Postgraduate Diploma

Health Data Management and Analysis in Biomedical Engineering

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Postgraduate Diploma

Health Data Management and Analysis in Biomedical Engineering

Course Modality: Online

Duration: 6 months

Certificate: TECH Technological University

18 ECTS Credits

Teaching Hours: 450 hours

Website: www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-health-data-management-analysis-biomedical-engineering

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01

Introduction

One of the fields that has undergone the greatest transformations in medicine today is healthcare data management and analysis. The emergence of new disciplines that combine technological knowledge with medicine has succeeded in integrating data collection and processing so that they can be used to diagnose and treat various conditions and pathologies. This program delves into the latest innovations in this field, offering the physician an update on issues such as the different types of biomedical signals, medical bioinformatics or databases applied to this field. The professional will also be able to keep up to date thanks to a high-level teaching staff composed of elite researchers in this field, and through a 100% online teaching system that allows them to choose the time and place to study.

Incorporate into your medical practice the latest advances in data management and analysis, integrating into your work the most effective diagnostic and treatment techniques for various pathologies and patients"

The huge advances in computer science and engineering have led to the development of numerous applications in data processing and analysis. Some of its most important uses have to do with the healthcare field, where data management is a vital issue when dictating treatments or monitoring complex diseases. Thus, some conditions and patients in a delicate situation require intensive and precise monitoring that only data analysis can perform.

This Postgraduate Diploma in Health Data Management and Analysis in Biomedical Engineering contains the most advanced knowledge in this field, since it covers electrocardiography, electroencephalography and magnetoencephalography, the processing of biomedical signals, the equipment and computer software required in bioinformatics, programming languages specialized in data processing and statistics such as R and Python or databases and the SQL language.

With this new knowledge and TECH's online methodology, the physician will be able to get up to date quickly, since this program has been designed especially for working professionals. For this reason, the physician will be updated without uncomfortable interruptions in their work, and with a large number of multimedia didactic resources such as videos of techniques and procedures, interactive summaries, analysis of real clinical cases, master classes and all kinds of theoretical and practical exercises.

This Postgraduate Diploma in Health Data Management and Analysis in Biomedical Engineering contains the most complete and updated educational program on the market. The most important features include:

- The development of case studies presented by experts in Biomedical Engineering
- The graphic, schematic, and eminently 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
- Access to content from any fixed or portable device with an Internet connection.

> Here you will find all kinds of multimedia materials with which you can update yourself quickly and easily: real clinical cases, videos, classes taught by leading specialists..."

Get up to speed, through a 100% online teaching methodology, on medical signal processing and health data collection with this refresher program"

This program adapts to you and your professional circumstances: you will be able to choose the time and place to study, without interruptions in your work

Machine learning and big data will now be at your fingertips for you to integrate into your medical practice thanks to this degree

The program's teaching staff includes professionals from the 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

Given the latest advances in healthcare data management and processing, this program aims to provide the physician with an update in this growing field. The collection and analysis of large-scale data allows for very precise diagnoses, treatments and interventions, which is why this discipline has become essential in recent years. Thus, this Postgraduate Diploma offers the possibility of getting up to date on these issues, allowing the professional to integrate the most advanced techniques of Biomedical Engineering.

This program will allow you to integrate in your work the main tools of data processing and statistics, knowing the most relevant programming languages in this field"

General Objectives

- Generate specialized knowledge on the main types of biomedical signals and their uses
- Develop the physical and mathematical knowledge underlying biomedical signals
- Deepen the analysis and processing of biomedical signals
- Fundamentals of the principles governing signal analysis and processing systems
- Analyze the main applications, trends and lines of research and development in the field of biomedical signals
- Utilize computer hardware and software tools for genomic analysis
- Analyze programming languages used for DNA sequence analysis
- Apply the concepts of artificial intelligence and big data for use in prevention, diagnosis and medical therapy
- Make use of the workflows that bioinformaticians have in their research and professional fields
- Analyze the different data and database systems
- Determine the importance of data in health
- Building a hospital database
- Establishing how clinical needs are translated into data
- Develop the fundamentals of data analysis

