

# Professional Master's Degree

## Obesity





## Professional Master's Degree Obesity

Course Modality: Online

Duration: 12 months

Certificate: TECH Technological University

Official N° of hours: 1,500 h.

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

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# 01

# Introduction

This scientific program is one of the most complete and up-to-date on the market. It focuses on new research in obesity, aimed at facilitating and promoting a truly individualized approach with a multidisciplinary intervention.



A close-up photograph of a person's back and shoulder, showing skin texture and some hair. The image is partially obscured by a diagonal white line that separates it from a dark blue background in the top right corner.

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*Specialize in Obesity with the help of active professionals with extensive experience in the sector”*

Obesity, the true epidemic of the 21st century until the appearance of COVID-19, represents a major global health problem. The WHO estimates that it may affect 650 million people worldwide with a related mortality of about 2.8 million people each year.

It is a heterogeneous syndrome with constantly changing pathophysiology and etiopathogenesis (genetics, epigenetics, new hormonal control mechanisms, nutrigenomics, microbiomics, etc.). These advances are helping us to better understand the factors that affect the processes involved in energy homeostasis and in the development of obesity.

Obesity is a permanent focus of concern due to the ever-increasing number of cases and the related comorbidities. These lead to a significant increase in mortality, especially from cardiovascular illnesses and cancer. Furthermore, the various medical and surgical treatments available and the exponential increase in health care costs related to obesity, also makes it a focus of attention.

With this in mind, preventing obesity is essential. Through the use of a multidisciplinary approach, the aim is to implement lifestyle changes, in particular physical activity and diet, and these measures should be introduced as early on in the process as possible.

Professionals should know how to correctly diagnose obesity and the associated complications and propose appropriate treatment strategies for the three main areas of action: nutrition, physical exercise and attitudes towards food. Drugs and bariatric surgery may be added to this list for patients who demonstrate appropriate indications for such treatments.

In the last decade, there have been enormous advances in the understanding of obesity. This has brought Precision Medicine to the forefront of treatment, requiring the professional to be adequately prepared to provide new therapeutic responses. The enormous development of new technologies such as health apps, brought about by COVID-19, allows patient empowerment and decision-making support.

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

- ♦ Practical cases presented by experts in Obesity
- ♦ The graphic, schematic, and practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional development
- ♦ The latest information on Obesity
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Special emphasis on innovative methodologies in Obesity
- ♦ 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 program is the best option you can find to specialize in Obesity"*

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

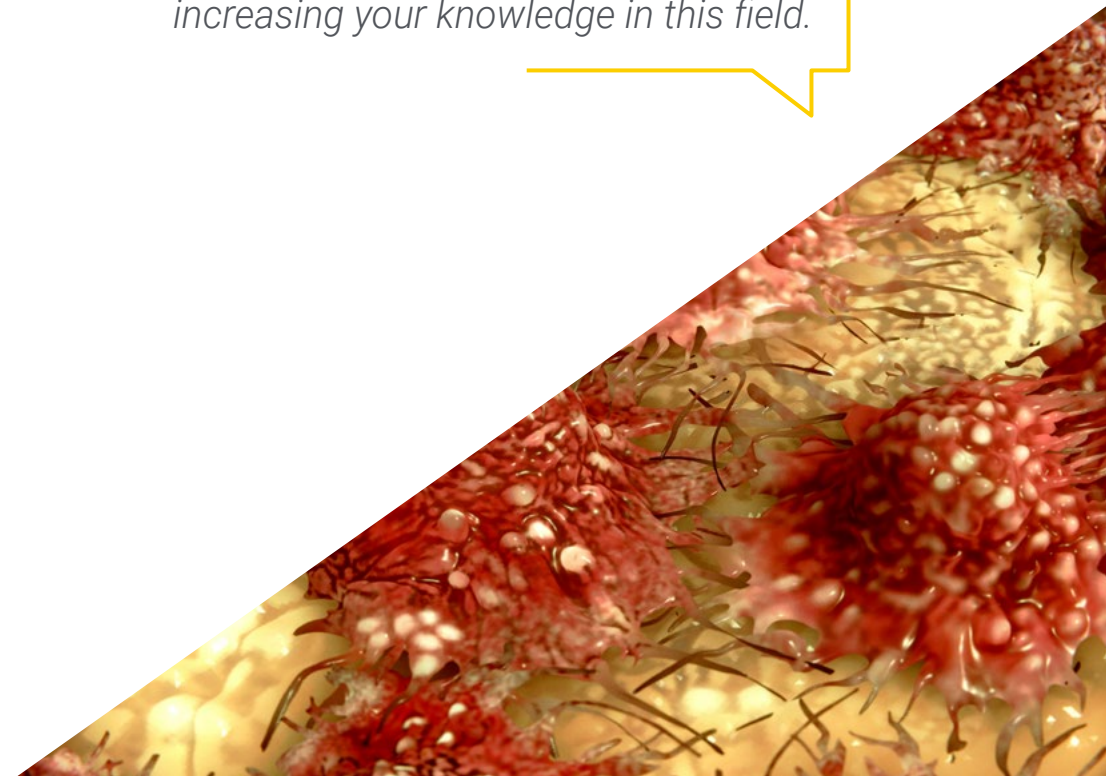
The teaching staff includes professionals from the field of Obesity, who bring their experience to this specialization program, as well as renowned specialists from leading societies and prestigious universities.

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 training 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 professional will be assisted by an innovative interactive video system created by renowned and experienced experts in Obesity with extensive medical experience.

