Postgraduate Diploma
Biomedical Implants and In Vivo Devices

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Postgraduate Diploma
Biomedical Implants and In Vivo Devices

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Technological University**
- Accreditation: **24 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-biomedical-implants-in-vivo-devices**

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01

Introduction

Biomedical implants and other types of devices, such as in vivo devices, are one of the most important areas of engineering today. Although their application does not precisely follow the premises of Science Fiction Literature and Cinema, these types of implants are on the rise and their development promises great scientific advances in the near future. As such, they are a tool for monitoring different aspects of patients, especially with regard to their vital signs and other data of interest about their health. This program brings professionals closer to the latest advances in this discipline, allowing them to incorporate into their work the most recent developments in one of the most relevant fields of Biomedical Engineering.

This program will allow you to delve into the latest developments in biodevices and biosensors, conveying the most recent advances in Nanotechnology and Tissue Engineering"

Although science fiction has often gone too far in its predictions or taken paths that have not been realized in reality, there is one element with which it has not gone astray: biomedical implants. This type of health grafts are beginning to have numerous applications and in the near future will be one of the fundamental branches of engineering.

For this reason, it is necessary to update the engineer, so that he can incorporate into his professional practice all the tools of this field that will allow them to be at the forefront in the present and in the future. Therefore, this Postgraduate Diploma in Biomedical Implants and In Vivo Devices offers the most cutting-edge knowledge on issues such as biomechanics, delving into biomechanical implants, biomaterials and their applications and Tissue Engineering, which will explore issues such as stem cells, tissue regeneration and gene therapy, among many others.

Professionals will also have a 100% online teaching methodology at their disposal that will allow them to balance their work with their studies, since it adapts to their personal circumstances: they will be able to choose how, when and where to advance in this program. In addition, a high-level teaching staff will accompany you throughout the learning process, using numerous multimedia educational resources such as procedural videos, analysis of real cases, theoretical and practical exercises, master classes and interactive summaries.

This **Postgraduate Diploma in Biomedical Implants and In Vivo Devices** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- The development of case studies presented by experts in Biomedical Engineering
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Learn more about in vivo devices, one of the most important branches of Biomedical Engineering, thanks to TECH's 100% online teaching methodology, with which you can balance your work with your studies without any inconveniences or interruptions"

Videos, real clinical cases, theoretical and practical exercises... The latest educational resources are waiting for you, along with an elite teaching staff, so that you can reach your professional goals quickly"

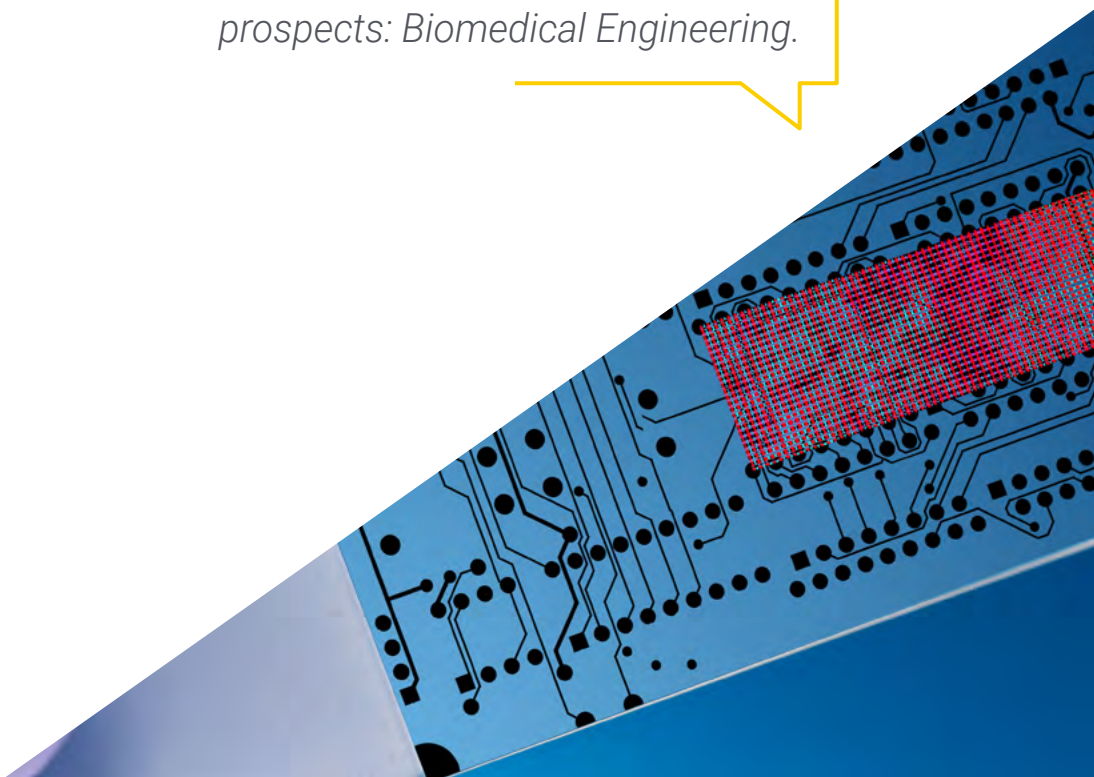
Incorporate the most cutting-edge advances in gene therapy and biomaterials into your professional practice, and become a leading engineer in this area.