Specific Objectives

Module 1. Biomedical Signals

- Distinguish the different types of biomedical signals
- Determine how biomedical signals are acquired, interpreted, analyzed and processed
- Analyze the clinical applicability of biomedical signals through practical case studies
- Apply mathematical and physical knowledge to analyze signals
- Examine the most common signal filtering techniques and how to apply them
- Develop fundamental engineering knowledge of signals and systems
- Understand the operation of a biomedical signal processing system.
- Identify the main components of a digital signal processing system

Module 2. Medical Bioinformatics

- Develop a reference framework for medical bioinformatics
- Examine computer hardware and software required in medical bioinformatics
- Generate specialized knowledge on data mining techniques in Bioinformatics
- Analyze artificial intelligence and Big Data techniques in medical bioinformatics
- Establish the applications of bioinformatics for prevention, diagnosis and clinical therapies
- Deepen in the methodology and medical bioinformatics workflow
- Assess the factors associated with sustainable bioinformatics applications and future trends

Module 3. Biomedical and Healthcare Databases

- Data Structure
- Analyze Relational Systems
- Develop conceptual data modeling
- Designing and standardizing a relational database
- Examine functional dependencies between data
- Generate specialized knowledge on big data
- Deepen the ODMS architecture
- Learn about data integration in medical record systems
- Analyze the bases and restrictions

> Access the future of medicine with this program, which contains the latest scientific evidence on the use of computerized data management tools as a method of diagnosis and treatment”

03

Course Management

Throughout the entire learning process, the physician will have at his disposal a teaching staff made up of researchers and engineers who know this discipline and its new developments to perfection. Thus, the professional, in addition to having a flexible teaching system and cutting-edge contents, will receive the guidance of an elite teaching staff, up to date with the most advanced techniques in this field.

The best researchers and engineers accompany you throughout the learning process: you won't find an opportunity like this one”

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

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

Rodríguez Arjona, Antonio

- Project Manager, Technical Manager and Expert in the Regulation of Medical Devices at Omologic, Homologation and CE Marking.
- Development of the Smart Stent project in collaboration with the TIC-178 research group of the University of Seville
- Technical Engineer in the Logistics Department of Docriluc, S.L.
- Digitization Manager at Ear Protech, the in-ear experience
- Computer Technician at the Centro Asociado María Zambrano of the Universidad Nacional de Educación a Distancia (National University of Distance Education)
- Graduate in Health Engineering with a major in Biomedical Engineering from the University of Malaga
- Master's Degree in Biomedical Engineering and Digital Health from the University of Seville

Dr. Vásquez Cevallos, Leonel

- Advisor in the preventive and corrective maintenance and sale of medical equipment and software. Received medical imaging equipment maintenance training, Seoul, South Korea. Telemedicine Cayapas Research Project Manager.. Knowledge transfer and management manager. Officegolden.
- PhD's Degree in Biomedical Engineering from the Polytechnic University of Madrid.
- Master's Degree in Telemedicine and of Bioengineering from the Polytechnic University of Madrid.
- Engineer / Graduate in Electronics and Telecommunications from the ESPOL University. Academic Training in Ecuador
- Teachers at Polytechnic University of Madrid.
- Teacher at Escuela Superior Politécnica del Litoral. Equator
- Lecturer at the University of Guayaquil.
- Lecturer at Technological University of Business in Guayaquil.

Travesí Bugallo, Blanca

- U4Impact University Coordinator.
- Marketing at GIANTHEALTH EVENT
- Degree in Biomedical Engineering from the Polytechnic University of Madrid.
- Master's Degree in Biomedical Engineering from the Polytechnic University of Madrid.
- Master's Degree in Health Technology Innovation by Sorbonne Université.
- Coordinator of the Bioengineering course at the Technological Campus of ICAI.