*Step up and join the team. You will find the best educational material to facilitate your studies.*

*This 100% online Professional Master's Degree will allow you to combine your studies with your professional work while increasing your knowledge in this field.*



# 02 Objectives

The program in Obesity is aimed at facilitating the performance of medical professionals, with the latest advances and newest treatments in the sector.







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*This is your opportunity to learn about the latest treatments in Obesity”*



## General Objectives

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- Update the physician's knowledge of new trends in human nutrition in healthy patients and patients presenting with pathologies, through evidence-based medicine
- Promote work strategies based on the practical knowledge of the new trends in nutrition and their application to adult and child pathologies, where these strategies play an essential role in treatment
- Encourage the acquisition of technical skills and abilities, through a powerful audiovisual system, and the possibility of development through online simulation workshops and/or specific training
- Encourage professional stimulation through continuous education and research



*A complete teaching program, structured in very well developed didactic units, focused on high-impact learning”*





## Specific Objectives

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### Module 1. Physiology of appetite and weight control Pathophysiology

- ♦ Expand understanding of the basic principles of energy balance
- ♦ Acquire skills in the calculation of the energy balance
- ♦ Analyze the different methods for assessing nutritional status
- ♦ Review new pathways, hormonal, metabolic, etc., that regulate neuroendocrine function, energy homeostasis, and metabolism in humans
- ♦ Analyze subcutaneous adipose tissue and the role of dysfunctional adipose tissue in the development of obesity
- ♦ Explain the role of the intestinal microbiota and its implications in pathologies
- ♦ Review the basics of a balanced diet

### Module 2. Etiopathogenesis of Obesity

- ♦ Acquire in-depth knowledge of the genetic factors present in monogenic and polygenic obesity
- ♦ Acquire knowledge about how epigenetics may influence the development of Obesity
- ♦ List the different causes of secondary obesity in relation to endocrinopathies and drugs
- ♦ Analyze advances in nutritional genomics, both in nutrigenetics and nutrigenomics
- ♦ Establish the relationship between environmental factors and the development of obesity
- ♦ Review and learn about the various endocrine disruptors and their role as obesogenic agents
- ♦ Explain the connection between obesity and level of economic status
- ♦ Study how circadian rhythm alterations influence the expression of enzymes and hormones involved in metabolism
- ♦ Review the risk of loss of muscle mass and subsequent development of sarcopenia in relation to obesity

### **Module 3. History, Definition, Diagnosis, Classification and Epidemiology**

- ♦ Gain an in-depth understanding of obesity as a clinical condition and its historical evolution
- ♦ Interpretation and integration of anthropometric data
- ♦ Know and be able to interpret the adiposity-based chronic disease classifications (ABCD) and the Edmonton system
- ♦ Know the epidemiology of obesity in childhood, adulthood and its complications
- ♦ Identify that this is more of a clinical syndrome that requires an exhaustive phenotypic characterization
- ♦ Correctly assess a patient with obesity, throughout the different periods of life
- ♦ Interpreting the existence of the so-called metabolically healthy obese

### **Module 4. Comorbidities of Obesity**

- ♦ Familiarize yourself with the concept of comorbidity associated with obesity
- ♦ Delve into the pathophysiology of these comorbidities
- ♦ Study the different endocrine-metabolic and cardiovascular comorbidities
- ♦ The close relationship between type 2 diabetes mellitus and obesity has led to the emergence of the term "diabesity". This module identifies this relationship and how obesity, mainly visceral, is a cause of insulin resistance, like type 2 diabetes, and the risk of suffering from it increases in direct proportion to the magnitude of body overweight
- ♦ Identify the pathophysiological mechanisms linking hypertension and obesity
- ♦ Recognize the relationship between lipid disorders and obesity, especially atherogenic dyslipidemia
- ♦ Specialize in the non-metabolic and non-cardiovascular comorbidities associated with obesity, especially respiratory, digestive comorbidities etc.
- ♦ Review of the basic concepts on the available scientific evidence of these pathologies, especially the relationship between obesity and cancer
- ♦ Review the most current knowledge on COVID-19 infection in obese patients

### **Module 5. Prevention of Obesity and its Comorbidities**

- ♦ Identify the high prevalence of overweight and obesity in childhood and its significance for the association of other diseases, such as hypertension and diabetes
- ♦ Establish recommendations for a healthier lifestyle to prevent childhood overweight and obesity
- ♦ Analyze peculiarities of obesity in women
- ♦ Review the costs of obesity in different countries and the strategies for obesity prevention in health systems
- ♦ Insist on the interaction between obesity and type 2 diabetes mellitus
- ♦ Comprehensive knowledge of the therapeutic method, insisting on the importance of a multidisciplinary approach

### **Module 6. Dietary treatment of Obesity**

- ♦ Conduct a review of the evidence regarding carbohydrate and protein intake in the prevention and treatment of obesity
- ♦ Delve into the basis of the relationship between dietary fat and body weight regulation
- ♦ Study eating patterns and the balanced hypocaloric diet as a dietary treatment for obesity
- ♦ Acquire knowledge about exchange diets and how to catalog the different generic foods
- ♦ Review the mediterranean diet as a model for the prevention and treatment of obesity
- ♦ Review and understand the meaning of light foods and functional foods
- ♦ Become familiar with the history and current status of miracle diets and their impact on individuals and society as a whole
- ♦ Explain the methodology of a diet to maintain the lost weight
- ♦ Learning about very low-calorie diets
- ♦ Acquire skills in the use of dietary treatment as therapy for comorbidities