Learn about the principles of biofluids and Nanotechnology in this program, which will bring you closer to the health and engineering discipline with the best future prospects: Biomedical Engineering.

The program's teaching staff includes professionals from sector who contribute their work experience to this training 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 during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.



02

Objectives

The main goal of this Postgraduate Diploma in Biomedical Implants and In Vivo Devices is to bring the engineer closer to the latest scientific-technological discoveries in this area, so that they can incorporate them into their professional practice immediately. Accordingly, this program aims to provide the engineer with the most advanced knowledge and techniques in this branch of Biomedical Engineering, so that they can apply them in their work, becoming a professional of reference in their environment.

Access the future of Engineering: this Postgraduate Diploma is what you need to become a leading professional that large technology companies and the most prestigious health services will want to count on"

General Objectives

- Examine the different tissues and organs directly related to tissue engineering
- Analyze tissue balance and the role of the matrix, growth factors and the cells themselves in the tissue microenvironment
- Develop the basis of tissue engineering
- Analyze the relevance of biomaterials today
- Develop a specialized view of the types of biomaterials available and their main characteristics
- Examining the variety and use of biodevices

This program will give you all the tools and knowledge you need to develop biomodels and specialized instruments manufactured by 3D printing"

Specific Objectives

Module 1. Biomechanics

- Generate specialized knowledge on the concept of biomechanics
- Examine the different types of movements and the forces involved in them
- Understanding the functioning of the circulatory system
- Develop biomechanical analysis methods
- Analyze muscle positions to understand their effect on resultant forces
- Evaluate common problems related to biomechanics
- Identify the main lines of action of biomechanics

Module 2. Biomaterials in Biomedical Engineering

- Analyze biomaterials and their evolution throughout history
- Examining traditional biomaterials and their uses
- Determine the biomaterials of biological origin and their applications
- Deepen the knowledge of polymeric biomaterials of synthetic origin
- Determine the behavior of biomaterials in the human body, with special emphasis on their degradation

Module 3. Biomedical Technologies: Biodevices and Biosensors

- Generate specialized knowledge in the conception, design, implementation and operation of medical devices through the technologies used in this field
- Determine the main technologies for rapid prototyping
- Discover the main fields of application: diagnostic, therapeutic and support
- Establish the different types of biosensors and their use for each diagnostic case
- Deepen understanding of the physical/electrochemical functioning of the different types of biosensors
- Examine the importance of biosensors in modern medicine

Module 4. Tissue Engineering

- Generate specialized knowledge on histology and functioning of the cellular environment
- Review the current status of tissue engineering and regenerative medicine
- Address the main challenges facing tissue engineering
- Present the most promising techniques and the future of tissue engineering
- Develop the main trends of the future of regenerative medicine
- Analyze the regulation of tissue engineered products
- Examine the interaction of biomaterials with the cellular environment and the complexity of this process

03

Course Management

An elite faculty, up to date with the latest scientific evidence in Biomedical Engineering, will teach the engineer the most recent advances in this area, supported by numerous multimedia teaching resources. These two resources are therefore combined to offer the student the best possible education, based on the most advanced knowledge in one of the most important scientific and technological fields of today.