04

Structure and Content

This program has been designed by the world's leading specialists in healthcare data management and analysis. Therefore, the physician will have the most advanced contents in this field, structured in 3 modules, through which they will delve into biomedical signals, their processing and analysis, event detection, computation in medical biology, methodology and medical bioinformatics workflow or hospital databases, among other highly relevant issues.

The most innovative syllabus, transmitted with an online methodology, and with the support of the best teachers"

Module 1. Biomedical Signals

1.1. Biomedical Signals
- 1.1.1. Origin of Biomedical Signals
- 1.1.2. Biomedical Signals
  - 1.1.2.1. Amplitude
  - 1.1.2.2. Period
  - 1.1.2.3. Frequency (F)
  - 1.1.2.4. Wave Length
  - 1.1.2.5. Phase
- 1.1.3. Classification and Examples of Biomedical Signals

1.2. Types of Biomedical Signals Electrocardiography, Electroencephalography and Magnetoencephalography
- 1.2.1. Electrocardiography (ECG)
- 1.2.2. Electroencephalography (EEG)
- 1.2.3. Magnetoencephalography (MEG)

1.3. Types of Biomedical Signals Electroneurography and Electromyography
- 1.3.1. Electroneurography (ENG)
- 1.3.2. Electromyography (EMG)
- 1.3.3. Event-Related Potentials (ERPs)
- 1.3.4. Other Types

1.4. Signals and Systems
- 1.4.1. Signals and Systems
- 1.4.2. Continuous and Discrete Signals: Analog vs Digital
- 1.4.3. Systems in the Time Domain
- 1.4.4. Systems in Frequency Domain Spectral Method

1.5. Fundamentals of Signals and Systems
- 1.5.1. Sampling: Nyquist
- 1.5.2. The Fourier Transform DFT
- 1.5.3. Stochastic Processes
  - 1.5.3.1. Deterministic Vs. Random Signals
  - 1.5.3.2. Types of Stochastic Processes
  - 1.5.3.3. Stationarity
  - 1.5.3.4. Ergodicity
  - 1.5.3.5. Relationships Between Signals
- 1.5.4. Power Spectral Density

1.6. Processing of Biomedical Signals
- 1.6.1. Processing of Signals
- 1.6.2. Objectives and Processing Steps
- 1.6.3. Key Elements of a Digital Processing System
- 1.6.4. Applications. Tendencies

1.7. Filtering: Artifact Removal
- 1.7.1. Motivation. Types of Filtering
- 1.7.2. Time Domain Filtering
- 1.7.3. Frequency Domain Filtering
- 1.7.4. Applications and Examples

1.8. Time-Frequency Analysis
- 1.8.1. Motivation
- 1.8.2. Time-Frequency Plane
- 1.8.3. Short Time Fourier Transform (STFT)
- 1.8.4. Wavelet Transform
- 1.8.5. Applications and Examples

1.9. Event Detection
- 1.9.1. Study Case I: ECG
- 1.9.2. Study Case II: EEG
- 1.9.3. Evaluation of Detection

1.10. Software for Biomedical Signal Processing
- 1.10.1. Applications, Environments and Programming Languages
- 1.10.2. Libraries and Tools
- 1.10.3. Practical Applications: Basic Biomedical Signal Processing System

Module 2. Medical Bioinformatics

2.1. Medical Bioinformatics
- 2.1.1. Computing in Medical Biology
- 2.1.2. Medical Bioinformatics
  - 2.1.2.1. Bioinformatic Applications
  - 2.1.2.2. Computer Systems, Networks and Medical Databases
  - 2.1.2.3. Applications of Medical Bioinformatics in Human Health