**Module 7. Physical Activity and Obesity**

- ♦ In-depth knowledge of the concepts related to physical activity
- ♦ Perform a functional assessment based on scientific evidence
- ♦ Establish a physical activity program based on assessment
- ♦ Understand the different types of physical activity programs appropriate for age and physical condition
- ♦ Identify exercises with low risk of injury for obese patients
- ♦ Physical activity as a habit to prevent obesity
- ♦ Physiotherapeutic approach in comorbidities of obesity and its importance in the treatment of these
- ♦ Delve into the work of physiotherapy in surgical approaches to obesity (pre and post-surgery)

**Module 8. Psychological and Psychiatric Aspects of Obesity**

- ♦ Obtain an overview of the contributions from the psychological area aimed at increasing the chances of success in multidisciplinary intervention in overweight and obesity
- ♦ Conduct a brief historical review of the different social and cultural considerations of the phenomenon of obesity from prehistoric times to the present day
- ♦ Recognize the major comorbid psychiatric disorders associated with obesity and the psychopathology related to eating behaviors
- ♦ Gain a deeper understanding of the management of a binge eating disorder and its relationship with obesity and overweight
- ♦ Learn techniques that promote change in patients towards healthier lifestyles
- ♦ Expand knowledge of psychological examinations before and after bariatric surgery
- ♦ Present the psychotherapeutic approach from the cognitive behavioral therapy point of view, which has been demonstrated as being the most effective treatment for addressing obesity in both adults and children
- ♦ Emphasize the importance of early detection of psychological and educational variables that contribute to the development of eating disorders and obesity in order to carry out preventative actions

**Module 9. Pharmacological Treatment of Obesity**

- ♦ Identify the pharmacological arsenal currently available to treat obesity
- ♦ Establish the indications for anti-obesity drugs in each patient
- ♦ Analyze how its effect is controlled and the results we can expect
- ♦ Identify other drugs which are already commercialized in other countries such as the USA
- ♦ Present those drugs that produce weight loss, without being their main reason for use
- ♦ Miracle drugs that have been used in the treatment of obesity are reviewed
- ♦ Gain in-depth knowledge of the new lines of research in Precision Medicine
- ♦ Establish the pharmacokinetic variations caused in obese patients by excess body fat and those that appear after bariatric surgery

**Module 10. Surgical Treatment of Obesity**

- ♦ Correctly address the indications and contraindications of bariatric surgery
- ♦ Establish the preoperative protocol, with surgical risk stratification
- ♦ Recognize all the techniques of bariatric surgery
- ♦ Identify the appropriate technique for each patient
- ♦ In-depth knowledge of the endoscopic therapies currently in use, their indications and clinical management
- ♦ Knowing how to indicate metabolic surgery
- ♦ Postoperative care of the patient
- ♦ Identify the possible reasons for urgency after bariatric surgery
- ♦ Familiarization in the follow-up of pregnancy after bariatric surgery

# 03 Skills

After passing the assessments of the Professional Master's Degree in Obesity, the professional will have acquired the necessary skills for a quality and up-to-date praxis based on the most innovative didactic methodology.





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*This program will help you acquire the skills you need to excel in providing quality patient care”*



## Basic Skills

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- ♦ Analyze the different methods for assessing nutritional status
- ♦ Explain the role of the intestinal microbiota and its implications in diseases
- ♦ List the different causes of secondary obesity in relation to endocrinopathies and drugs
- ♦ Gain an in-depth understanding of obesity as a clinical condition and its historical evolution







## Specific Skills

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- ♦ Analyze advances in nutritional genomics, both in nutrigenetics and nutrigenomics
- ♦ Correctly assess a patient with obesity, throughout the different periods of life
- ♦ Identify the pathophysiological mechanisms linking hypertension and obesity
- ♦ Recognize the relationship between lipid disorders and obesity, especially atherogenic dyslipidemia
- ♦ Analyze peculiarities of obesity in women
- ♦ Insist on the interaction between obesity and type 2 diabetes mellitus
- ♦ Conduct a review of the evidence regarding carbohydrate and protein intake in the prevention and treatment of obesity
- ♦ Explain the methodology of a diet to maintain the lost weight
- ♦ Perform a functional assessment based on scientific evidence
- ♦ Identify exercises with low risk of injury for obese patients
- ♦ Obtain an overview of the contributions from the psychological area aimed at increasing the chances of success in multidisciplinary intervention in overweight and obesity
- ♦ Recognize the major comorbid psychiatric disorders associated with obesity and the psychopathology related to eating behaviors
- ♦ Analyze how its effect is controlled and the results we can expect
- ♦ Identify other drugs which are already commercialized in other countries such as the USA
- ♦ Identify the appropriate technique for each patient
- ♦ Identify the possible reasons for urgency after bariatric surgery.

# 04

# Course Management

The program's teaching staff includes leading experts in Obesity who contribute their vast work experience to this academic program. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.





