sports Nutrition Problems With Vision Impairment: Retinitis Pigmentosa, Diabetic Retinopathy, Albinism, Stargardt's Disease and Hearing Pathologies
- 7.7.2. Sports Nutrition Problems in Para-Athletes 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

7.9. Pharmacology and Nutrient Interactions
- 7.9.1. Different Types of Drugs Taken by Parathletes
- 7.9.2. Micronutrient Deficiencies in Parathletes

7.10. Ergogenic Aids
- 7.10.1. Potentially Beneficial Supplements for Parathletes
- 7.10.2. 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 Percentage
- 8.4.2. Programming

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

8.6. Precompetition
- 8.6.1. Peek Weak
- 8.6.2. Before Weighing

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

8.8. Post-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. Luteal Phase
- 9.2.2. 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 Percentage
- 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

05

Methodology

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

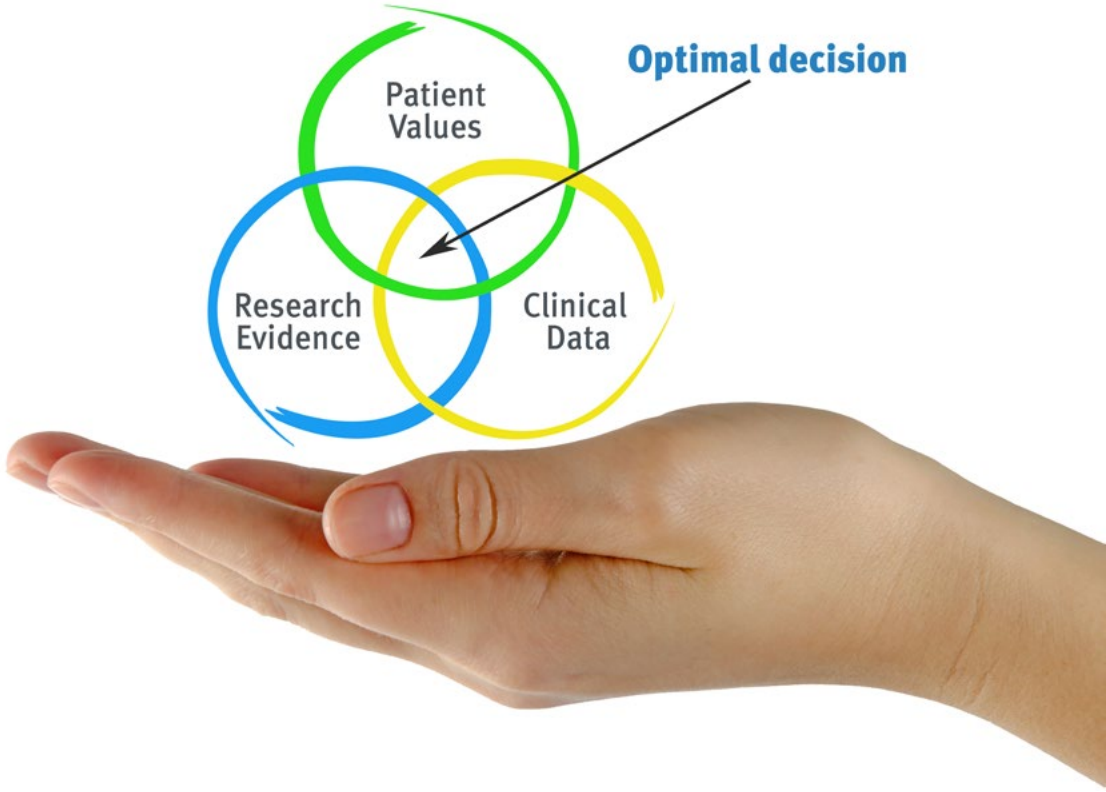
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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

At TECH we use the Case Method

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

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



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

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:

