





Hybrid Master's Degree

Diabetes

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

60 + 5 créditos ECTS

We bsite: www.techtitute.com/us/medicine/hybrid-master-degree-diabetes

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01 Introduction

Diabetes is considered one of the most dangerous pandemics of the 21st century due to its chronicity and numerous comorbidities. For this reason, scientific and technological research on this medical condition is constant and generates, as a consequence, new therapeutic protocols such as the application of incretin analogues for the treatment of patients with type 2 diabetes. At the same time, the educational market lacks programs that efficiently integrate these developments from a practical and theoretical point of view. To solve this problem TECH has created this degree, with an innovative educational modality in which the physician will dedicate 1500 hours of study and learning 100% online and 3 weeks of immersive on-site internship in a prestigious specialized center.



tech 06 | Introduction

Diabetes is one of the main causes of severe conditions such as blindness, kidney failure, myocardial infarction, stroke and lower limb amputation. At the same time, the rates of its progression and incidence on a global scale are truly alarming. The biological sciences, and in particular medicine, are constantly analyzing all the implications of this severe disease. As a result, each year a large volume of academic information is generated, establishing increasingly up-to-date protocols for diagnosis, therapy and follow-up. Keeping up to date with all these contributions is a major challenge for health professionals. Another important challenge lies in mastering all this knowledge both from a theoretical and practical point of view.

Aware of this need, TECH has implemented this Hybrid Master's Degree in Diabetes where the specialist will find multiple learning modalities. For this purpose, it has two distinct educational phases. The first one frames the didactic study of the main novelties regarding this medical phenomenon. Therefore, the degree describes different care trends, the pathogenesis of the disease, the impact of new information technologies for its monitoring, among other aspects. This teaching process will take place 100% online, without preset schedules or timetables, which will enable the physician to quickly and flexibly master all the contents.

The program then consists of an on-site and intensive 3-week internship at a prestigious hospital center. During this immersive internship, students will be able to apply what they have learned directly to real cases that require the most modern medical care to contain the impact of their diabetes. At the same time, throughout this phase, a team of leading experts will guide the assimilation of practical skills and an associate tutor will assign complex tasks to complement what has been learned.

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

- Development of more than 100 clinical cases presented by expertise and university professors Cone extensive experience in the Diabetes Management
- Assessment and monitoring of the diabetic patient, the latest international recommendations for personalized care, pharmacological treatment, among other aspects
- Presentation of practical workshops on procedures, diagnosis, and treatment techniques in Diabetes patients
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- All this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection
- Furthermore, you will be able to carry out a clinical internship in one of the best hospital centers



This Hybrid Master's Degree, with two distinct phases, unifies, like no other program, the theoretical and practical knowledge essential for the care of diabetic patients"



In this educational program, you will have access to infographics, videos and other multimedia resources that will complement those aspects most relevant to Diabetes and necessary for your professional career"

This Hybrid Master's Degree program is aimed at updating medical professionals who develop their healthcare activity around diabetic patients. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge in daily medical practice and promote better decision making in the approach to patients.

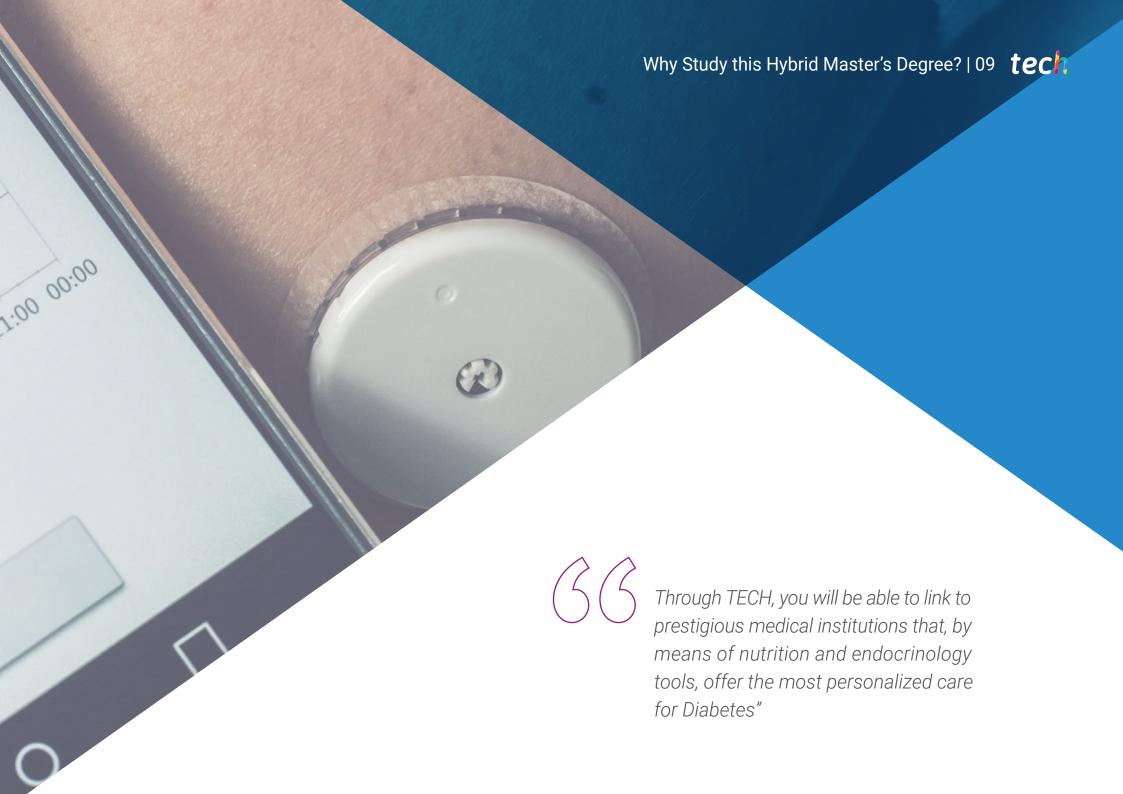
Thanks to the multimedia content, developed with the latest educational technology, medical professionals will benefit from situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to train in real situations. This program is designed around Problem-Based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

Enroll in this program and update your knowledge through an innovative and pioneering mode of study in the current educational panorama.

Boost your career path with holistic teaching, allowing you to advance both theoretically and practically.







tech 10 | Why Study this Hybrid Master's Degree?

1. Updating from the Latest Technology Available

The early detection of diabetes and the clinical examinations necessary to establish a correct treatment against it are based on optimal technological equipment. However, medical professionals must be prepared to choose which of these tools to use, depending on the condition and evolution of their patients. With this Hybrid Master's Degree, TECH graduates will be up to date in an exceptional way on the indicators necessary to apply each of these resources.