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*Leading professionals in the field have come together to teach you the latest advances in Obesity”*

## Guest Directors



### Ms. Bartolomé Hernández, Laura

- ♦ Associate Head of the Endocrinology and Nutrition Department, Jiménez Díaz Foundation
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid
- ♦ Specialist in Endocrinology and Nutrition
- ♦ Speaker at the Area Session: Enteral Nutrition. Aspects to Consider in Elderly Patients
- ♦ Advanced Diabetology Course
- ♦ XXIII Postgraduate Course on Endocrinology
- ♦ Competency Course on Nutrition and Dietetics in the Management of Patients



### Dr. Vázquez Martínez, Clotilde

- ♦ Corporate Head of the Endocrinology and Nutrition Department. Jiménez Díaz Foundation and Quirón Salud group
- ♦ Head of the Endocrinology and Nutrition Department at Ramón y Cajal Hospital (Madrid) and Severo Ochoa Hospital
- ♦ Doctorate in Medicine from the Autonomous University Madrid
- ♦ Degree in Medicine and Surgery from the University of Valencia
- ♦ Specialist in Endocrinology and Nutrition via Medical Residency at the Jimenez Díaz Foundation

## Co-Direction



### Dr. Puigdevall Gallego, Víctor

- ♦ Doctor of Medicine and Surgery
- ♦ Specialist in Endocrinology and Nutrition
- ♦ Soria Hospital Complex
- ♦ Associate Professor in Valladolid University (academic courses 2005-2021)

## Professors

### Dr. Sánchez Jiménez, Álvaro

- ♦ Nutritionist at Medicadiet
- ♦ Face-to-face care for patients in the private area of the Fundación Jiménez Díaz Hospital, in coordination with the endocrinology, bariatric and digestive surgery services
- ♦ Graduate in Human Nutrition and Dietetics from the Complutense University of Madrid
- ♦ Refresher course on practical type 1 and 2 diabetes for healthcare professionals

### Dr. Montoya Álvarez, Teresa

- ♦ Head of Endocrinology and Nutrition Department at Infanta Elena University Hospital from October 2019
- ♦ Attending Physician in the Endocrinology and Nutrition Department at the Infanta Elena University Hospital
- ♦ Degree in Medicine and Surgery from the University of Navarra
- ♦ Master's Degree in Obesity and its Comorbidities. Prevention, Diagnosis, and Integral Treatment. Rey Juan Carlos University
- ♦ Online Course: Emergencies in patients with a history of bariatric surgery: key references for the on-call physician

**Dr. Vázquez Martínez, Clotilde**

- ♦ Medical assistance support at the Institute of Endocrinology and Nutrition of the Jiménez Díaz Foundation
- ♦ Medical assistance services for Medipremium through EuropeAssitance
- ♦ Degree in Medicine. Alcalá de Henares University
- ♦ Master's Degree in Integrative Humanistic Psychotherapy, at the Galene Institute in Madrid

**Dr. Fernández Menéndez, Amanda**

- ♦ Attending physician specializing in Pediatric Endocrinology and Nutrition at La Paz University Hospital
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Master's Degree in Obesity and its Comorbidities: Prevention, Diagnosis and Treatment
- ♦ Fully integrated by Universidad Rey Juan Carlos
- ♦ Expert in Clinical Bioethics from the Complutense University of Madrid

**Dr. De Cos Blanco, Ana Isabel**

- ♦ Faculty specialist in endocrinology and nutrition. La Paz University Hospital
- ♦ Doctorate in Medicine from the Autonomous University Madrid
- ♦ Graduate in Medicine, Specialist in Endocrinology and Nutrition at the San Carlos Clinical Hospital
- ♦ Master's Degree in Bioethics from the Complutense University of Madrid
- ♦ Scientific Co-director and Professor of the Professional Master's Degree in Obesity and its Comorbidities
- ♦ Prevention, Diagnosis, and Integral Treatment



**Ms. Calderón, Cristina**

- ♦ Dietician - Nutritionist at the General Hospital of Collado Villalba
- ♦ Dietician - Nutritionist at the Jiménez Díaz Foundation
- ♦ Graduate in Human Nutrition and Dietetics from the Autonomous University of Madrid
- ♦ Master's Degree in Nutrition and Health with Clinical Specialty UOC

**Ms. Labeira Candel, Paula**

- ♦ Dietician-Nutritionist in the Dr López Nava's Bariatric Endoscopy Unit (University Hospital HM, Sanchinarro, Madrid)
- ♦ Dietician-Nutritionist at the Institute of Overweight and Obesity. (Jiménez Díaz Foundation, Madrid). Coordinator and responsible for the training of the interns
- ♦ Degree in Food Science and Technology from the University of Cordoba
- ♦ Diploma in Human Nutrition and Dietetics from the Pablo Olavide University, Seville
- ♦ Master's Degree in Sports Training and Nutrition from the European University of Madrid-Real Madrid Foundation

**Dr. Laudo Pardos, Consuelo**

- ♦ Doctor of Medicine and Surgery
- ♦ Specialist in Family and Community Medicine
- ♦ Full-time Associate Professor and Assistant Professor at the University of Valladolid (academic years 1989-2016)

**Dr. Serrano Valles, Cristina**

- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Endocrinology and Nutrition
- ♦ Clinical University Hospital of Valladolid

**Dr. León Tellez, Marta**

- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Internal Medicine
- ♦ Soria Hospital Complex

**Dr. Fernández Fernández, Luis**

- ♦ Doctor of Medicine and Surgery
- ♦ Specialist in General Surgery
- ♦ Soria Hospital Complex

**Ms. García Lázaro, Sandra**

- ♦ Graduate in Physiotherapy
- ♦ Soria Hospital Complex
- ♦ Associate Professor of Physiotherapy in the Faculty of Physiotherapy of Soria

**Ms. Cepero Andrés, Ana Belén**

- ♦ Degree in Psychology. Specialist in Clinical Psychology
- ♦ Soria Hospital Complex
- ♦ Associate Professor at the University of Valladolid (2009-2010) and at the Complutense University of Madrid (2014-2015)

**Dr. Ortega Sanchez, Higinio**

- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Endocrinology and Nutrition
- ♦ Marqués de Valdecilla Clinical University Hospital (Santander)

05

# Structure and Content

The structure of the content has been designed by leading experts in Obesity, with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied, and diagnosed, and with extensive knowledge of new technologies applied to teaching.