2.2. Computer Equipment and software Required in Bioinformatics
- 2.2.1. Scientific Computing in Biological Sciences
- 2.2.3. The Computer
- 2.2.4. Hardware, Software and Operating Systems
- 2.2.5. Workstations and Personal Computers
- 2.2.6. High-Performance Computing Platforms and Virtual Environments
- 2.2.7. Linux Operating System
  - 2.2.7.1. Linux Installation
  - 2.2.7.2. Using the Linux Command Line Interface

2.3. Data Analysis Using R Programming Language
- 2.3.1. Language R Statistical Programming
- 2.3.2. Installation and Uses of R
- 2.3.3. Data Analysis Methods With R
- 2.3.4. R Applications in Medical Bioinformatics

2.4. Data Analysis Using R Programming Language
- 2.4.1. Multipurpose Programming Language Python
- 2.4.2. Installation and Uses of Python
- 2.4.3. Data Analysis Methods With Python
- 2.4.4. Python Applications in Medical Bioinformatics

2.5. Methods of Human Genetic Sequence Analysis
- 2.5.1. Human Genetics
- 2.5.2. Techniques and Methods for Sequencing Analysis of Genomic Data
- 2.5.3. Sequence Alignments
- 2.5.4. Tools for Detection, Comparison and Modeling of Genomes

2.6. Data Mining in Bioinformatics
- 2.6.1. Phases of Knowledge Discovery in Databases, KDD
- 2.6.2. Processing Techniques
- 2.6.3. Knowledge Discovery in Biomedical Databases
- 2.6.4. Human Genomics Data Analysis

2.7. Artificial Intelligence and Big Data Techniques in Medical Bioinformatics
- 2.7.1. Machine Learning for Medical Bioinformatics
  - 2.7.1.1. Supervised Learning Regression and Classification
  - 2.7.1.2. Unsupervised Learning Clustering and Association Rules
- 2.7.2. Big Data
- 2.7.3. Computing Platforms and Development Environments

2.8. Applications of Bioinformatics for Prevention, Diagnosis and Clinical Therapies
- 2.8.1. Disease-Causing Gene Identification Procedures
- 2.8.2. Procedure to Analyze and Interpret the Genome for Medical Therapies
- 2.8.3. Procedures to Assess Genetic Predispositions of Patients for Prevention and Early Diagnosis

2.9. Medical Bioinformatics Workflow and Methodology
- 2.9.1. Creation of Workflows to Analyze Data
- 2.9.2. Application Programming Interfaces, APIs
  - 2.9.2.1. R and Python Libraries for Bioinformatics Analysis
  - 2.9.2.2. Bioconductor: Installation and Uses
- 2.9.3. Uses of Bioinformatics Workflows in Cloud Services

2.10. Factors Associated With Sustainable Bioinformatics Applications and Future Trends
- 2.10.1. Legal and Regulatory Framework
- 2.10.2. Best Practices in the Development of Medical Bioinformatics Projects
- 2.10.3. Future Trends in Bioinformatics Applications

Module 3. Biomedical and Healthcare Databases

3.1. Hospital Databases
- 3.1.1. Data Bases
- 3.1.2. The Importance of Data
- 3.1.3. Data in a Clinical Context

3.2. Conceptual Modeling
- 3.2.1. Data Structure
- 3.2.2. Systematic Data Model
- 3.2.3. Data Standardization

3.3. Relational Data Model
- 3.3.1. Advantages and Disadvantages.
- 3.3.2. Formal Languages

3.4. Designing from Relational Databases
- 3.4.1. Functional Dependence
- 3.4.2. Relational Forms
- 3.4.3. Standardization