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

Throughout all the educational phases of this degree, TECH provides direct and personalized teaching guidance. For the theoretical framework, for example, physicians will be supported by a prestigious faculty, through which they will be able to solve multiple doubts and concepts. Likewise, during the professional internship, students will work together with leading experts and with a designated tutor who will insert them in different protocols and dynamics of care.

3. Entering First-Class Clinical Environments

TECH carefully selects all the centers available for the internship that is integrated to this Hybrid Master's Degree. Therefore, specialists are guaranteed access to a first class medical environment, meticulously equipped for the care of patients with Diabetes. In this way, they will have the opportunity to update themselves in this health area, applying the most innovative scientific postulates and work methodologies, based on the most recent research advances.





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

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

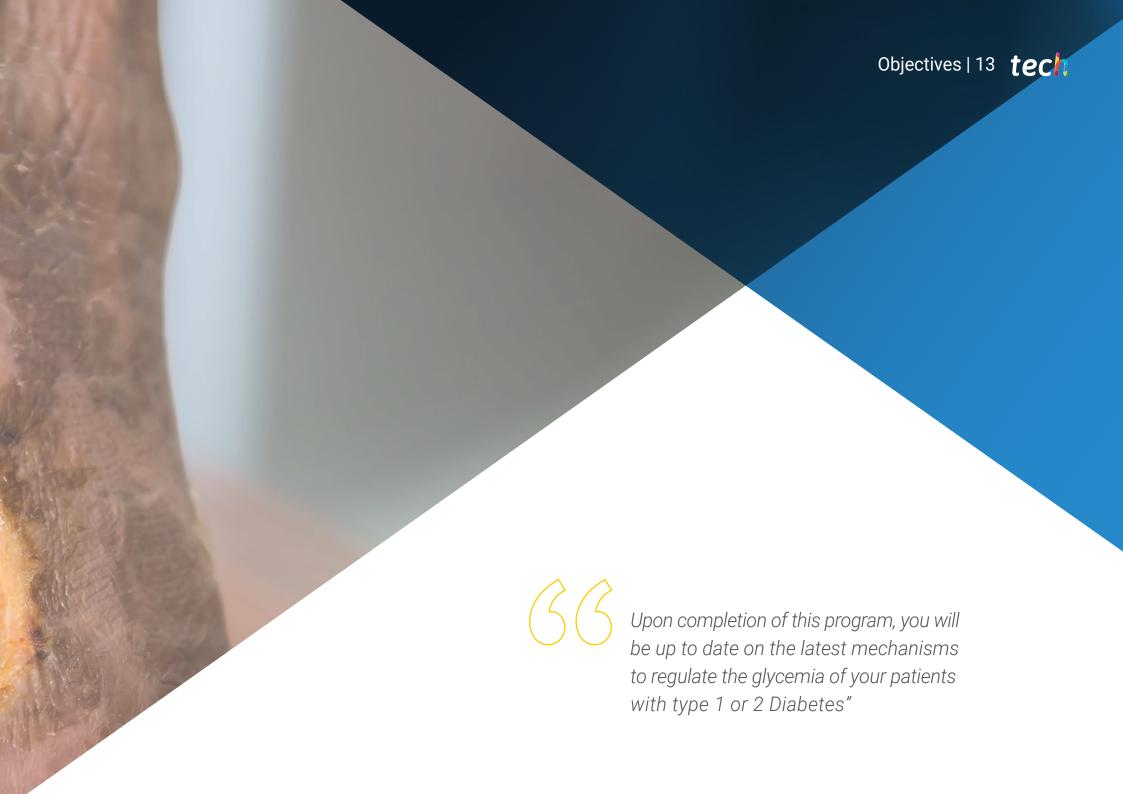
This educational program enhances the assimilation of the most up-to-date theoretical contents in relation to Diabetes through a 100% online learning modality and free of restrictive schedules. All this takes place in a first stage, dedicated to the theoretical mastery, and then accompanied by a professional practice of 3 weeks in equipped health facilities to develop directly all the knowledge acquired.

5. Expanding the Boundaries of Knowledge

Physicians enrolled in this Hybrid Master's Degree have within their reach the most renowned hospitals for the treatment of Diabetes, thanks to TECH's wide network of international contacts. Therefore, they will not have to be satisfied with their immediate frontiers of knowledge and will be able to choose institutions located in different latitudes of the world, acquiring a global vision of the most specialized protocols.







tech 14 | Objectives



General Objective

With this Hybrid Master's Degree in Diabetes, specialists will delve further into the complex
mechanisms of glycemia regulation. At the same time, they will improve their knowledge of
the bases of the disease's pathophysiology and, in this way, better understand the existing
therapeutic approaches and for the prevention of the disease. At the same time, they will
acquire the necessary skills to manipulate the different monitoring devices, insulin injection,
perfusion pumps and to interpret the resulting data. Also, it will delve into the protocols for
special situations, designed in relation to the elderly patient, institutionalized, hospitalized,
during travel or in rural and work environments



This 100% online Hybrid Master's
Degree offers you the possibility of
overcoming its theoretical objectives at
your own pace, without preset schedules
or timelines, so that you can achieve your
academic objectives with total guarantees"



Specific Objectives

Module 1. The Concept of Diabetes. Epidemiology

- Expand and acquire the latest skills and news about Diabetes as a chronic, complex and progressive disease
- Acquire knowledge of the classification of Diabetes and the wide spectrum of etiologies that lead to its development
- Delve into the epidemiology of type 1 diabetes and its determinants
- Delve into the epidemiological impact of type 2 diabetes as an epidemic in our environment
- Acquire the knowledge and skills to detect diabetes early in the population, through screening techniques
- Incorporate the concept of public health in Diabetes

Module 2. Pathophysiology of Diabetes

- Deepen the basic knowledge of glucose homeostasis
- Analyze the etiopathogenic mechanisms of type 1 diabetes
- Know what insulinitis is and how it occurs in type 1 diabetes
- Delve in the etiopathogenic mechanisms of type 2 diabetes that will serve as therapeutic targets for the same
- Understand the essential role of adipose tissue and its excess (obesity) in the genesis
 of type 2 diabetes
- · Acquire the knowledge and skills of insulin resistance measurement
- Studying the mediating role of inflammation between obesity and diabetes
- Know the alterations in the regulation of gastrointestinal hormones in type 2 diabetes and what is the incretin effect