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*This Professional Master's Degree contains the most complete and up-to-date scientific program on the market”*

## Module 1. Physiology of Appetite and Weight Control Pathophysiology

- 1.1. Energy Balance
- 1.2. Adequate Energy Intake: Estimating Energy Expenditure
  - 1.2.1. Basal Metabolism
  - 1.2.2. Voluntary and Involuntary Physical Activity
  - 1.2.3. Total Energy Expenditure
- 1.3. Nutritional Assessment
  - 1.3.1. Dietary Surveys
- 1.4. Gastrointestinal Hormones in the Regulation of Body Weight
  - 1.4.1. Ghrelin
  - 1.4.2. Obestatin
  - 1.4.3. Cholecystokinin
  - 1.4.4. GLP-1 and Others
- 1.5. Leptin in Body Weight Regulation
- 1.6. Metabolic Signals and Weight Control
  - 1.6.1. Blood Glucose Levels
  - 1.6.2. Fats
- 1.7. Hypothalamic Control of Food Intake
- 1.8. Adipose Tissue as an Endocrine Organ
  - 1.8.1. Adipogenesis
  - 1.8.2. Fat Cell Function in Obesity
- 1.9. Gut Microbiota and its Influence on the Development of Obesity.
- 1.10. Healthy Nutrition

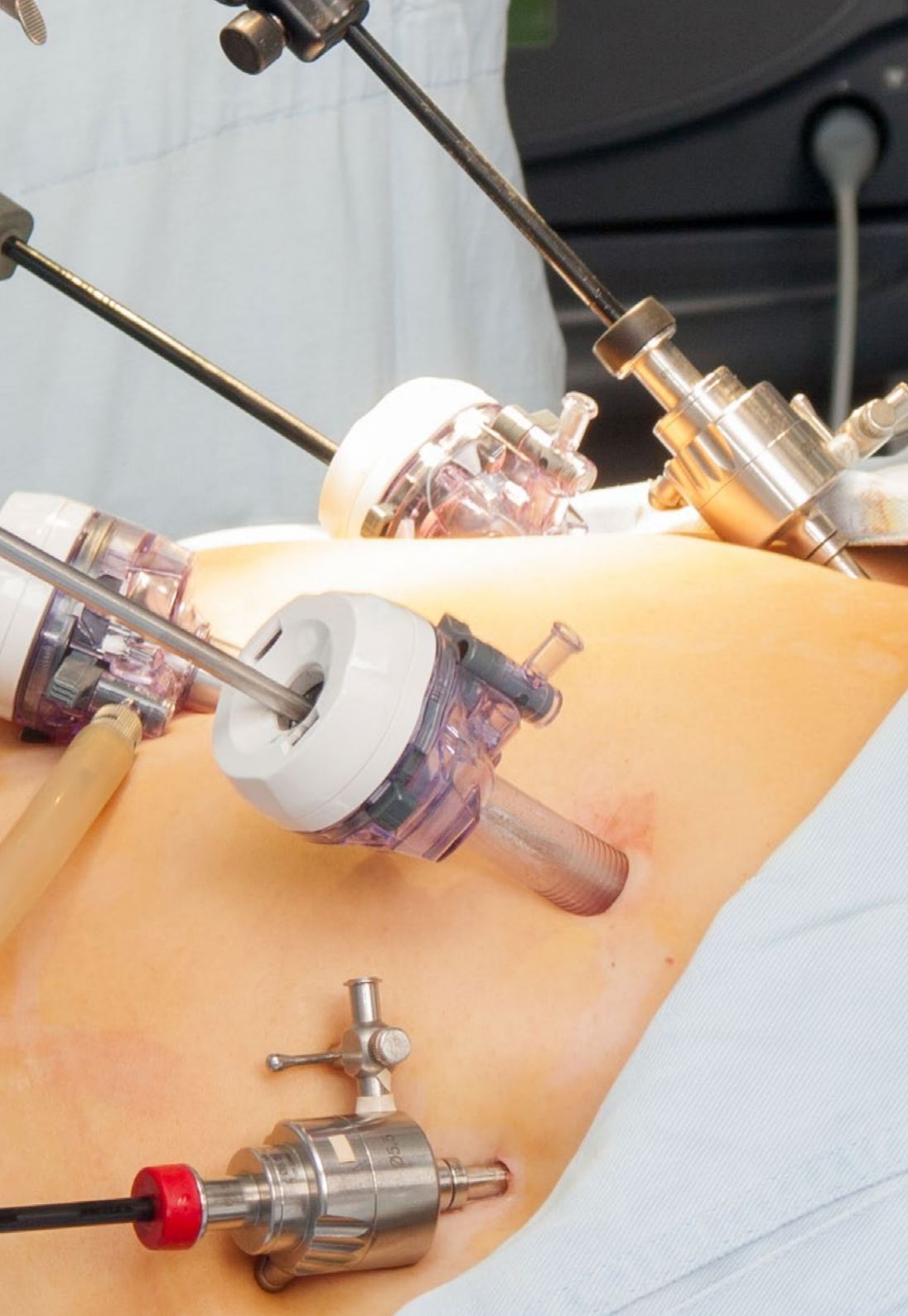
## Module 2. Etiopathogenesis of Obesity

