Postgraduate Certificate
Advanced Dental Health Management

tech technological university

Postgraduate Certificate
Advanced Dental Health Management

- » Modality: **online**
- » Duration: **6 weeks**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/pk/dentistry/postgraduate-certificate/advanced-dental-health-management**

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01
Introduction

The rise of new technologies has had a great impact on the monitoring of Oral Health. One of the latest trends in this field is Artificial Intelligence (AI), which optimizes dental care and patient experience. For example, the use of wearables and sensors for real-time monitoring enables early detection of dental problems, leading to more effective and less invasive treatment. Likewise, AI provides personalized dental care recommendations based on the data collected, ensuring a more targeted approach for each individual. Given this, TECH develops a digital university qualification that will provide the most advanced AI tools for indicator monitoring.

Delve into Gamification Systems at the world's best digital university according to Forbes"

Advanced Dental Health Management with Machine Learning helps experts create highly personalized treatment plans for each individual, considering both their specific needs and conditions. This significantly improves the effectiveness of therapies and user satisfaction. In addition, AI analyzes a large volume of data and medical records to identify potential dental risks. In this way, professionals provide individuals with particular recommendations to avoid conditions such as tooth decay or periodontal disease. Dentists provide individualized medical care that will improve the prognosis of their patients.

In this context, TECH implements a pioneering program that will thoroughly analyze the process of monitoring and controlling Dental Health through AI. The academic itinerary will delve into image recognition technologies for automated dental diagnostics. In addition, the syllabus will address natural language processing of dental records for indicator extraction, using NLP to summarize long dental records. In addition, the didactic materials will examine various data-driven clinical decision support systems and will emphasize the importance of predictive analytics for treatment planning.

All this, following a revolutionary 100% online methodology, which will enable students to combine their enriching update with their professional and personal duties. In the same way, you will have at your disposal teaching resources in cutting-edge formats such as the explanatory video, the interactive summary or the self-evaluation exercises. As a result, you will be able to adapt your study to your own educational needs, fully optimizing your learning process. The only requirement is that students have an electronic device with Internet connection to access the Virtual Campus, where they will find the most dynamic didactic content in the academic market.

This **Postgraduate Certificate in Advanced Dental Health Management** contains the most complete and up-to-date scientific program on the market. The most important features include:

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

You will design intuitive interfaces with which you will track the status of your patients. And only in 6 weeks with this program!"

" *You will create accurate Dental Health reports thanks to Artificial Intelligence tools. And only in 6 weeks with this program!"*

You will establish the most advanced parameters to evaluate oral health.

The Relearning system applied by TECH in its programs reduces the long hours of study so frequent in other teaching methods.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

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 students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02
Objectives

Thanks to this program, dentists will have a solid understanding of the variety of Machine Learning applications for the monitoring and control of Dental Health. Upon completion of the Postgraduate Certificate, graduates will apply the most advanced AI tools to their clinical practice in order to offer users quality-based care. In turn, they will use dashboards to make more informed decisions based on solid data. Students will also acquire a heightened awareness of the ethical considerations to keep in mind during their activities, which will enable them to promote responsible practices.

The current importance of Dental Health makes this Postgraduate Certificate a safe bet, with a market in continuous growth and full of possibilities"

General Objectives

- Understand the theoretical foundations of Artificial Intelligence
- Study the different types of data and understand the data lifecycle
- Evaluate the crucial role of data in the development and implementation of AI solutions
- Delve into algorithms and complexity to solve specific problems
- Explore the theoretical basis of neural networks for Deep Learning development
- Explore bio-inspired computing and its relevance in the development of intelligent systems
- Analyze current strategies of Artificial Intelligence in various fields, identifying opportunities and challenges
- Gain a solid understanding of Machine Learning principles and their specific application in dental contexts
- Analyze dental data, including visualization techniques to improve diagnostics
- Acquire advanced skills in the application of AI for the accurate diagnosis of oral diseases and interpretation of dental images
- Understand the ethical and privacy considerations associated with the application of AI in dentistry
- Explore ethical challenges, regulations, professional liability, social impact, access to dental care, sustainability, policy development, innovation, and future prospects in the application of AI in dentistry