- Learn about a new avenue of research in the field of diabetes etiopathogenesis:
 Intestinal microbiota
- Delve into new mechanisms involved in type 2 diabetes, such as the role of the central nervous system as an organ regulating body weight
- Learn what is the natural history of type 2 diabetes
- Knowing how to prevent or delay the development of type 1 and type 2 diabetes, by acting on the etiopathogenic mechanisms involved

Module 3. Assessment of diabetes and its comorbidities

- Study in depth the concept of comprehensive assessment of diabetes in order to have a global vision of the patient with diabetes
- Acquire the necessary knowledge to transmit to the patient the priorities in the therapeutic approach
- Acquire the skills to know the patient's preferences, social, economic and cultural environment and expectations in the treatment of Diabetes
- Know the importance of glycemic control
- Learn glycemic control mediation techniques and individualized targets for each patient
- Acquire a mastery of hypoglycemia, both from the pathophysiological point of view, as well as detection, prevention and treatment
- Knowing the consequences of hypoglycemia on the patient
- Differentiate acute hyperglycemic complications for their correct therapeutic approach
- Learn to detect precipitating factors of acute hyperglycemic complications
- Acquire the knowledge and skills for the assessment of cardiovascular risk in the diabetic patient

- · Learning how to screen for cardiovascular risk factors
- Identify other endocrinological entities with diabetes
- Acquire knowledge and skills to assess the social and psychological aspects of diabetes

Module 4. Diabetes Complications. Classification

- Learn the etiopathogenic pathways of diabetes complications in order to understand the evolutionary course of these complications and their therapeutic targets
- Learn the classification of the chronic complications of diabetes according to whether the small vessels or large vessels are mainly affected and according to the organ affected
- Acquire epidemiological knowledge about diabetic nephropathy in order to be able to assess the importance of its prevention and diagnosis
- Learn the pathophysiological basis and risk factors involved in diabetic nephropathy
- Know the evolutionary stages of kidney disease and the current classification of kidney disease
- Know when and how screening for DN should be performed in the diabetic population
- Learn the specific treatments for DN
- Acquire epidemiological knowledge about DR in order to be able to assess the importance of its prevention and diagnosis
- Learn the pathophysiological basis and risk factors involved in DR
- Know the evolutionary stages of DR and its current classification
- Know when and how DR screening should be performed in the diabetic population
- Learn about specific DR treatments and new avenues of research in this field
- Acquire epidemiological knowledge about diabetic nephropathy in order to be able to assess the importance of its prevention and diagnosis

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- Learn the pathophysiological basis and risk factors involved in diabetic neuropathy (NeuroD)
- Know the evolutionary stages of NeuroD and its current classification

Module 5. Macrovascular complications of diabetes and other medical entities

- Delve into the current data on the Epidemiology of macrovascular disease in diabetes
- Delve into the current data on the Epidemiology of hypertension in diabetes
- Deleve into on the current data on the Epidemiology of dyslipidemia in diabetes
- Delve into the knowledge of current data on the Epidemiology of smoking in diabetes
- Learn how to design a smoking cessation program
- Acquire the knowledge and skills necessary to screen for coronary heart disease in diabetics
- Acquire the knowledge and skills necessary for the screening of diabetic heart failure
- Acquire the knowledge and skills for the initial management of the diabetic heart failure patient
- Acquire the knowledge and skills necessary to perform screening tests for peripheral arterial disease in diabetics
- Learn to critically interpret glycemic control targets in the diabetic patient in secondary prevention
- Acquire the knowledge and skills necessary to develop the criteria for referral to a hepatologist for and a patient with suspected hepatic steatosis
- Acquire the knowledge and skills necessary for the assessment of chronic lung disease in diabetics
- Acquire knowledge about the prevalence and association between diabetes and cancer
- Acquire the knowledge and skills necessary for the screening of mood disorders, especially depression in diabetic patients

Module 6. Diabetes Management I

- Specialize in the integral treatment of Diabetes
- · Learning the global management of obesity in the diabetic patient
- Know the pharmacological alternatives for the treatment of obesity in patients with diabetes
- · Learn what metabolic surgery is, its indications in diabetic patients and its results
- Know the most indicated antihypertensive treatments for diabetic patients and their prescription
- Learn the management of diabetic dyslipidemia, know the indications for its treatment and the drugs available
- Learn how to prescribe a nutritional plan adapted to each person with type
 1 or type 2 diabetes
- Acquire the knowledge to prescribe a structured exercise program for the patient with Diabetes
- Know the different insulin treatment guidelines for patients with type 1 diabetes
- Learn to interpret glycemic control results according to individualized treatment guidelines
- Become familiar with more complex therapeutic strategies for patients with type 1 diabetes such as islet or pancreas transplantation
- Acquire a critical view of the recommendations of expert consensus and scientific society guidelines for the management of type 2 diabetes

Module 7. Diabetes Management II

- Master each of the families of antidiabetic drugs and their safe prescription, including: metformin, sulfonylureas and glinides, acarbose, DPP4 inhibitors, GLP-1 analogues, sodium-glucose cotransporter type 2
- Recognize the different types of insulin and determine the correct prescription according to the type of diabetes affecting each patient
- Familiarization with new therapeutic targets in development, as a very novel aspect
 of this module



- To fully manage steroid-induced hyperglycemia
- To provide an adequate nutritional approach for patients with gestational diabetes
- Acquire the knowledge and skills necessary for the pharmacological management of gestational diabetes

Module 8. Diabetes and Technology

- Responsible implementation of technologies associated with Diabetes, among them capillary blood glucose self-monitoring tools
- Adequately interpret data collected through monitoring techniques, such as the APG report, and be able to optimize Diabetes control
- Know the subcutaneous insulin injection devices, their handling and related problems
 in order to be able to solve them in the diabetic patient who is a user of these devices
- Explore and use the mobile internet applications available for the diabetic patient
- Apply technology in new forms of medical care for diabetic patients (e-consultation, telemedicine, online Educational programs)

Module 9. Diabetes in Special Situations

- Implement expert management of the patient with diabetes in adolescence and at the onset of sexual relations
- Orient the patient with Diabetes who consumes alcohol about its repercussions on glucose metabolism in order to warn and educate the patient with Diabetes
- Know how gender influences the control of diabetes from an integral point of view (glycemic control, risk factors and associated comorbidities)