There is no faculty more specialized in biomedical implants and in vivo devices than this one: enroll now and find out"

International Guest Director

Awarded by the Academy of Radiology Research for his contribution to the understanding of this area of science, Dr. Zahi A Fayad is considered a prestigious Biomedical Engineer. In this sense, most of his line of research has focused on both the detection and prevention of Cardiovascular Diseases. In this way, he has made multiple contributions in the field of Multimodal Biomedical Imaging, promoting the correct use of technological tools such as Magnetic Resonance Imaging or Positron Emission Computed Tomography in the health community.

In addition, he has an extensive professional background that has led him to occupy relevant positions such as the Director of the Institute of Biomedical Engineering and Imaging at Mount Sinai Medical Center, located in New York. It should be noted that he combines this work with his facet as a Research Scientist at the National Institutes of Health of the United States government. He has written more than 500 exhaustive clinical articles on subjects such as drug development, the integration of the most avant-garde techniques of Multimodal Cardiovascular Imaging in clinical practice or non-invasive in vivo methods in clinical trials for the development of new therapies to treat Atherosclerosis. Thanks to this, his work has facilitated the understanding of the effects of Stress on the immune system and Cardiac Pathologies significantly.

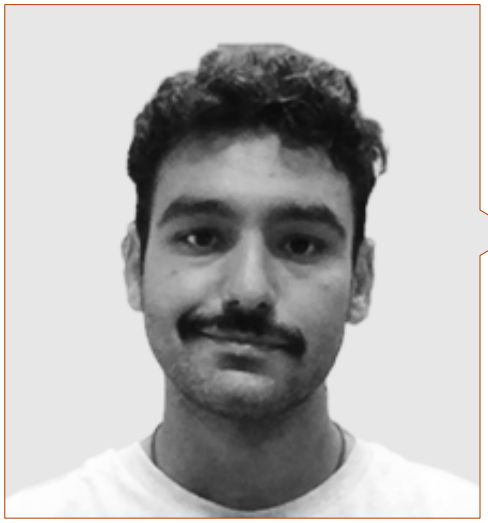
On the other hand, this specialist leads 4 multicenter clinical trials funded by the US pharmaceutical industry for the creation of new cardiovascular drugs. His objective is to improve therapeutic efficacy in conditions such as Hypertension, Heart Failure or Stroke. At the same time, it develops prevention strategies to raise public awareness of the importance of maintaining healthy lifestyle habits to promote optimal cardiac health.

Dr. A Fayad, Zahi

- Director of the Institute for Biomedical Engineering and Imaging at Mount Sinai Medical Center, New York
- Chairman of the Scientific Advisory Board of the National Institute of Health and Medical Research at the European Hospital Pompidou AP-HP in Paris, France
- Principal Investigator at Women's Hospital in Texas, United States
- Associate Editor of the "Journal of the American College of Cardiology"
- Ph.D. in Bioengineering from the University of Pennsylvania
- B.S. in Electrical Engineering from Bradley University
- Founding member of the Scientific Review Center of the National Institutes of Health of the United States government

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

Management



Mr. Ruiz Díez, Carlos

- Researcher at the National Microelectronics Center of the CSIC
- Researcher. Composting Research Group of the Department of Chemical, Biological and Environmental Engineering of the UAB
- Founder and product development at NoTime Ecobrand, a fashion and recycling brand
- Development cooperation project manager for the NGO Future Child Africa in Zimbabwe
- Graduate in Industrial Technologies Engineering from Universidad Pontificia de Comillas ICAI
- Master's Degree in Biological and Environmental Engineering from the Autonomous University of Barcelona
- Master's Degree in Environmental Management from the Universidad Española a Distancia (Spanish Open University)

Professors

Mr. Rubio Rey, Javier

- Research Trainee in the Parkinson's disease project: Investigating the cofilin-1 and alpha-synuclein protein interaction under the direction of Dr. Richard Parsons at Kings College London
- Degree in Pharmacy from CEU San Pablo University
- Degree in Biotechnology from CEU San Pablo University
- Double Degree in Pharmacy and Biotechnology

Ms. Sirera Pérez, Ángela

- Technaid. Design and manufacture of specific parts for 3D printing
- Use of Inventor CAD Design Software. Knowledge of the mechanics of lower limb exoskeletons for the rehabilitation of persons with reduced mobility
- Nuclear Medicine. Clinical University of Navarra. Analysis of Nuclear Medicine images. Dose assessment of patients with PET brain studies. Research on the optimization of methionine activity
- Degree in Biomedical Engineering from the University of Navarra