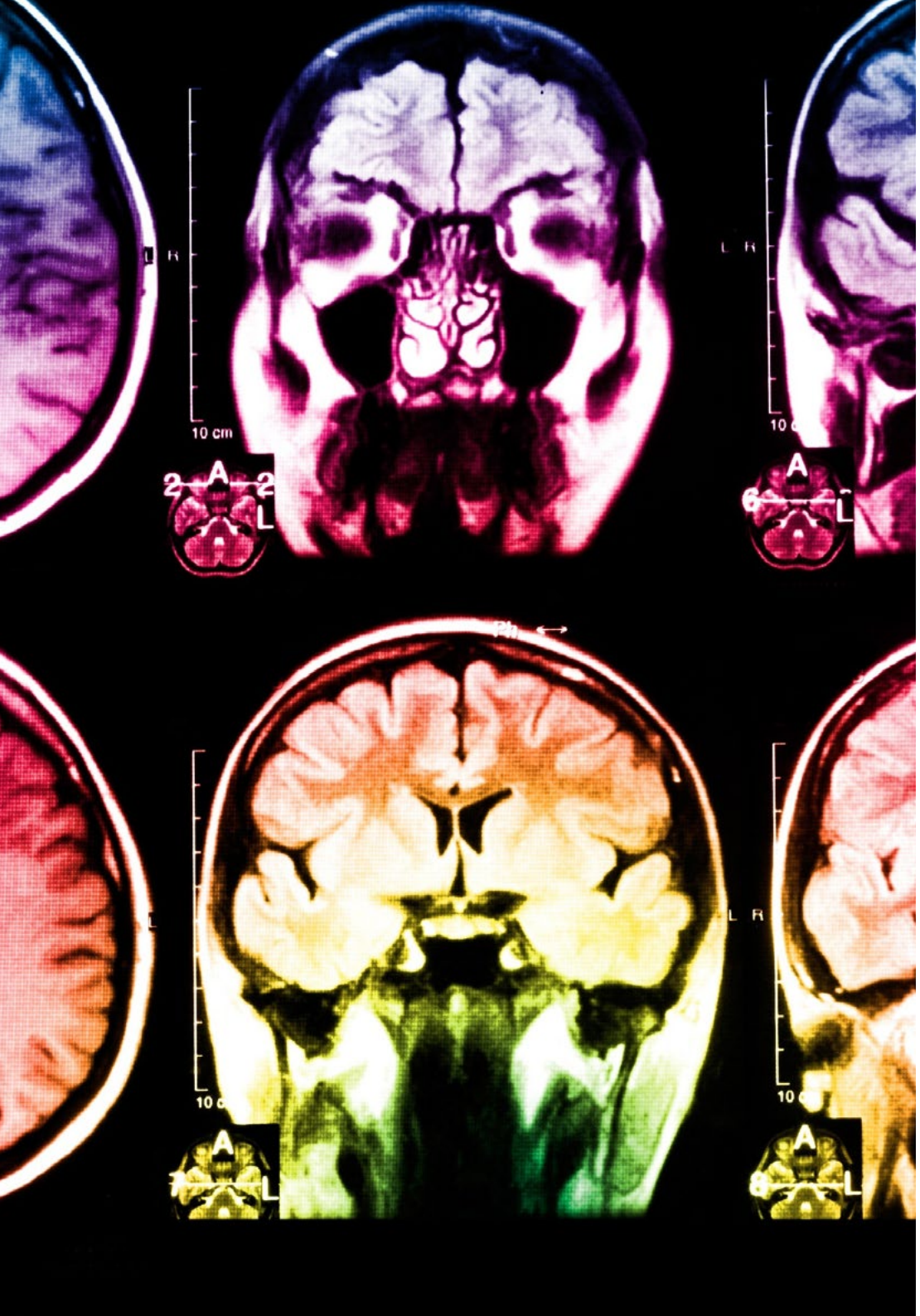
1. Pharmacists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts 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.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

Pharmacists will learn through real cases and by solving 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 115,000 pharmacists have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. This pedagogical methodology is developed in a highly demanding environment, with a university student body with a high socioeconomic profile and an average age of 43.5 years.

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 created specifically for the course by specialist pharmacists who will be teaching the course, so that the didactic development is highly specific and accurate.

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.

Video Techniques and Procedures

TECH introduces students to the latest techniques, to the latest educational advances, to the forefront of current pharmaceutical care procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, you can watch them as many times as you want.