- 2.1. Genetic Factors of Obesity
  - 2.1.1. Monogenic Obesity
  - 2.1.2. Polygenic Obesity
- 2.2. Epigenetics of Obesity
- 2.3. Secondary Obesity
  - 2.3.1. Endocrinopathy
  - 2.3.2. Drugs

- 2.4. Nutritional Genomics
  - 2.4.1. Nutrigenetics
  - 2.4.2. Nutrigenomics
- 2.5. Environmental Factors and Obesity (i): Changes in Eating Pattern
- 2.6. Environmental Factors and Obesity (II): Changes in Physical Activity
- 2.7. Endocrine Disruptors: Obesogens
- 2.8. Socioeconomic Status and Obesity. Environment and Obesity
- 2.9. Chronodisruption and Obesity
- 2.10. Sarcopenic Obesity

## Module 3. History, Definition, Diagnosis, Classification and Epidemiology

- 3.1. Definition. Obesity through the Ages
- 3.2. Diagnosis
  - 3.2.1. Body Mass Index
  - 3.2.2. Waist Circumference
  - 3.2.3. Body composition
- 3.3. Adiposity-Based Chronic Disease Classification
  - 3.3.1. ABCD
  - 3.3.2. Edmonton Obesity Staging System
- 3.4. Epidemiology of Childhood Obesity
- 3.5. Epidemiology of Adult Obesity
- 3.6. Phenotypic Characterization of Obese Patients
  - 3.6.1. Body composition
  - 3.6.2. Energy Expenditure
  - 3.6.3. Associated Comorbidities
  - 3.6.4. Compulsive Score
- 3.7. Epidemiology of the Complications
- 3.8. Obesity in Different Stages of Life
- 3.9. Metabolically Healthy Obese People
- 3.10. New Technologies in Obesity Management



## Module 4. Comorbidities of Obesity

- 4.1. Diabetes Mellitus type 2 and Obesity
  - 4.1.1. Diabesity.
  - 4.1.2. Pathophysiology
  - 4.1.3. Prediabetes.
- 4.2. Arterial Hypertension and Obesity
  - 4.2.1. Mechanisms
- 4.3. Dyslipidemia and Obesity
  - 4.3.1. Atherogenic Dyslipidemia
  - 4.3.2. Pathogenesis
- 4.4. Metabolic Syndrome. Heart Disease. Peripheral Vascular Disease and Peripheral Venous Insufficiency
  - 4.4.1. Diagnostic Criteria in Metabolic Syndrome
- 4.5. Obesity and Cancer
  - 4.5.1. Molecular Mechanisms
- 4.6. Respiratory Disorders and Obesity
  - 4.6.1. Apnea-Hypopnea Syndrome Associated with Obesity
  - 4.6.2. Hypoventilation Syndrome due to Obesity
  - 4.6.3. Bronchial Asthma
- 4.7. Digestive Diseases and Obesity
  - 4.7.1. Non-alcoholic Steatohepatitis
  - 4.7.2. Gastroesophageal Reflux Diseases
  - 4.7.3. Colelitis
- 4.8. Hypothalamic-Pituitary-Gonadal Axis and Obesity
- 4.9. Other Pathologies Associated with Obesity (Articular, etc.)
- 4.10. Obesity and COVID-19 Pandemic

## Module 5. Prevention of Obesity and its Comorbidities

- 5.1. Childhood Obesity
- 5.2. Prevention of Childhood Obesity: (i) Importance of Physical Exercise
- 5.3. Prevention of Childhood Obesity: (ii) Importance of Education and Treatment
- 5.4. Women and Weight Control
- 5.5. Strategies for the Prevention of Obesity and Overweight
  - 5.5.1. International Strategies
- 5.6. The Heart and Diabetes
  - 5.6.1. Evaluation of Cardiovascular Risk
- 5.7. Basis of the Therapeutic Approach
- 5.8. Multidisciplinary Team in the Treatment of Obesity
- 5.9. Health Systems Costs of Obesity
- 5.10. Cities and Obesity: Alliance of Cities Against Obesity

## Module 6. Dietary Treatment of Obesity

- 6.1. Carbohydrates and Proteins in the Prevention and Treatment of Obesity
- 6.2. Dietary Fat and its Role in Body Weight Regulation
- 6.3. Balanced Low-Calorie Diet. Eating Patterns
  - 6.3.1. Nutrient Distribution
- 6.4. Exchange Diet
  - 6.4.1. Plan
  - 6.4.2. Menus
- 6.5. The Mediterranean Diet: Prevention and Treatment of Obesity
  - 6.5.1. PREDIMED
- 6.6. Food Groups: Light Functional Foods
- 6.7. Magic or Miracle Diets
  - 6.7.1. Dissociated Diets
  - 6.7.2. Exclusion Diets
  - 6.7.3. Fasting Diet
- 6.8. Very Low-Calorie Diet
- 6.9. Diets and Maintaining Weight Lost
- 6.10. Diet in the Treatment of Comorbidities

## Module 7. Physical Activity and Obesity

- 7.1. Influence of Physical Activity on Energy Balance
- 7.2. Functional Assessment of an Obese Patient
  - 7.2.1. Motor Skills
  - 7.2.2. Flexibility
  - 7.2.3. Muscular Strength
  - 7.2.4. Cardio-respiratory
- 7.3. Functional Assessment of Obesity Comorbidities
- 7.4. Quantification of Physical Activity (Questionnaires, Records, etc.)
- 7.5. Types of Physical Exercise in Obesity Treatment
  - 7.5.1. Aerobic
  - 7.5.2. HIIT
  - 7.5.3. Strength Training
- 7.6. Principles of Physical Exercise
  - 7.6.1. Frequency
  - 7.6.2. Duration
  - 7.6.3. Intensity
- 7.7. Physical Activity in Childhood and Adolescence in the Prevention of Overweight and Obesity
- 7.8. Physical Activity: Guidelines and Consensus
- 7.9. Cardio-Respiratory Rehabilitation and Mechanics of Obese Patients. Rehabilitation after Bariatric Surgery
- 7.10. Importance of Physical Activity in Maintaining Weight