Ms. Vivas Hernando, Alicia

- Supply Chain and Network Optimization Analyst. Deloitte UK (Londres, Reino Unido)
- Researcher. École Polytechnique Fédérale de Lausanne (Lausanne, Switzerland)
- Researcher. Pontificia Comillas University (Madrid, Spain)
- Corporate and International Development. Seguros Santalucía (Madrid, Spain)
- Degree in Industrial Technologies Engineering (Mechanical Specialty). Pontificia Comillas University (Madrid, Spain)
- Professional Master's Degree in Industrial Engineering (Specialty Design). Pontificia Comillas University (Madrid, Spain)
- Master's Degree in Materials Science and Engineering (Academic Exchange). École Polytechnique Fédérale de Lausanne (Lausanne, Switzerland)

Take the step to get up to speed on the latest developments in Biomedical Implants and In Vivo Devices"

04

Structure and Content

The contents of this Postgraduate Diploma in Biomedical Implants and In Vivo Devices have been divided into 4 specialized modules, in which the engineer will be able to delve into issues such as fluid mechanics, motor system mechanisms, especially with regard to bone, muscle-tendon and ligament mechanics, metallic biomaterials, biosensors or tissue regeneration, among many others.

You won't find newer, more up-to-date content about biomedical implants than in this program"

Module 1. Biomechanics

1.1. Biomechanics
- 1.1.1. Biomechanics
- 1.1.2. Qualitative and Quantitative Analysis

1.2. Basic Mechanics
- 1.2.1. Functional Mechanisms
- 1.2.2. Basic Units
- 1.2.3. The Nine Fundamentals of Biomechanics

1.3. Mechanical Fundamentals Linear and Angular Kinematics
- 1.3.1. Linear Movement
- 1.3.2. Relative Movement
- 1.3.3. Angular Movement

1.4. Mechanical Fundamentals Linear Kinetics
- 1.4.1. Newton's Law
- 1.4.2. Principle of Inertia
- 1.4.3. Energy and Work
- 1.4.4. Stress Angle Analysis

1.5. Mechanical Fundamentals Angular Kinetics
- 1.5.1. Torque
- 1.5.2. Angular Momentum
- 1.5.3. Newton's Angles
- 1.5.4. Balance and Gravity

1.6. Fluid Mechanics
- 1.6.1. Fluid
- 1.6.2. Flows
  - 1.6.2.1. Laminar Flow
  - 1.6.2.2. Turbulent Flow
  - 1.6.2.3. Pressure-Velocity: The Venturi Effect
- 1.6.3. Forces in Fluids

1.7. Human Anatomy: Limitation
- 1.7.1. Human Anatomy
- 1.7.2. Muscles: Active and Passive Stress
- 1.7.3. Mobility Range
- 1.7.4. Mobility-Strength Principles
- 1.7.5. Limitations in the Analysis

1.8. Mechanisms of the Motor System Bone, Muscle-Tendon and Ligament Mechanics
- 1.8.1. Tissue Functioning
- 1.8.2. Biomechanics of Bones
- 1.8.3. Biomechanics of the Muscle-Tendon Unit
- 1.8.4. Biomechanics of Ligaments

1.9. Mechanisms of the Motor System Mechanics of Muscles
- 1.9.1. Mechanical Characteristics of Muscles
  - 1.9.1.1. Force-Speed Relationship
  - 1.9.1.2. Force-Distance Relationship
  - 1.9.1.3. Force-Time Relationship
  - 1.9.1.4. Traction-Compression Cycles
  - 1.9.1.5. Neuromuscular Control
  - 1.9.1.6. The Spine and Backbone

1.10. Mechanics of Biofluids
- 1.10.1. Mechanics of Biofluids
  - 1.10.1.1. Transport, Stress and Pressure
  - 1.10.1.2. The Circulatory System
  - 1.10.1.3. Blood Characteristics
- 1.10.2. General Problems in Biomechanics
  - 1.10.2.1. Problems in Nonlinear Mechanical Systems
  - 1.10.2.2. Problems in Biofluids
  - 1.10.2.3. Solid-Liquid Problems

Module 2. Biomaterials in Biomedical Engineering

2.1. Biomaterials
- 2.1.1. Biomaterials
- 2.1.2. Types of Biomaterials and Application
- 2.1.3. Biomaterial Selection

2.2. Metallic Biomaterials
- 2.2.1. Types of Metallic Biomaterials
- 2.2.2. Properties and Current Challenges
- 2.2.3. Applications