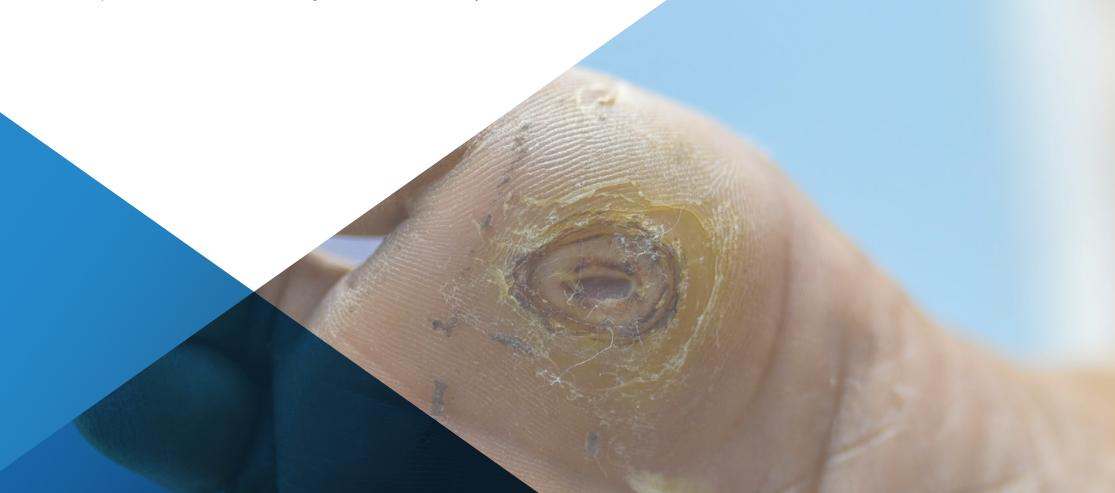
- Identify the frail elderly, through screening tests
- Reprogram the pharmacological approach to the frail elderly patient with polypharmacy and comorbidities
- Detect these unfavorable socioeconomic situations and plan the management of the diabetic patient in such cases
- Master the legal aspects of the patient with Diabetes, since they condition their life and, therefore, the control of diabetes

Module 10. Diabetic Education. Concept and Fundamentals

Acquire the necessary knowledge and skills of diabetes education, as part of the treatment
of diabetes, to facilitate the knowledge, skill and ability necessary for self-management

04 Skills

Every physician aspires to offer their patients adequate care, based on the latest scientific evidence. Faced with this primordial requirement, TECH has designed a comprehensive and demanding program that will update its students on the most modern protocols for the management of patients with Diabetes. Its exhaustive theoretical framework will be accompanied by an on-site and immersive internship that will promote the assimilation of knowledge in a holistic and direct way.



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You will update, with this educational program, your knowledge to be able to prescribe the best pharmacological strategy for each diabetic patient and according to their comorbidities"

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General Skills

- Perform appropriate management of patients with diabetes at any level of care
- Develop the necessary skills to become a professional in care, therapeutic education and research tasks in an ethical and independent manner, in specialized hospital care, primary care, home care or in universities or research centers
- Achieving excellence in health care services and multidisciplinary management of patients with diabetes



Throughout this Hybrid Master's Degree, you will learn about the impact of new information technologies, related to Telemedicine, for the monitoring, follow-up and evaluation of diabetic patients"





- Master the classification of diabetes and the wide spectrum of etiologies that lead to its development
- Incorporate the concept of public health in Diabetes
- Acquire the knowledge and skills of insulin resistance measurement
- Studying the mediating role of inflammation between obesity and diabetes
- Acquire the necessary knowledge to transmit to the patient the priorities in the therapeutic approach
- Acquire the skills to know the patient's preferences, social, economic and cultural environment and expectations in the treatment of Diabetes
- Learn the classification of the chronic complications of diabetes according to whether the small vessels or large vessels are mainly affected and according to the organ affected
- Know when and how screening for DN should be performed in the diabetic population
- Learn the specific treatments for DN
- Delve into the current data on the Epidemiology of hypertension in diabetes
- Acquire the knowledge and skills necessary for the screening of mood disorders, especially depression in diabetic patients
- Become familiar with more complex therapeutic strategies for patients with type 1 diabetes such as islet or pancreas transplantation
- Acquire a critical view of the recommendations of expert consensus and scientific society guidelines for the management of type 2 diabetes

- · Recognize each of the families of antidiabetic drugs
- Apply a nutritional approach to gestational diabetes
- Acquire the knowledge and skills necessary for the pharmacological management of gestational diabetes
- Learn to recognize the usefulness of information obtained through artificial intelligence data analysis in the field of Diabetes
- Apply technology in new forms of medical care (e-consultation, telemedicine, online Educational programs. to diabetic patients
- Know how gender influences the control of diabetes from an integral point of view (glycemic control, risk factors and associated comorbidities)
- Acquire the necessary knowledge and skills of diabetes education, as part of the treatment
 of diabetes, to facilitate the knowledge, skill and ability necessary for self-management





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Guest Director



Dr. Ganda, Om

- Director of the Lipid Clinic at Joslin Diabetes Center, Boston
- Coordinator of the Endocrine Consultation Service at Joslin Diabetes Center
- Researcher at Joslin Research Laboratory
- Professor Associate of Medicine at Harvard Medical School
- M.D. from All India Institute of Medical Sciences
- Graduate in Medicine from S.M.S. Medical College, University of Rajasthan
- Clinical Fellow in Endocrinology and Metabolism at the Boston Veterans Administration Hospital and Tufts University School of Medicine
- Fellow of Research at Harvard Medical School
- Fellow of Research at Peter Bent Brigham Hospital
- Certified in the subspecialty of Endocrinology and Metabolism by the American Society of Internal Medicine

Management



Dr. González Albarrán, Olga

- Head of Endocrinology and Diabetes at the Gregorio Marañón General: University Hospital in Madrid
- Specialist in Endocrinology and Nutrition
- Degree in Medicine from the Autonomous University of Madrid
- PhD Cum Laude and Extraordinary Award in Medicine from the University of Alcala
- Associate Teacher at the Complutense University of Madrid
- Master's Degree in Clinical Nutrition from the Autonomous University of Madrid
- Master's Degree in Cardiovascular Risk from McMaster University
- Master's Degree from Management in Endocrinology Clinical Units, Menéndez Pelayo University
- Awards of the Spanish Society of Endocrinology and Nutrition

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Professors

Dr. Galdón Sanz-Pastor, Alba

- Specialist in Endocrinology and Nutrition
- Assistant Physician in the Endocrinology Department at the Gregorio Marañón Hospital in Madrid
- Author of Multiple field national and international specialized publications
- Degree in Medicine from the Complutense University of Madrid