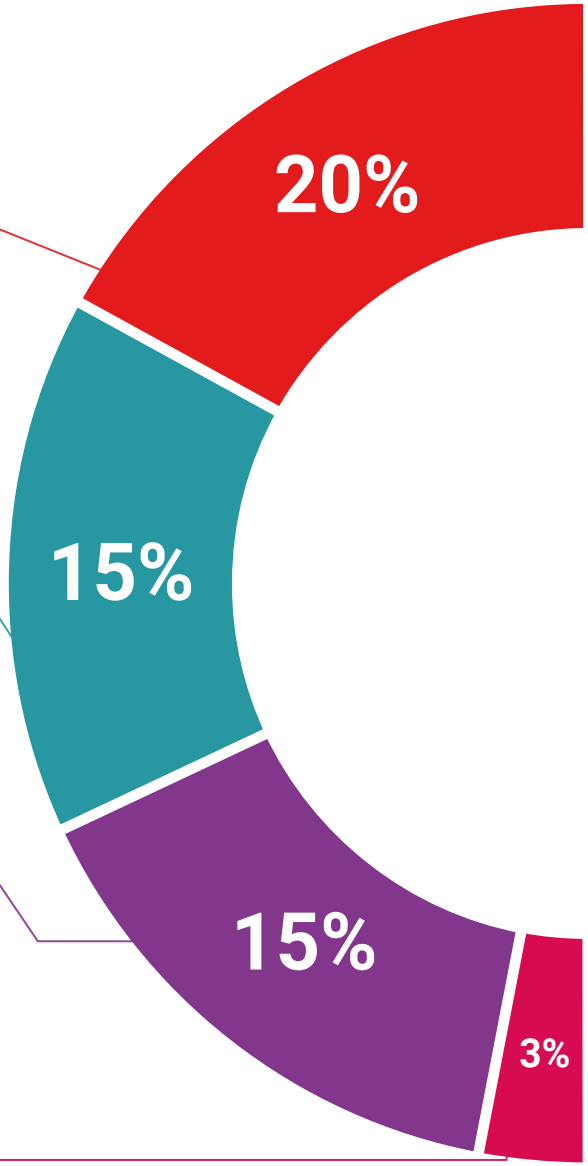
Interactive Summaries

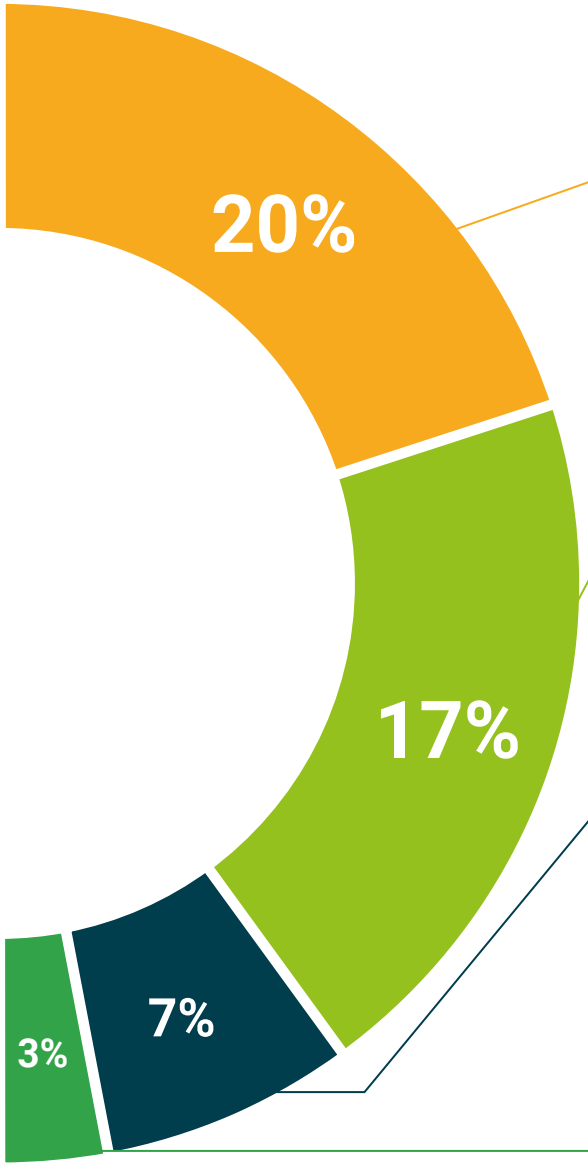
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This unique multimedia content presentation training system 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, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Retesting

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

Classes

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

Quick Action Guides

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

07

Certificate

The 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 Master's Degree 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 **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.