2.3. Ceramic Biomaterials
- 2.3.1. Types of Ceramic Biomaterials
- 2.3.2. Properties and Current Challenges
- 2.3.3. Applications

2.4. Natural Polymeric Biomaterials
- 2.4.1. Interaction of Cells with their Environment
- 2.4.2. Types of Biomaterials of Biological Origin
- 2.4.3. Applications

2.5. Synthetic Polymeric Biomaterials: In Vivo Behavior
- 2.5.1. Foreign Body Reaction (FBR)
- 2.5.2. In Vivo Behavior of Biomaterials
- 2.5.3. Biodegradation of Polymers Hydrolysis
  - 2.5.3.1. Biodegradation Mechanisms
  - 2.5.3.2. Degradation by Diffusion and Erosion
  - 2.5.3.3. Hydrolysis Rate
- 2.5.4. Specific Applications

2.6. Synthetic Polymeric Biomaterials: Hydrogels
- 2.6.1. Hydrogels
- 2.6.2. Classification of Hydrogels
- 2.6.3. Hydrogel Properties
- 2.6.4. Hydrogel Synthesis
  - 2.6.4.1. Physical Cross-Linking
  - 2.6.4.2. Enzymatic Cross-Linking
  - 2.6.4.3. Physical Cross-Linking
- 2.6.5. Structure and Swelling of Hydrogels
- 2.6.6. Specific Applications

2.7. Advanced Biomaterials: Smart Materials
- 2.7.1. Shape Memory Materials
- 2.7.2. Intelligent Hydrogels
  - 2.7.2.1. Thermo-Responsive Hydrogels
  - 2.7.2.2. PH Sensitive Hydrogels
  - 2.7.2.3. Electrically Actuated Hydrogels
- 2.7.3. Electroactive Materials

2.8. Advanced Biomaterials: Nanomaterials
- 2.8.1. Properties
- 2.8.2. Biomedical Applications
  - 2.8.2.1. Biomedical Imaging
  - 2.8.2.2. Coatings
  - 2.8.2.3. Focused Ligands
  - 2.8.2.4. Stimulus-Sensitive Connections
  - 2.8.2.5. Biomarkers

2.9. Specific Applications Neuroengineering
- 2.9.1. The Nervous System
- 2.9.2. New Approaches to Standard Biomaterials
  - 2.9.2.1. Soft Biomaterials
  - 2.9.2.2. Bioabsorbable Materials
  - 2.9.2.3. Implantable Materials
- 2.9.3. Emerging Biomaterials. Tissue Interaction

2.10. Specific Applications: Biomedical Micromachines
- 2.10.1. Artificial Microswimmers
- 2.10.2. Contractile Microactuators
- 2.10.3. Small Scale Handling
- 2.10.4. Biological Machines

Module 3. Biomedical Technologies: Biodevices and Biosensors

3.1. Medical Devices
- 3.1.1. Product Development Methodology
- 3.1.2. Innovation and creativity
- 3.1.3. CAD Technologies

3.2. Nanotechnology
- 3.2.1. Medical Nanotechnology
- 3.2.2. Nanostructured Materials
- 3.2.3. Nano-Biomedical Engineering

3.3. Micro and Nanofabrication
- 3.3.1. Design of Micro and Nano Products
- 3.3.2. Techniques
- 3.3.3. Tools for Manufacturing

3.4. Prototypes
- 3.4.1. Additive Manufacturing
- 3.4.2. Rapid Prototyping
- 3.4.3. Classification
- 3.4.4. Applications
- 3.4.5. Study Cases
- 3.4.6. Conclusions

3.5. Diagnostic and Surgical Devices
- 3.5.1. Development of Diagnostic Methods
- 3.5.2. Surgical Planning
- 3.5.3. Biomodels and Instruments Made With 3D Printing
- 3.5.4. Device-Assisted Surgery

3.6. Biomechanic Devices
- 3.6.1. Prosthetics
- 3.6.2. Intelligent Materials
- 3.6.3. Orthotics

3.7. Biosensors
- 3.7.1. Biosensor
- 3.7.2. Sensing and Transduction
- 3.7.3. Medical Instrumentation for Biosensors

3.8. Typology of Biosensors (I): Optic Sensors
- 3.8.1. Reflectometry
- 3.8.2. Interferometry and Polarimetry
- 3.8.3. Evanescent Field
- 3.8.4. Fiber Optic Probes and Guides