Dr. López Guerra, Aurelio

- Specialist in Endocrinology and Nutrition
- Attending Physician the Endocrinology Department, Gregorio Marañón University Hospital from Madrid
- Degree in Medicine from the University of Gran Canaria

Dr. Atencia Goñi, José

- Assistant Physician in the Endocrinology Department at the General University Gregorio Marañón Hospital in Madrid
- Specialist in Endocrinology and Diabetes at the Gregorio Marañón University Hospital in Madrid
- Doctor the Hospital Vithas Madrid La Milagrosa
- Doctor at the Ruber International Hospital of Madrid
- Fellowship in the Division of Endocrinology, Metabolism and Lipids, Emory University, Atlanta, GA
- Degree in Medicine from the University of Navarra
- Training in Neuroendocrine Tumors

Dr. Weber, Bettina

- Assistant Physician in the Endocrinology Department at the General University Gregorio Marañón Hospital in Madrid
- Degree in Medicine from the Complutense University of Madrid
- Specialist in Endocrinology and Nutrition

Dr. Chacín Coz, Juan Simón

- Specialist in Endocrinology and Nutrition
- Endocrinology at the Jiménez Díaz Foundation Hospital in Madrid
- Medical Oncology Department, Hospital Universitario Rey Juan Carlos, Madrid, Spain
- Degree in Medicine from the Central University of Venezuela
- Member of the Spanish Society of Endocrinology and Nutrition

Ms. Sánchez González, María

- Independent Nutritionist
- Nutritionist at Club de Remo, Alicante
- Nutritionist at Álex Camarada Sports Center, Alicante
- Nutritionist at Melody Garcia Nutrition, Benidorm
- Graduate in Human Nutrition and Dietetics from the University of Valladolid
- Master's Degree in Nutrition Rehabilitation from the Catholic University San Antonio of Murcia
- Member of the Health Commission of the CODiNuCova College

Dr. Brox Torrecilla, Noemi

- Specialist in Endocrinology and Diabetes at the Gregorio Marañón University Hospital in Madrid
- Researcher of the Gregorio Marañón Health Research Institute. of Madrid
- Graduate in Medicine Therapy from the University of Castilla-La Mancha

Dr. Rivas Montenegro, Alejandra Maricel

- Service Physician of Endocrinology and Nutrition at the Gregorio Marañón General University Hospital in Madrid
- Master's Degree s Degree in Clinical Reasoning and Clinical Practice, Alcalá University de Henares
- Degree in Medicine from the University of Ecuador

Dr. Muñoz Moreno, Diego

- Service Physician of Endocrinology and Nutrition at the Gregorio Marañón General University Hospital in Madrid
- Postgraduate Certificate in Treatment of Diabetes Mellitus type 2 at the Autonomous University of Barcelona
- Professional Master's Degree in Endocrine Oncology by CEU Cardenal Herrera University
- Degree in Medicine and Surgery from the University of Alcalá de Henares

Dr. Aranbarri Osoro, Igotz

- Online Consultant on Family Medicine and Diabetes
- Medical Coordinator at Patia
- Specialist in Family and Community Medicine in Osakidetza
- Family Physician in Zalaieta Mediku Zentroa
- Master's Degree in Education and Care of people with diabetes at the University of Barcelona
- Master's Degree in Education and Care of people with diabetes type 2 from the University Francisco of Vitoria
- Postgraduate Diploma in Type 2 Diabetes from the University of Miguel Hernández de Elche

Dr. Pérez López, Gilberto

- Associate Physician of Endocrinology and Nutrition at the Gregorio Marañón University Hospital in Madrid
- Coordinator of the Working Group on Childhood and Adolescent Obesity in the Spanish Society for the Study of Obesity (SEEDO)
 Medical Director of the Spanish Klinefelter Syndrome Association
- Doctorate in Medicine, University of Alcala
- Specialist in Endocrinology and Nutrition at Ramón and Cajal University Hospital Madrid
- Specialist in Pediatrics and Specialized Areas at Ramón and Cajal University Hospital Madrid
- Specialist's Degree in Clinical Genetics given by the University of Alcalá
- Degree in Medicine from the University of Panama

Dr. Miguélez González, María

- Associate Physician of Endocrinology and Nutrition at the University Hospital Jiménez Díaz Foundation. of Madrid
- Degree in Medicine from the University of Valladolid
- Collaborating lecturer in seminars given to students at the Complutense University of Madrid
- Professor of the Master Expert in Obesity and Metabolic Complications, endorsed by SEEDO





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Module 1. The Concept of Diabetes. Epidemiology

- 1.1. Diabetes Historical Recollection
- 1.2. Classification of Diabetes and Other Categories of Glucose Intolerance
- 1.3. Gestational Diabetes
- 1.4. Diabetes and Genetic Syndromes
- 1.5. Diabetes and Exocrine Pancreatic Diseases
- 1.6. Pharmacological Diabetes
- 1.7. Epidemiology of Type 1 Diabetes
- 1.8. Epidemiology of Type 2 Diabetes
- 1.9. Type 2 Diabetes and Prediabetes Screening
- 1.10. Diabetes and Population Health

Module 2. Pathophysiology of Diabetes

- 2.1. Normal Anatomy and Physiology of Pancreatic Function. Glucose Homeostasis
- 2.2. Pathogenesis of Type 1 Diabetes
- 2.3. Pathogenesis of Type 2 Diabetes. Overview
- 2.4. Role of Adipose Tissue in Type 2 Diabetes. Concept of Insulin Resistance
- 2.5. Implications of Intestinal Hormones in the Pathophysiology of Diabetes: Incretin System. Intestinal microbiota
- 2.6. Implications of the Kidney in the Pathophysiology of Diabetes
- 2.7. The Central Nervous System and the Pathophysiology of Diabetes
- 2.8. Diabetes and Genetics
- 2.9. Diabetes and Delay or Prevention of DM1
- 2.10. Diabetes and Delay or Prevention of DM2

Module 3. Evaluation of diabetes and its comorbidities

- 3.1. Patient-Centered. Facilitating Behavioral Change in Patients with Diabetes
- 3.2. Glycemic Control Objectives
- 3.3. Hypoglycemia
- 3.4. Diabetes and Hyperglycemic Decompensations: CAD
- 3.5. Diabetes and Hyperosmolar Hyperglycemic Decompensation
- 3.6. Diabetes and Infections
- 3.7. Cardiovascular Risk Assessment in Diabetic Patients
- 3.8. Diabetes and Endocrine Diseases.
- 3.9. Psychological and Social Aspects of Diabetes