3.5. SQL Language
- 3.5.1. Relational Model
- 3.5.2. Object-Relationship Model
- 3.5.3. XML- Object-Relationship Model

3.6. NoSQL
- 3.6.1. JSON
- 3.6.2. NoSQL
- 3.6.3. Differential Amplifiers
- 3.6.4. Integrators and Differentiators

3.7. MongoDB
- 3.7.1. ODMS Architecture
- 3.7.2. NodeJS
- 3.7.3. Mongoose
- 3.7.4. Aggregation

3.8. Data Analysis
- 3.8.1. Data Analysis
- 3.8.2. Qualitative Analysis
- 3.8.3. Quantitative Analysis

3.9. Legal Bases and Regulatory Standards
- 3.9.1. General Data Protection Regulation
- 3.9.2. Cybersecurity Considerations
- 3.9.3. Regulations Applied to Health Data

3.10. Integration of Databases in Medical Records
- 3.10.1. Medical History
- 3.10.2. HIS Systems
- 3.10.3. HIS Data

> Access the future of Biomedical Engineering with this degree, which will update you on issues such as relational database design or bioconductors"

05

Methodology

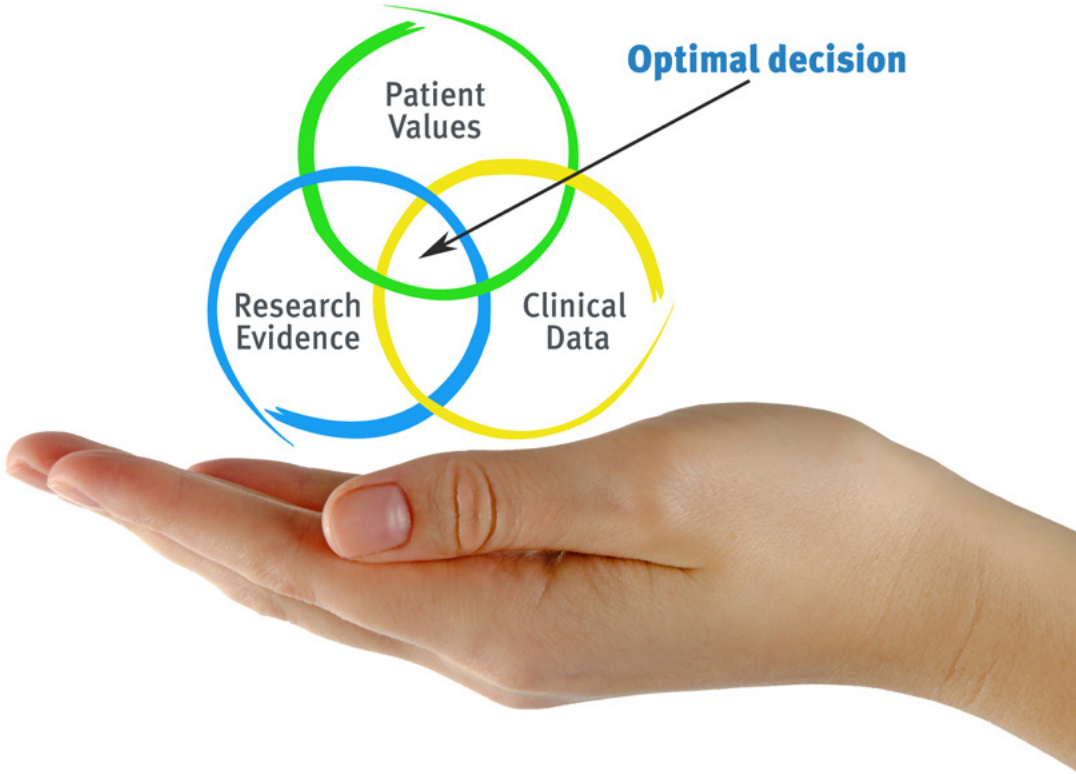
This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: Re-learning.
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the New England Journal of Medicine have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

Discover Re-learning, 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 abundant 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:

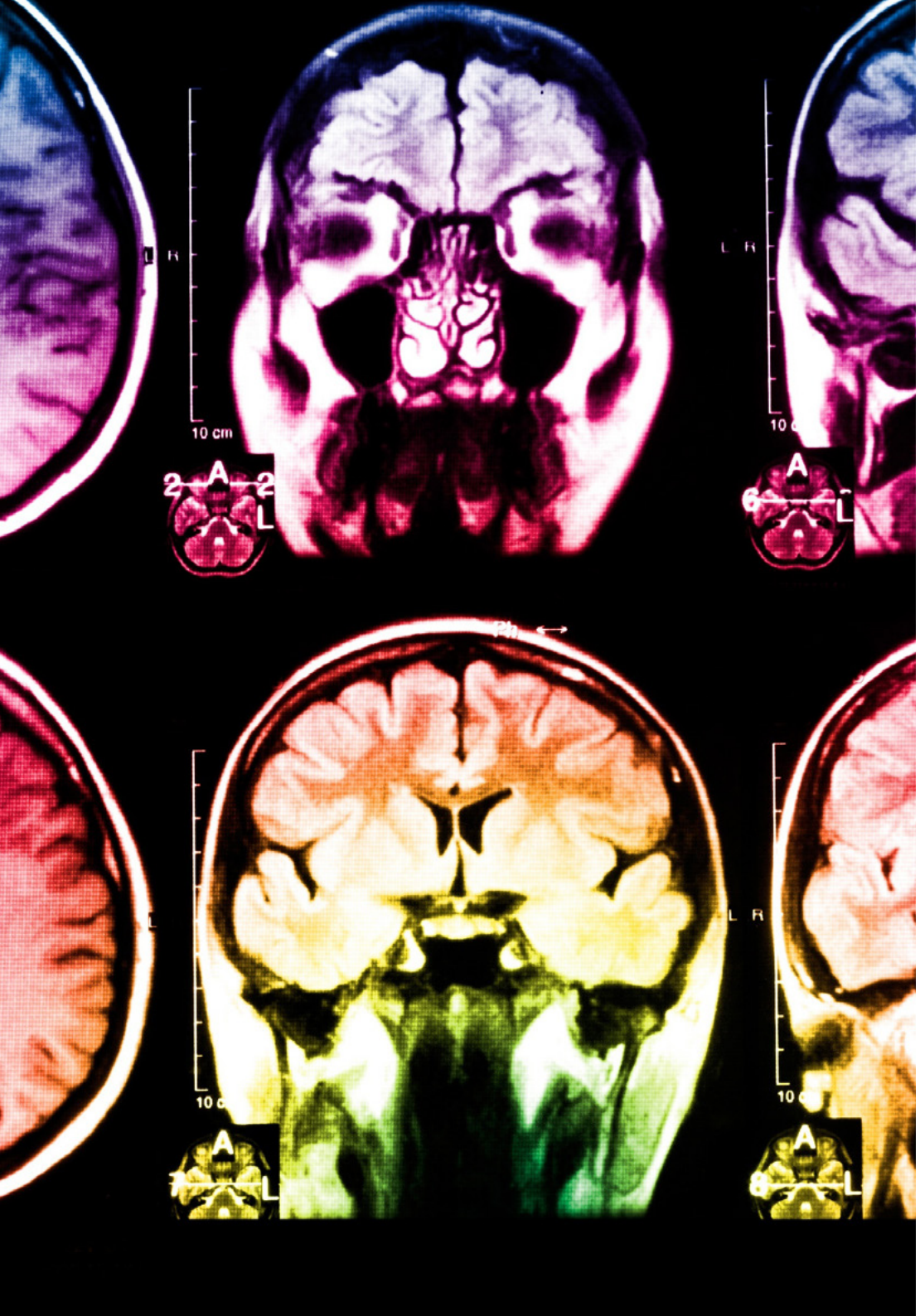
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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.

Re-learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking 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 high socioeconomic profile and an average age of 43.5 years old.

Re-learning 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.