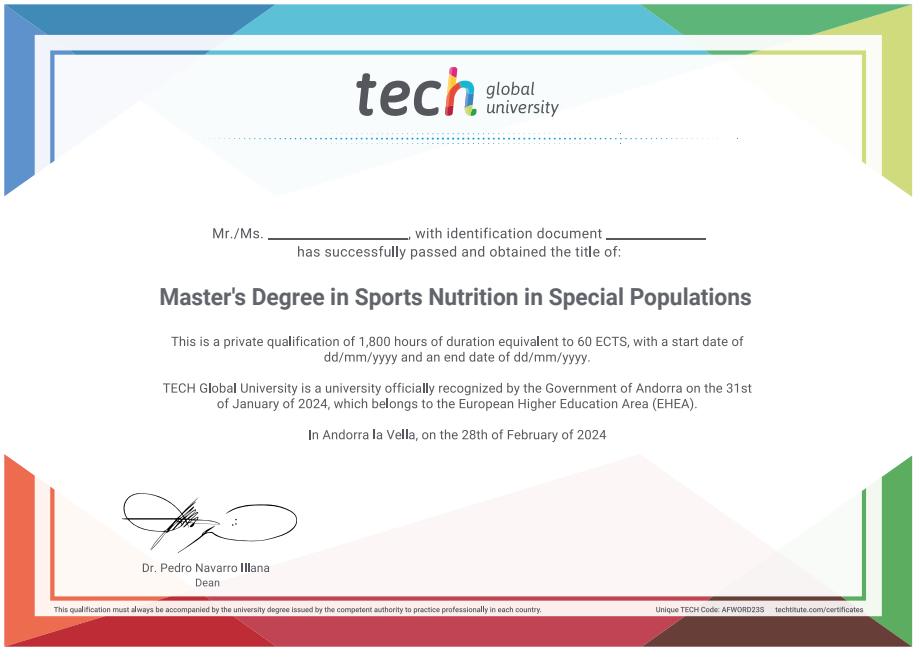
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Sports Nutrition in Special Populations**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**



tech global university

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

Master's Degree in Sports Nutrition in Special Populations

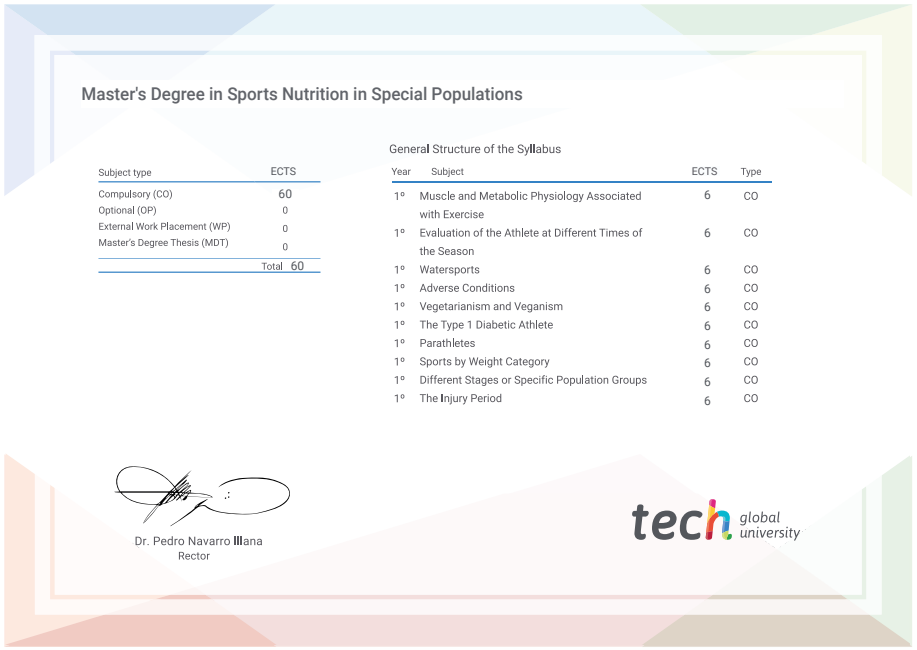
This is a private qualification of 1,800 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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



Master's Degree in Sports Nutrition in Special Populations

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	Muscle and Metabolic Physiology Associated with Exercise	6	CO
1º	Evaluation of the Athlete at Different Times of the Season	6	CO
1º	Watersports	6	CO
1º	Adverse Conditions	6	CO
1º	Vegetarianism and Veganism	6	CO
1º	The Type 1 Diabetic Athlete	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

Dr. Pedro Navarro Illana
Rector

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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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Master's Degree
Sports Nutrition in Special Populations

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

Master's Degree
Sports Nutrition in Special Populations

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