Module 4. Diabetes Complications. Classification

- 4.1. Classification of Diabetes Complications and their Impact on the Person with Diabetes
- 4.2. Pathophysiology of Microvascular Complications
- 4.3. Pathophysiology of Macrovascular Complications
- 4.4. Diabetic Retinopathy
- 4.5. Diabetic Neuropathy
- 4.6. Diabetic Nephropathy
- 4.7. Periodontal Disease
- 4.8. Erectile Dysfunction
- I.9. Diabetic Dermatopathy
- 4.10. Diabetic Foot

Module 5. Macrovascular complications of diabetes and other medical entities

- 5.1. Epidemiology of Macrovascular Disease in Diabetes
- 5.2. Epidemiology of Hypertension and Dyslipidemia in Diabetes
- 5.3. Diabetes and Heart
- 5.4. Cerebrovascular Disease in Diabetes
- 5.5. Peripheral Arterial Disease
- 5.6. Effects of Glycemic Control on Cardiovascular Events in Patients with Diabetes
- 5.7. Diabetes and Hepatic Steatosis/Steatohepatitis
- 5.8. Diabetes and Lung Disease
- 5.9 Diabetes and Cancer
- 5.10. Diabetes and Depression

Module 6. Diabetes Management I

- 6.1. Introduction to Comprehensive Diabetes Management
- Management of Obesity in Diabetes and Prediabetes. Metabolic Surgery for Diabetes Treatment
- 6.3. Treatment of Risk Factors: Hypertension in Diabetes, Dyslipidemia
- 6.4. Treatment of Risk Factors: Tobacco Use
- 6.5. Nutrition in Type 1 Diabetes
- 6.6. Nutrition in Type 2 Diabetes
- 6.7. Exercise as Part of Diabetes Treatment
- 6.8. "Conventional" Treatment of Type 1 Diabetes
- 6.9. "Non-Conventional" Treatment of Type 1 Diabetes. Pancreatic Islet Transplantation, Pancreas Transplantation
- 6.10. National and International Guidelines and Consensus on the Management of Type 2 Diabetes

Module 7. Diabetes Management II

- 7.1. Metformina
- 7.2. Sulfonylureas and Glinides
- 7.3. Acarbose and Thiazolidines
- 7.4. Glycosurics
- 7.5. DPP4 Enzyme Inhibitors
- 7.6. GLP-1 Receptor Agonists
- 7.7. Recap. Prandial Insulins. Basal Insulins
- 7.8. New Treatments in Research
- 7.9. Steroid Diabetes Treatment
- 7.10. Treatment of Gestational Diabetes

Module 8. Diabetes and Technology

- 8.1. Overview of the Use of Technology in Diabetes
- 8.2. Capillary Glycemia Self-Monitoring
- 8.3. Continuous Glucose Monitoring. Glucose Sensors
- 8.4. Insulin and Injection Devices. Insulin Pumps
- 8.5 Artificial Pancreas

- 8.6. Use of Technology in Diabetes in Pregnancy
- 8.7. Use of Technology in Diabetes in Infancy
- 8.8. Diabetes and Big Data
- 8.9. Diabetes and Internet (Web, Apps, etc.)
- 8.10. New Ways to Care for the Diabetes Patient

Module 9. Diabetes in Special Situations

- 9.1. Diabetes in Childhood and Adolescence
- 9.2. Diabetes, Alcohol and Sexual Relationships
- 9.3. Diabetes in Women
- 9.4. Diabetes in the Elderly and in the Institutionalized Patient
- 9.5. Diabetes and Sports
- 9.6. Diabetes in the Hospitalized Patient
- 9.7. Diabetes and Travel
- 9.8. Diabetes and Work Life/Rural
- 9.9. Socioeconomic Aspects of Diabetes
- 9.10. Legal Aspects of Diabetes

Module 10. Diabetic Education. Concept and Fundamentals

- Diabetic Education. Concept. Assessment of the Educational Needs of the Person with Diabetes
- 10.2. Diabetology Education Training Programs
- 10.3. Education and Competencies in People with Type 1 Diabetes
- 10.4. Education and Competencies in People at Risk of Type 2 Diabetes or with Type 2 Diabetes
- 10.5. Therapeutic Education of the Child and Adolescent, their Parents or Caregivers
- 10.6. Therapeutic Education for the Detection of Foot Risk in People with Diabetes
- 10.7. Impact of the "Expert Patient" Program on Diabetology Education
- 10.8. Impact of Patients' Associations
- 10.9. Ethical Aspects in Diabetes Education
- 10.10. Challenges in Chronic Monitoring, Barriers to Adherence and Therapeutic Inertia

07 Clinical Internship

To complete the studies of this Hybrid Master's Degree, physicians will have to complete an on-site and intensive internship in an institution of prestige in terms of the approach to diabetic patients. During this practical process, they will not only be able to attend patients directly, but will also have access to the most advanced diagnostic and therapeutic technology of the moment.



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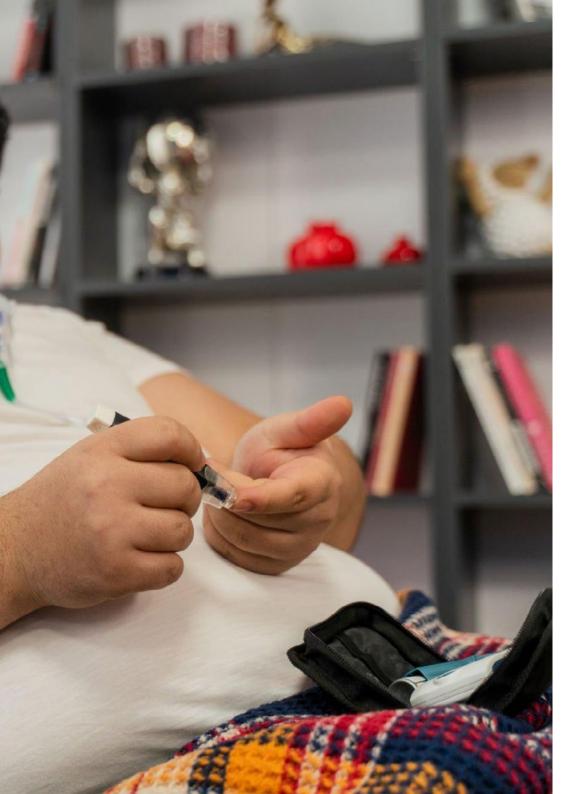
Unlike the first stage of this Hybrid Master's Degree, which is 100% online, the practical internship will take place in an on-site mode. This training process will take place in a prestigious hospital institution, included in TECH's wide network of contacts and academic links. In particular, this institution will be equipped with the most modern technological resources and, therefore, physicians will be able to apply their new knowledge in a comprehensive manner.