3.9. Typology of Biosensors (II): Physical, Electrochemical and Acoustic Sensors
- 3.9.1. Physical Sensors
- 3.9.2. Electrochemical Sensors
- 3.9.3. Acoustic Sensors

3.10. Integrated Systems
- 3.10.1. Lab-on-a-Chip
- 3.10.2. Microfluids
- 3.10.3. Medical Application

Module 4. Tissue Engineering

4.1. Histology
- 4.1.1. Cellular Organization in Higher Structures: Tissues and Organs
- 4.1.2. Cell Cycle: Tissue Regeneration
- 4.1.3. Regulation: Interaction with the Extracellular Matrix
- 4.1.4. Importance of Histology in Tissue Engineering

4.2. Tissue Engineering
- 4.2.1. Tissue Engineering
- 4.2.2. Scaffolding
  - 4.2.2.1. Properties
  - 4.2.2.2. The Ideal Scaffolding
- 4.2.3. Biomaterials for Tissue Engineering
- 4.2.4. Bioactive Materials
- 4.2.5. Cells

4.3. Stem Cells
- 4.3.1. Stem Cells
  - 4.3.1.1. Potentiality
  - 4.3.1.2. Tests to Evaluate Potentiality
- 4.3.2. Regulation: Niche
- 4.3.3. Types of Stem Cells
  - 4.3.3.1. Embryonic
  - 4.3.3.2. IPS
  - 4.3.3.3. Adult Stem Cells

4.4. Nanoparticles
- 4.4.1. Nanomedicine: Nanoparticles
- 4.4.2. Types of Nanoparticles
- 4.4.3. Methods of Obtaining
- 4.4.4. Bionanomaterials in Tissue Engineering

4.5. Genetic Therapy
- 4.5.1. Genetic Therapy
- 4.5.2. Uses: Gene Supplementation, Cell Replacement, Cellular Reprogramming
- 4.5.3. Vectors for the Introduction of Genetic Material
  - 4.5.3.1. Viral Vectors

4.6. Biomedical Applications of Tissue Engineering Products Regeneration, Grafts and Replacements
- 4.6.1. Cell Sheet Engineering
- 4.6.2. Cartilage Regeneration: Joint Repair
- 4.6.3. Corneal Regeneration
- 4.6.4. Skin Grafting for Major Burn Injuries
- 4.6.5. Oncology
- 4.6.6. Bone Replacement

4.7. Biomedical Applications of Tissue Engineering Products Circulatory, Respiratory and Reproductive System
- 4.7.1. Cardiac Tissue Engineering
- 4.7.2. Hepatic Tissue Engineering
- 4.7.3. Lung Tissue Engineering
- 4.7.4. Reproductive Organs and Tissue Engineering

4.8. Quality Control and Biosecurity
- 4.8.1. NCF Applied to Advanced Therapy Drugs
- 4.8.2. Quality Control
- 4.8.3. Aseptic Processing: Viral and Microbiological Safety
- 4.8.4. Cell Production Unit: Characteristics and Design

4.9. Legislation and Regulation
- 4.9.1. Current Legislation
- 4.9.2. Authorization
- 4.9.3. Regulation of Advanced Therapies

4.10. Future Perspectives
- 4.10.1. Current Status of Tissue Engineering
- 4.10.2. Clinical Needs
- 4.10.3. Main Challenges at Present
- 4.10.4. Focus and Future Challenges

Don't miss this great opportunity and specialize in one of the most promising fields of Engineering"

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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

Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"

You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.