Specific Objectives

- Acquire solid knowledge of the basic principles of Machine Learningand its specific application in dental contexts

- Learn methods and tools for analyzing dental data, as well as visualization techniques that enhance interpretation and diagnosis

- Develop a thorough understanding of the ethical and privacy considerations associated with the application of AI in dentistry, promoting responsible practices in the use of these technologies in clinical settings

- Familiarize students with the various applications of AI in the field of dentistry, such as oral disease diagnosis, treatment planning, and patient care management

- Design personalized dental treatment plans according to the specific needs of each patient, taking into account factors such as genetics, medical history and individual preferences

TECH's main objective is to help you achieve academic and professional excellence"

03

Course Management

With the idea in mind of offering university qualifications of the highest academic level, TECH has chosen a select teaching staff made up of leading specialists in Advanced Dental Health Management to design and teach this program. All these professionals have extensive clinical experience behind them and use the most cutting-edge technological tools in their daily practice. Therefore, the knowledge offered to the students will be in line with the latest advances in the sector.

"

The diverse talents and expertise of the faculty will create an enriching learning environment. Learn from the best!"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO at AI Shephers GmbH
- Consultant and Strategic Business Advisor at Alliance Medical
- Director of Design and Development at DocPath
- Ph.D. in Psychology from the University of Castilla - La Mancha
- Ph.D. in Economics, Business and Finance from the Camilo José Cela University
- Ph.D. in Psychology from University of Castilla – La Mancha
- Professional Master's Degree in Executive MBA by the Isabel I University
- Professional Master's Degree in Sales and Marketing Management, Isabel I University
- Expert Master's Degree in Big Data by Hadoop Training
- Professional Master's Degree in Advanced Information Technologies from the University of Castilla - La Mancha
- Member of: SMILE Research Group

Dr. Martín-Palomino Sahagún, Patricia

- Specialist in Dentistry and Orthodontics
- Private Orthodontist
- Researcher
- Ph.D. in Dentistry from the University Alfonso X El Sabio
- Postgraduate in Orthodontics from the University Alfonso X El Sabio
- Degree in Dentistry at the University of Alfonso X El Sabio

Professors

Mr. Popescu Radu, Daniel Vasile

- Pharmacology, Nutrition and Diet Specialist
- Freelance Producer of Didactic and Scientific Contents
- Nutritionist and Community Dietitian
- Community Pharmacist
- Researcher
- Professional Master's Degree in Nutrition and Health at the Oberta University of Catalonia (UOC)
- Professional Master's Degree in Psychopharmacology from the University of Valencia
- Pharmacist by the Complutense University of Madrid
- Nutritionist-Dietician at the European University Miguel de Cervantes

Dr. Carrasco González, Ramón Alberto

- Specialist in Computer Science and Artificial Intelligence
- Researcher
- Head of Business Intelligence (Marketing) at Caja General de Ahorros de Granada and Banco Mare Nostrum
- Head of Information Systems (Data Warehousing and Business Intelligence) at Caja General de Ahorros de Granada and Banco Mare Nostrum
- Ph.D. in Artificial Intelligence from the University of Granada
- Computer Engineer from the University of Granada

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Structure and Content

Thanks to this program, graduates will acquire a multidisciplinary view of Machine Learning applied to the field of Dentistry. To this end, the syllabus will delve into the applications of AI to address common oral diseases such as caries or periodontal diseases. The syllabus will also delve into the definition of indicators for the control of patients' dental health, implementing progress systems and methods aimed at predicting future problems. Likewise, the didactic materials will provide students with the most advanced tools for monitoring the medical condition of patients.