## Module 8. Psychological and Psychiatric Aspects of Obesity

- 8.1. Body Image, Social Stereotypes and the Stigmatization of Obesity
  - 8.1.1. Obesity Through History
  - 8.1.2. Dieting and the Weight Loss Industry
- 8.2. Role of Emotional Factors, Anxiety Disorders, Mood Disorders and ADHD in Obesity
  - 8.2.1. Eating to Alleviate Psychological Distress
  - 8.2.2. Anxiety
  - 8.2.3. Depression
  - 8.2.4. ADHD
  - 8.2.5. Other Psychological Factors

- 8.3. Eating Disorders and Food Intake (DSM 5)
  - 8.3.1. Pica
  - 8.3.2. Rumination Disorder
  - 8.3.3. Food Avoidance/Restriction of Food Intake Disorder
  - 8.3.4. Anorexia Nervosa
  - 8.3.5. Bulimia Nervosa
  - 8.3.6. Binge Eating Disorder
  - 8.3.7. Other Disorders: Night Eating Syndrome
- 8.4. Explanatory Models, Differential Diagnosis and the Treatment of Eating Disorder Comorbidities in Obesity
  - 8.4.1. Obesity, Binge Eating Disorder and the Food Restriction Theory
- 8.5. Techniques to Promote Motivation to Change
  - 8.5.1. Importance of the Therapeutic Relationship
  - 8.5.2. Transtheoretical Model of Prochaska and Di Clemente
  - 8.5.3. Motivational Interview of Miller and Rollnick
- 8.6. Psychological Assessment in Bariatric Surgery
  - 8.6.1. Areas of Assessment and Contraindications
- 8.7. Psychological Intervention in Obesity Treatment
  - 8.7.1. Cognitive-Behavioural Treatment Program. Efficient Techniques
  - 8.7.2. Relapse Prevention
- 8.8. Group Treatment Programs
  - 8.8.1. Intervention Focused on Cognitive Distortions
  - 8.8.2. Self-Help Groups
- 8.9. Psychological Intervention in Childhood Obesity
  - 8.9.1. Habit and Behaviour Modifications.
- 8.10. Prevention of Obesity and Eating Disorders
  - 8.10.1. Early Identification of Risk Factors
  - 8.10.2. Prevention Workshops

## Module 9. Pharmacological Treatment of Obesity

- 9.1. Orlistat
  - 9.1.1. XENDOS Study
- 9.2. Liraglutide
  - 9.2.1. Scale Study
- 9.3. Naltrexone/Bupropion
  - 9.3.1. COR Study
- 9.4. Anti-Obesity Drugs: When to Use Them and How Long to Use Them
  - 9.4.1. Treatment Algorithms
- 9.5. Commercialized Drugs in Europe
- 9.6. Non-Commercialized Drugs in Europe
- 9.7. Drugs Causing Unintentional Weight Loss
- 9.8. Miracle Drugs
- 9.9. Future Treatments of Obesity
- 9.10. Pharmacokinetic Modifications in the Obese Patient Before and After Bariatric Surgery

## Module 10. Surgical Treatment of Obesity

- 10.1. Evidence Levels
- 10.2. Indications and Contraindications
- 10.3. Preoperative Assessment and Patient Selection
- 10.4. Surgical Techniques
  - 10.4.1. Malabsorptive
  - 10.4.2. Restrictive
  - 10.4.3. Mixed
- 10.5. Metabolic and Adaptive Surgery
- 10.6. Complications of Bariatric Surgery
- 10.7. Emergencies in Bariatric Surgery
- 10.8. Postoperative Aftercare
- 10.9. Gestation After Bariatric Surgery
- 10.10. Future of Bariatric Surgery