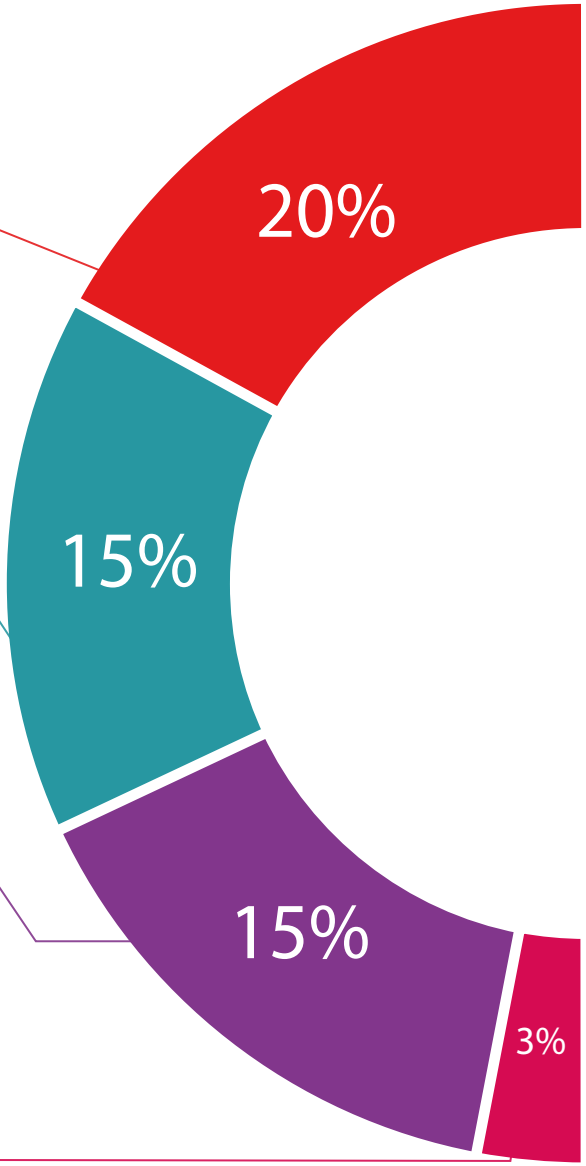
Interactive Summaries

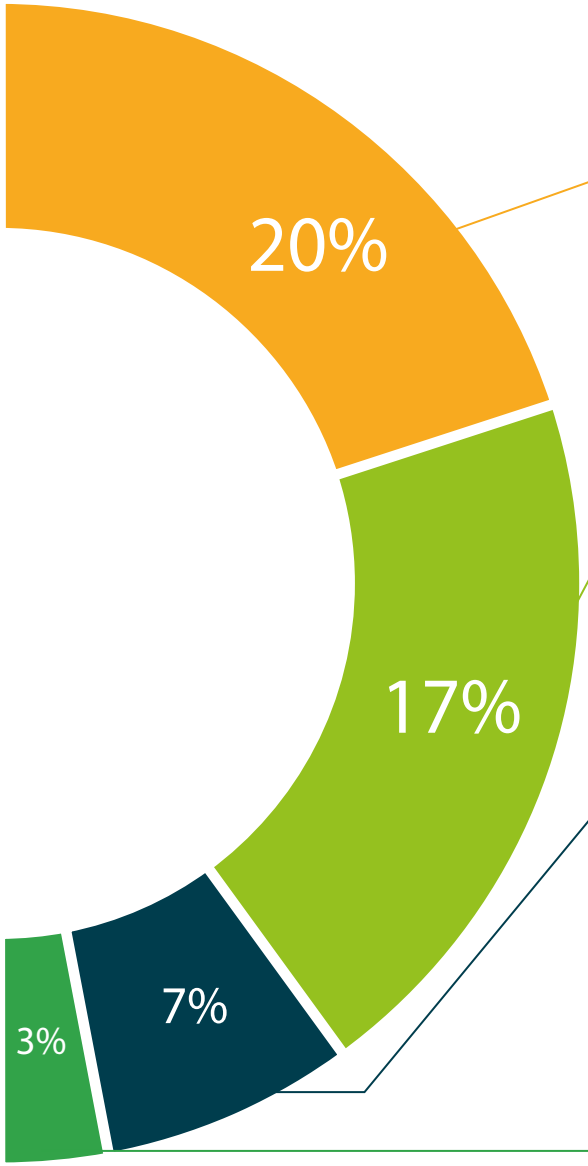
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".