"

You will offer personalized dental therapies and provide health care based on excellence"

Module 1. Monitoring and Control of Dental Health using AI

1.1.   AI Applications for Patient's Dental Health Monitoring with Dentem
    1.1.1.   Design of Mobile Applications for Dental Hygiene Monitoring
    1.1.2.   AI Systems for the Early Detection of Caries and Periodontal Diseases
    1.1.3.   Use of AI in the Personalization of Dental Treatments
    1.1.4.   Image Recognition Technologies for Automated Dental Diagnostics

1.2.   Integration of Clinical and Biomedical Information as a Basis for Dental Health Monitoring
    1.2.1.   Platforms for Integration of Clinical and Radiographic Data
    1.2.2.   Analysis of Medical Records to Identify Dental Risks
    1.2.3.   Systems for Correlating Biomedical Data with Dental Conditions
    1.2.4.   Tools for the Unified Management of Patient Information

1.3.   Definition of Indicators for the Control of the Patient's Dental Health
    1.3.1.   Establishment of Parameters for the Evaluation of Oral Health
    1.3.2.   Systems for Monitoring Progress in Dental Treatments
    1.3.3.   Development of Risk Indexes for Dental Disease
    1.3.4.   AI Methods for Prediction of Future Dental Problems with Pearl

1.4.   Natural Language Processing of Dental Health Records for Indicator Extraction
    1.4.1.   Automatic Extraction of Relevant Data from Dental Records
    1.4.2.   Analysis of Clinical Notes to Identify Dental Health Trends
    1.4.3.   Use of NLP to Summarize Long Medical Records
    1.4.4.   Early Warning Systems Based on Clinical Text Analysis

1.5.   AI Tools for the Monitoring and Control of Dental Health Indicators
    1.5.1.   Development of Applications for Monitoring Oral Hygiene and Oral Health
    1.5.2.   AI-based Personalized Patient Alerting Systems with CarePredict
    1.5.3.   Analytical Tools for Continuous Assessment of Dental Health
    1.5.4.   Use of Wearables and Sensors for Real-Time Dental Monitoring