The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

> *Our program prepares you to face new challenges in uncertain environments and achieve success in your career"*

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

Relearning Methodology

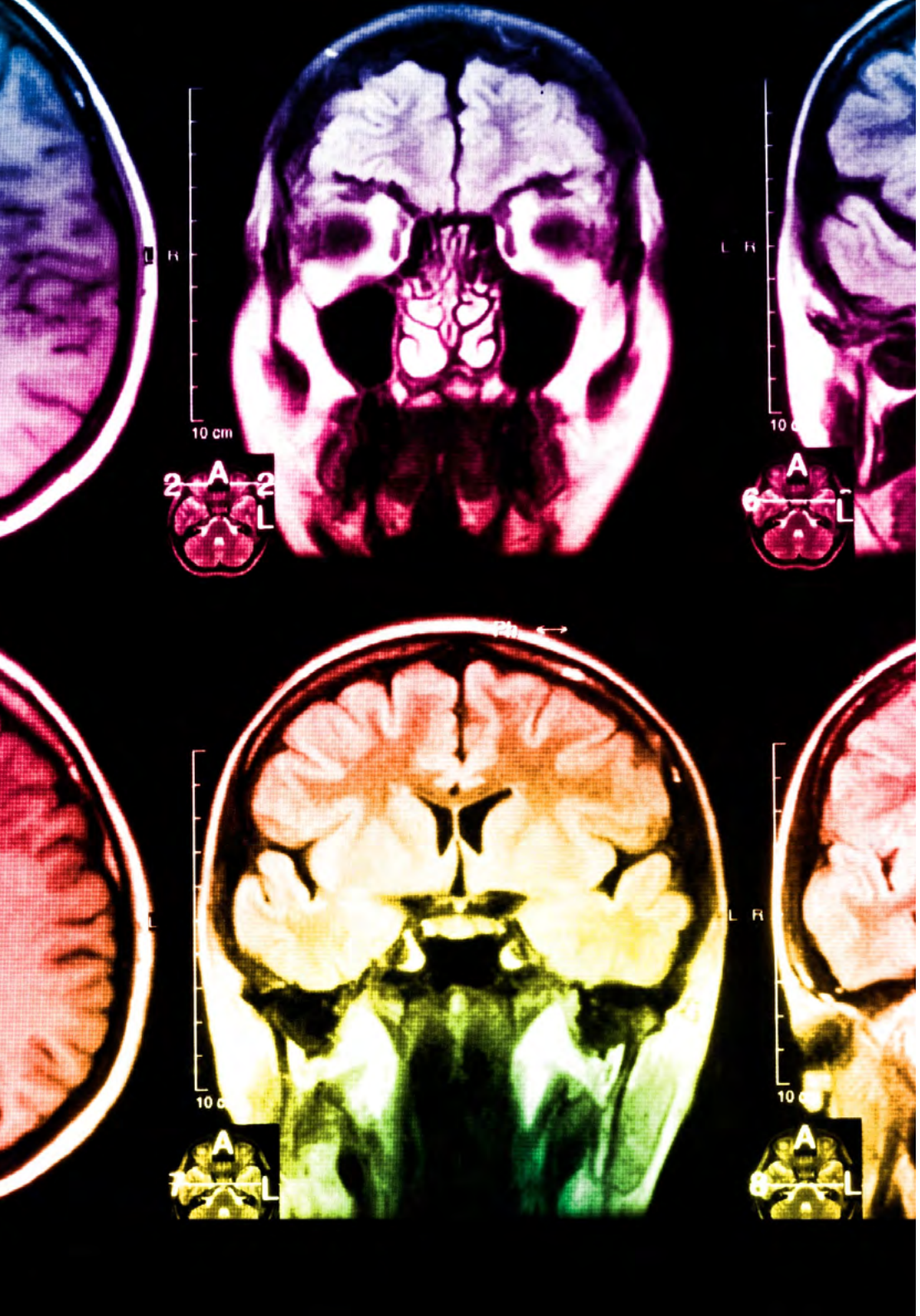
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

In 2019, we obtained the best learning results of all online universities in the world.

At TECH, you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



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. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.

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.