06

# Methodology

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

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



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

## At TECH we use the Case Method

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

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



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



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

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

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



## Relearning Methodology

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

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

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



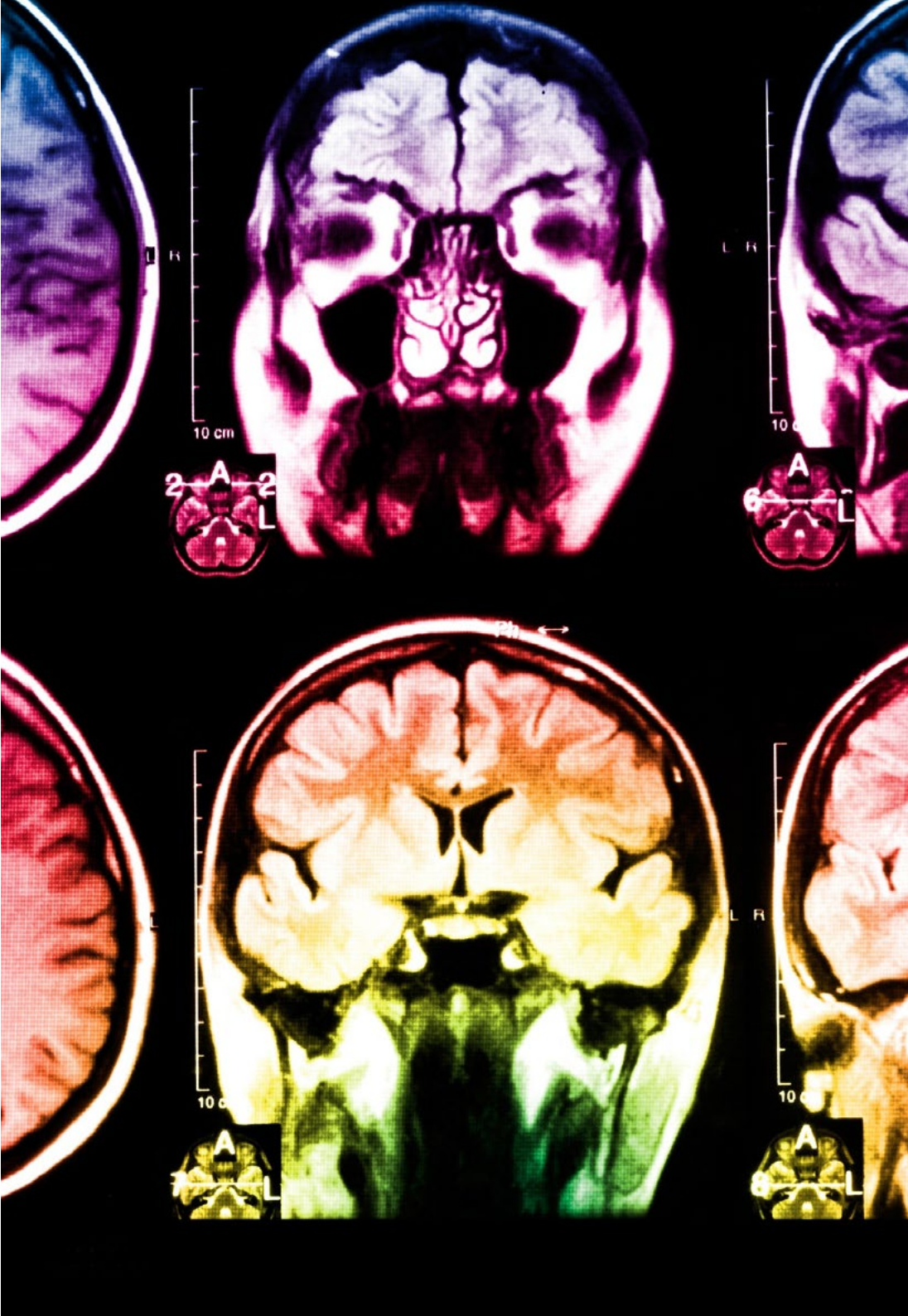
At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

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

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

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

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



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



#### Study Material

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

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



#### Surgical Techniques and Procedures on Video

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



#### Interactive Summaries

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

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



#### Additional Reading

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





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

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



#### Testing & Retesting

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



#### Classes

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



#### Quick Action Guides

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



# 07 Certificate

The Professional Master's Degree in Obesity guarantees students, in addition to the most rigorous and updated education, access to a Professional Master's Degree issued by TECH Technological University.





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

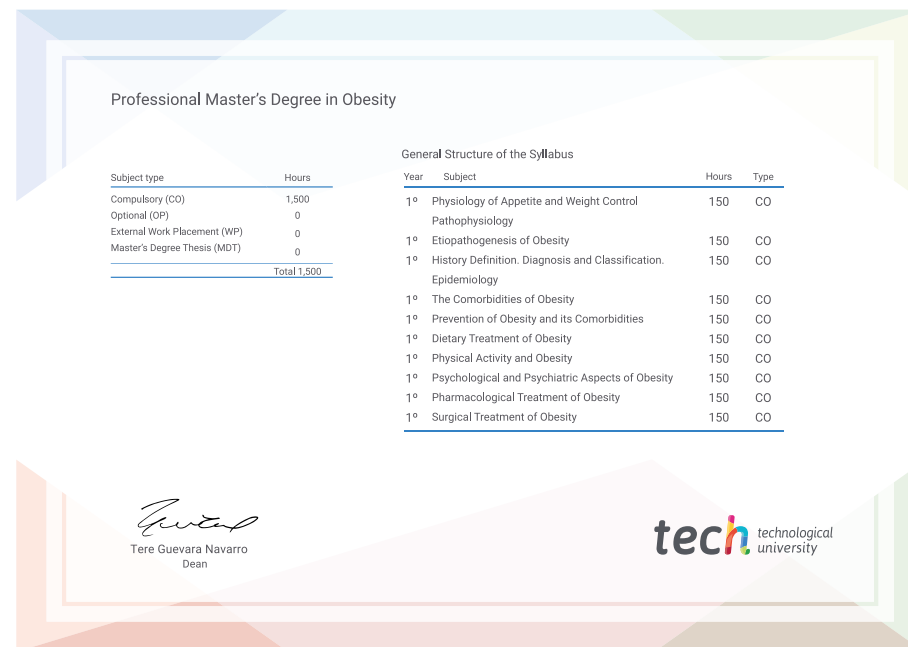
This **Professional Master's Degree in Obesity** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Professional Master's Degree in Obesity**

Official N° of hours: **1,500 h.**



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



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
development languages  
virtual classroom



**Professional Master's  
Degree**

Obesity

Course Modality: Online

Duration: 12 months

Certificate: TECH Technological University

Official N° of hours: 1,500 h.

# Professional Master's Degree

## Obesity