On the other hand, this educational phase includes access to specialists of distinguished trajectory in the evaluation, treatment and follow-up of Diabetes in patients with diverse complexity. Moreover, to ensure the assimilation of knowledge by the student, the educational modality will implement an associate tutor who will be in charge of closely monitoring the student's progress.

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

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





Clinical Internship | 35 tech

Module	Practical Activity
Therapeutic and pharmacological trends of Diabetes	Use insulin pumps, wireless or with probes, to deliver specific amounts of the substance continuously to the patient
	Applying closed-loop artificial pancreas to deliver insulin to the demanding organism
	Prescribing metformin, the first drug prescribed for type 2 diabetes, which blocks the action of the stomach or intestinal enzymes responsible for the breakdown of carbohydrates
	Prescribe the use of DPP4 enzyme inhibitors, preventing the degradation of incretins and prolonging insulin secretion in the intestines
Therapeutic Surgical Management of Diabetes	Evaluate the conditions of the patient with type 1 diabetes in order to perform a pancreas or pancreatic islet transplantation
	Implement Bariatric Surgery and Gastric Bypass as a method to reduce the blood glucose levels of patients with Morbid Obesity and Diabetes
	Manage Diabetes and Prediabetes through Metabolic Surgery
Comorbidities and Complications of Diabetes	Determine the presence of diabetic retinopathy, diabetic nephropathy and diabetic neuropathy from the detection of microvascular alterations
	Diagnose erectile dysfunction as a result of diabetic microvascular alterations
	Prevent the occurrence of diabetic foot ulcers by means of heat and infrared studies of the foot
	Assess risk factors for cerebrovascular damage due to genetic or unhealthy lifestyles that increase the risk of death in patients with diabetes
Maternal and infant care in the latency of Gestational Diabetes	Assess glucose overload or glucose tolerance by oral tests
	Monitor the pregnant patient with gestational diabetes to prevent the development of elevated blood pressure and preeclampsia
	Early identification of macrosomia in the fetus as a result of gestational diabetes
	Monitor glucose intake and other medical care of newborns with hypoglycemia, respiratory problems or jaundice as a result of the mother's gestational diabetes

Civil Liability Insurance

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

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

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



General Conditions for Practical Training

The general terms and conditions of the internship agreement for the program are as follows:

- 1. TUTOR: During the Hybrid Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.
- **2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.
- 3. ABSENCE: If the students does not show up on the start date of the Hybrid Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship.

 Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

- **4. CERTIFICATION**: Professionals who pass the Hybrid Master's Degree will receive a certificate accrediting their stay at the center.
- **5. EMPLOYMENT RELATIONSHIP:** The Hybrid Master's Degree shall not constitute an employment relationship of any kind.
- **6. PRIOR EDUCATION**: Some centers may require a certificate of prior education for the Hybrid Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed
- 7. DOES NOT INCLUDE: The Hybrid Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

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





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



Hospital HM Modelo

Country Spain La Coruña

Address: Rúa Virrey Osorio, 30, 15011, A Coruña

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

Related internship programs:

Anaesthesiology and Resuscitation - Palliative Care



Hospital HM Rosaleda

Country Spain La Coruña

Address: Rúa de Santiago León de Caracas, 1, 15701, Santiago de Compostela, A Coruña

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

Related internship programs:

- Hair Transplantation - Orthodontics and Dentofacial Orthopedics



Hospital HM San Francisco

Country City Spain León

Address: C. Margueses de San Isidro, 11, 24004. León

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

Related internship programs:

- Update in Anesthesiology and Resuscitation
- Nursing in the Traumatology Department



Hospital HM Regla

Country City Spain León

Address: Calle Cardenal Landázuri, 2, 24003. León

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

Related internship programs:

- Update on Psychiatric Treatment in Minor Patients



Hospital HM Nou Delfos

Country Spain Barcelona

Address: Avinguda de Vallcarca, 151, 08023 Barcelona

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

Related internship programs:

- Aesthetic Medicine - Clinical Nutrition in Medicine



Hospital HM Madrid

Country Spain Madrid

Address: Pl. del Conde del Valle de Súchil, 16, 28015. Madrid

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

Related internship programs:

- Palliative Care

- Anaesthesiology and Resuscitation



Hospital HM Montepríncipe

Country Spain Madrid

Address: Av. de Montepríncipe, 25, 28660, Boadilla del Monte, Madrid

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

Related internship programs:

- Palliative Care

Aesthetic Medicine



Hospital HM Torrelodones

Country Spain Madrid

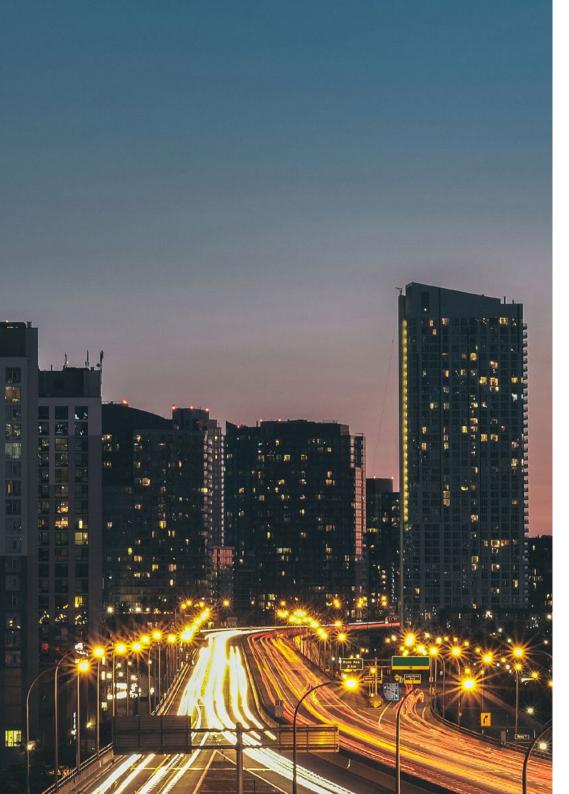
Address: Av. Castillo Olivares, s/n, 28250, Torrelodones, Madrid

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

Related internship programs:

- Anaesthesiology and Resuscitation

- Palliative Care



Where Can I Do the Clinical Internship? | 41 tech



Hospital HM Sanchinarro

Country City
Spain Madrid

Address: Calle de Oña, 10, 28050, Madrid

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

Related internship programs:

- Anaesthesiology and Resuscitation - Palliative Care



Hospital HM Nuevo Belén

Country City
Spain Madrid

Address: Calle José Silva, 7, 28043, Madrid

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

Related internship programs:

- General and Digestive System Surgery
- Clinical Nutrition in Medicine



Hospital HM Puerta del Sur

Country City
Spain Madrid

Address: Av. Carlos V, 70, 28938, Móstoles, Madrid

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

Related internship programs:

- Palliative Care

- Clinical Ophthalmology



Policlínico HM Cruz Verde

Country City
Spain Madrid

Address: Plaza de la Cruz Verde, 1-3, 28807, Alcalá de Henares, Madrid

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

Related internship programs:

- Advanced Clinical Podiatry
- Optical Technologies and Clinical Optometry

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Policlínico HM Distrito Telefónica

Country City
Spain Madrid

Address: Ronda de la Comunicación, 28050, Madrid

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

Related internship programs:

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



Policlínico HM Gabinete Velázquez

Country City
Spain Madrid

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

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

Related internship programs:

Clinical Nutrition in Medicine
 Aesthetic Plastic Surgery



Policlínico HM Las Tablas

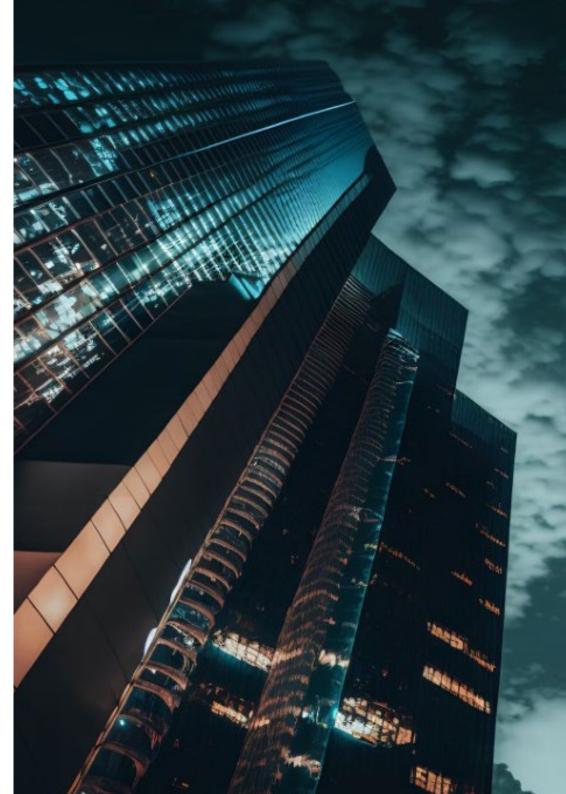
Country City
Spain Madrid

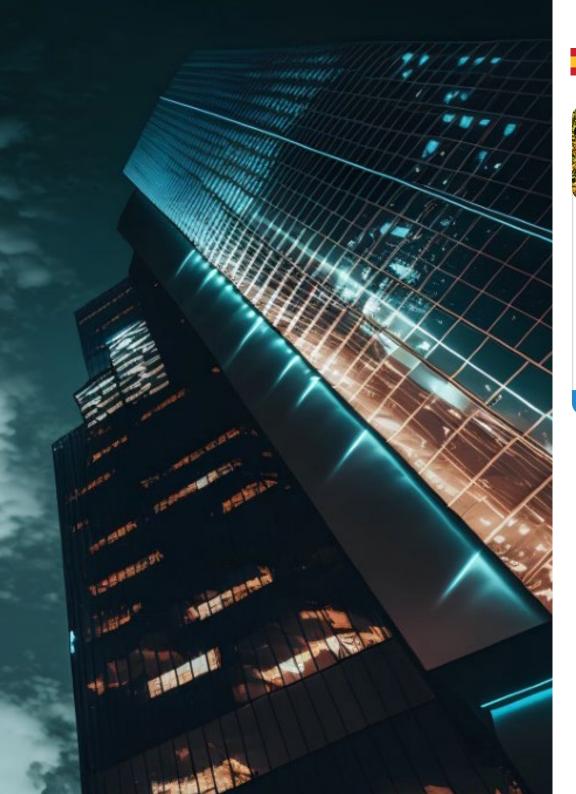
Address: C. de la Sierra de Atapuerca, 5, 28050, Madrid

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

Related internship programs:

Nursing in the Traumatology Department
 Diagnosis in Physiotherapy





Where Can I Do the Clinical Internship? | 43 tech



Policlínico HM Moraleja

Country City
Spain Madrid

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

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

Related internship programs:

- Rehabilitation Medicine in Acquired Brain Injury Management



Policlínico HM Sanchinarro

Country City
Spain Madrid

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

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

Related internship programs:

-Diabetes



Policlínico HM Imi Toledo

Country City
Spain Toledo

Address: Av. de Irlanda, 21, 45005, Toledo

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

Related internship programs:

- Electrotherapy in Rehabilitation Medicine - Hair Transplantation





tech 46 | Methodology

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.



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:

- 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.



Methodology | 49 tech

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.

tech 50 | Methodology

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.

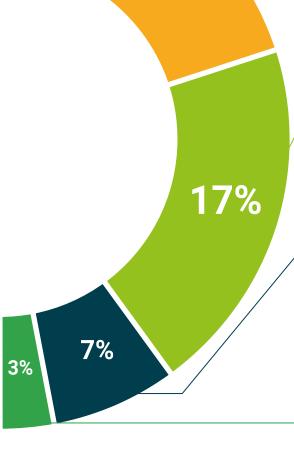
The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



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.









tech 54 | Certificate

This program will allow you to obtain your **Hybrid Master's Degree diploma in Diabetes** 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.

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

Hybrid Master's Degree in Diabetes

This is a program of 1,620 hours of duration equivalent to 65 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

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

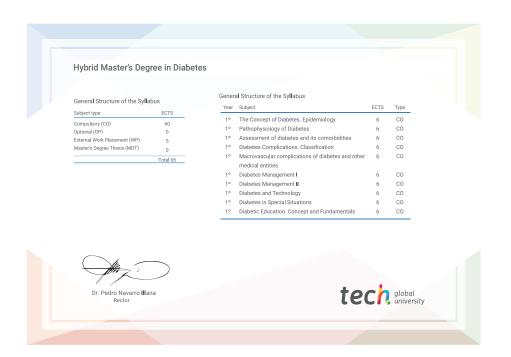
Title: Hybrid Master's Degree in Diabetes

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

Recognition: **60 + 5 ECTS Credits**



^{*}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.



Hybrid Master's Degree

Diabetes

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

60 + 5 créditos ECTS