Classes

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

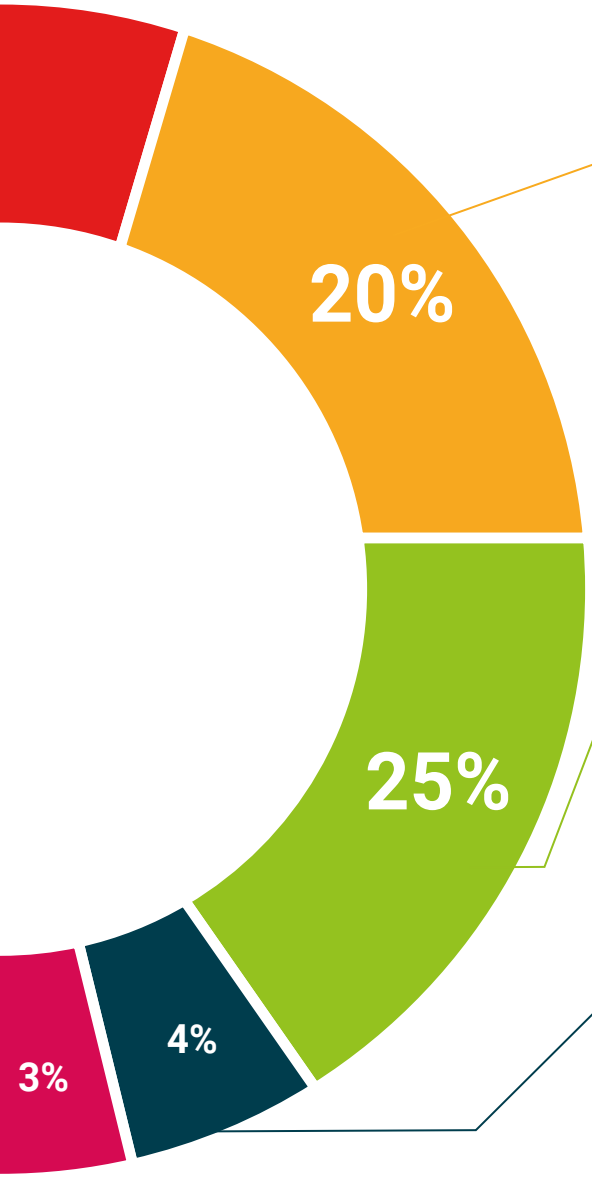
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.

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.



Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.

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".

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.

06

Certificate

The Postgraduate Diploma in Biomedical Implants and In Vivo Devices guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.

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

This private qualification will allow you to obtain a **Postgraduate Diploma in Biomedical Implants and In Vivo Devices** endorsed by **TECH Global University**, the world's largest online university.

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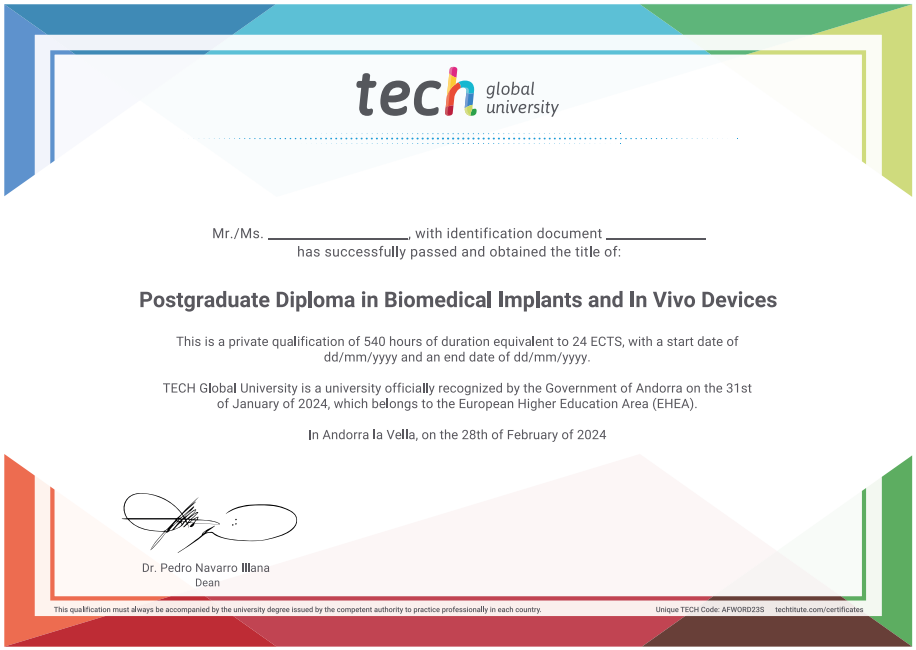
Modality: **online**

Duration: **6 months**

Accreditation: **24 ECTS**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Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Diploma in Biomedical Implants and In Vivo Devices

This is a private qualification of 540 hours of duration equivalent to 24 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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

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

Dr. Pedro Navarro Illana
Dean

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

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Postgraduate Diploma
Biomedical Implants and In Vivo Devices

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Technological University**
- Accreditation: **24 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Postgraduate Diploma
Biomedical Implants and In Vivo Devices

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