Additional Reading

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





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, 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 your goals.

Classes

There is scientific evidence on the usefulness of learning by observing experts: The system termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.

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.

06

Certificate

The Postgraduate Diploma in Health Data Management and Analysis in Biomedical Engineering guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Diploma issued by TECH Technological University.

Successfully complete this training program and receive your university certificate without travel or laborious paperwork"

This Postgraduate Diploma in Health Data Management and Analysis in Biomedical Engineering contains the most complete and updated scientific program on the market.

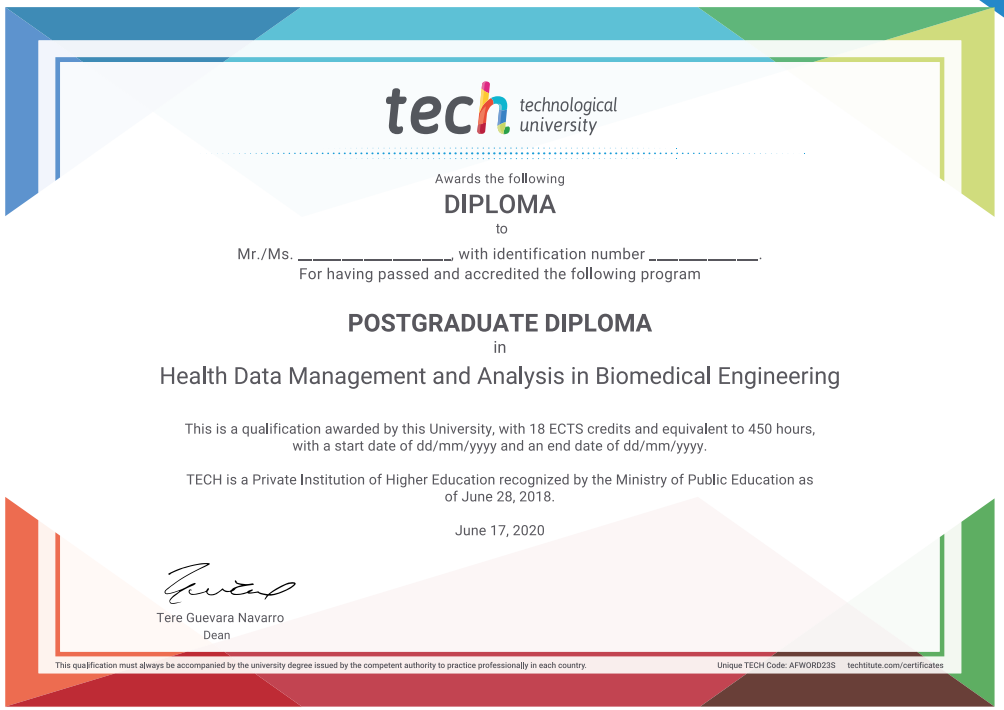
After you have passed the evaluations, you will receive your corresponding Postgraduate Diploma qualification issued by TECH Technological University.

This qualification contributes significantly to the professional's continuing education and enhances their training with a highly regarded university syllabus, and is 100% valid for all public examinations, professional careers and job vacancies.

Title: Postgraduate Diploma in Health Data Management and Analysis in Biomedical Engineering

ECTS: 18

Official Number of Hours: 450


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Health Data Management and Analysis in Biomedical Engineering

This is a qualification awarded by this University, with 18 ECTS credits and equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

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

*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.

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