1.6.   Development of Dashboards for the Monitoring of Dental Indicators
    1.6.1.   Creation of Intuitive Interfaces for Dental Health Monitoring
    1.6.2.   Integration of Data from Different Clinical Sources into a Single Dashboard
    1.6.3.   Data Visualization Tools for Treatment Monitoring
    1.6.4.   Customization of Dashboards According to the Needs of the Dental Professional
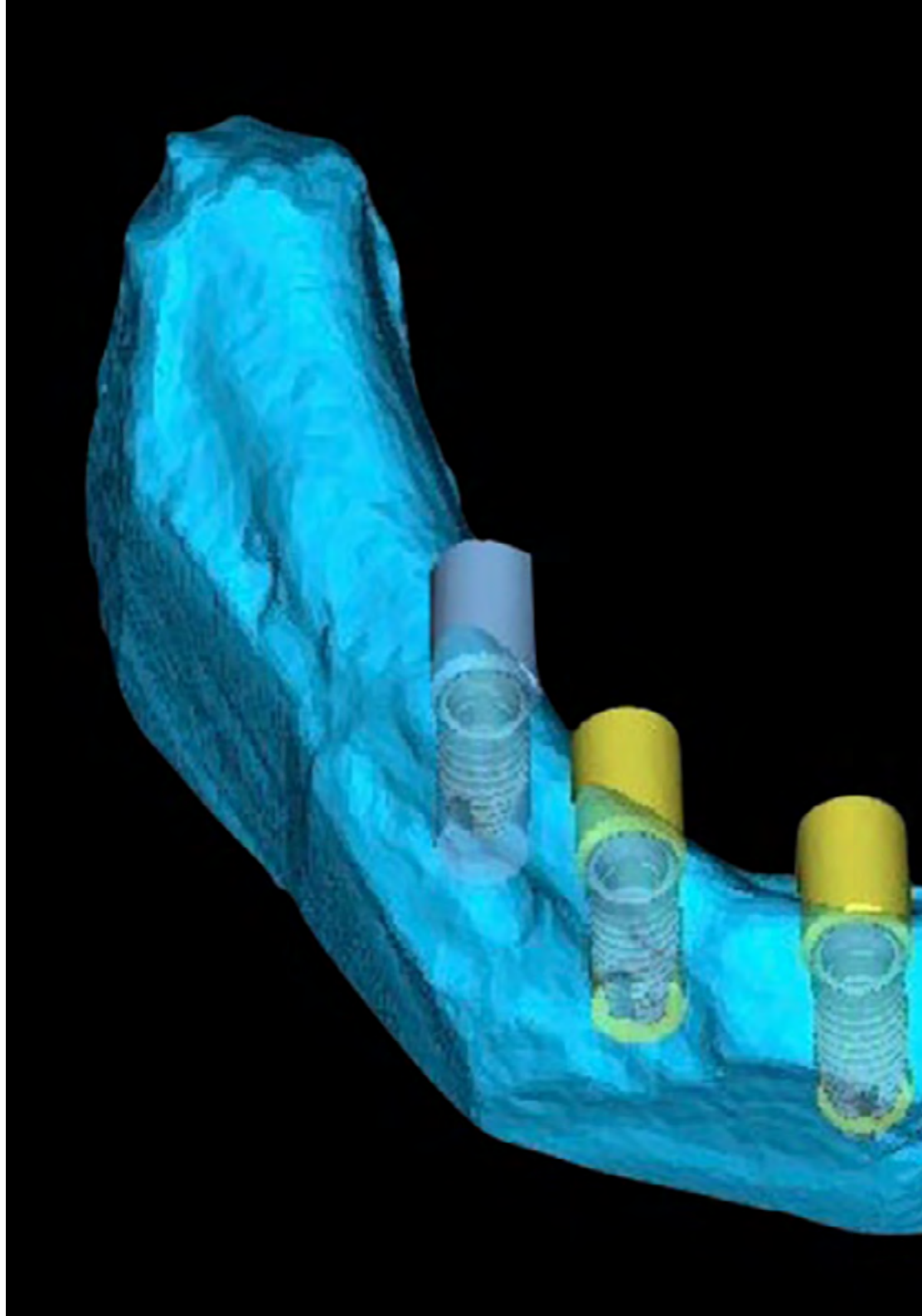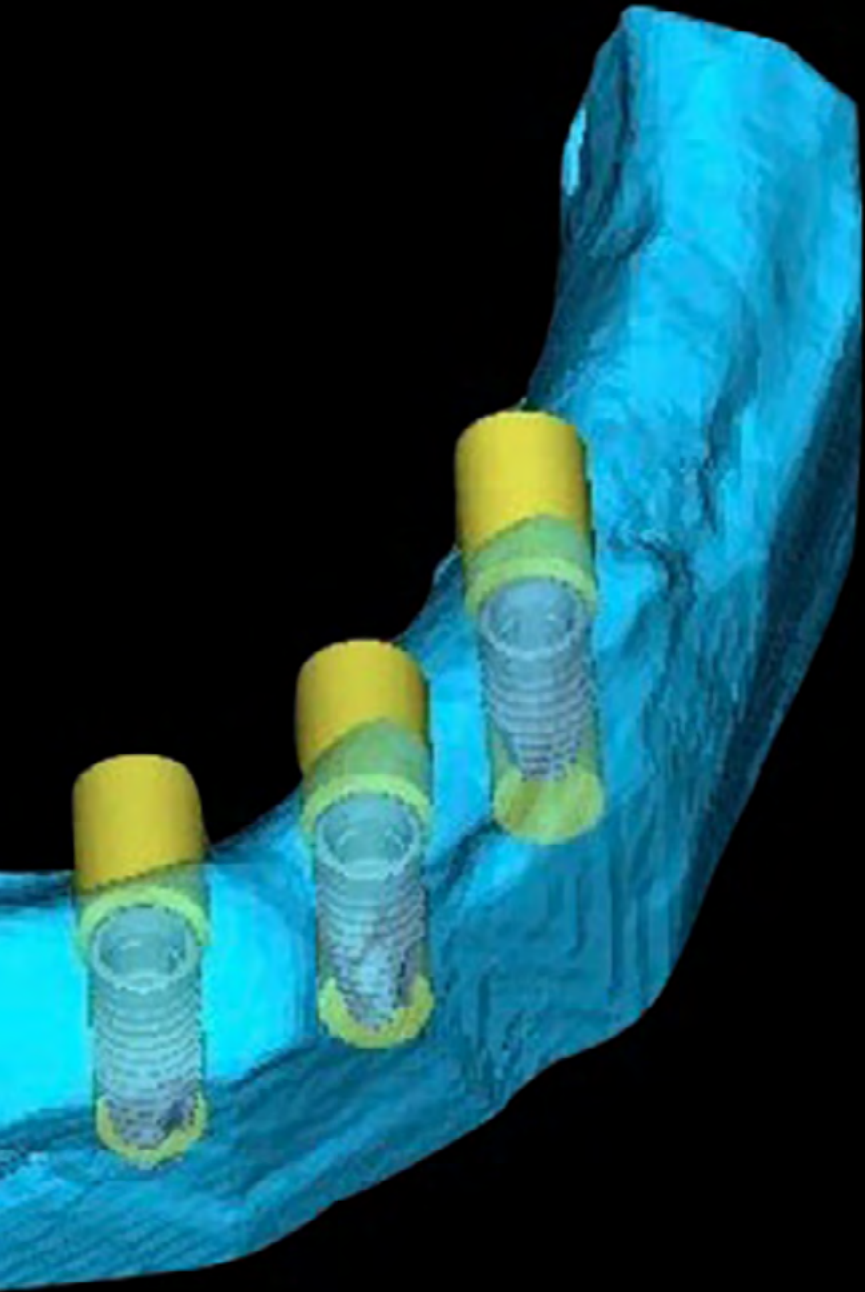
1.7.   Interpretation of Dental Health Indicators and Decision Making
    1.7.1.   Data-driven Clinical Decision Support Systems
    1.7.2.   Predictive Analytics for Dental Treatment Planning
    1.7.3.   AI for the Interpretation of Complex Oral Health Indicators with Overjet
    1.7.4.   Tools for the Evaluation of Treatment Effectiveness
1.8.   Generation of Dental Health Reports using AI Tools
    1.8.1.   Automation of the Creation of Detailed Dental Reports
    1.8.2.   Customized Report Generation Systems for Patients
    1.8.3.   AI Tools for Summarizing Clinical Findings
    1.8.4.   Integration of Clinical and Radiological Data into Automated Reports
1.9.   AI-enabled Platforms for Patient Monitoring of Dental Health
    1.9.1.   Applications for Oral Health Self-monitoring
    1.9.2.   AI-based Interactive Dental Education Platforms
    1.9.3.   Tools for Symptom Tracking and Personalized Dental Advice
    1.9.4.   Gamification Systems to Encourage Good Dental Hygiene Habits
1.10.   Security and Privacy in the Treatment of Dental Information
    1.10.1.   Security Protocols for the Protection of Patient Data
    1.10.2.   Encryption and Anonymization Systems in the Management of Clinical Data
    1.10.3.   Regulations and Legal Compliance in the Management of Dental Information
    1.10.4.   Privacy Education and Awareness for Professionals and Patients

A unique, key, and decisive educational experience to boost your professional development"

05
Methodology

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

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

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

At TECH we use the Case Method

In a given situation, what should a professional do? 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.
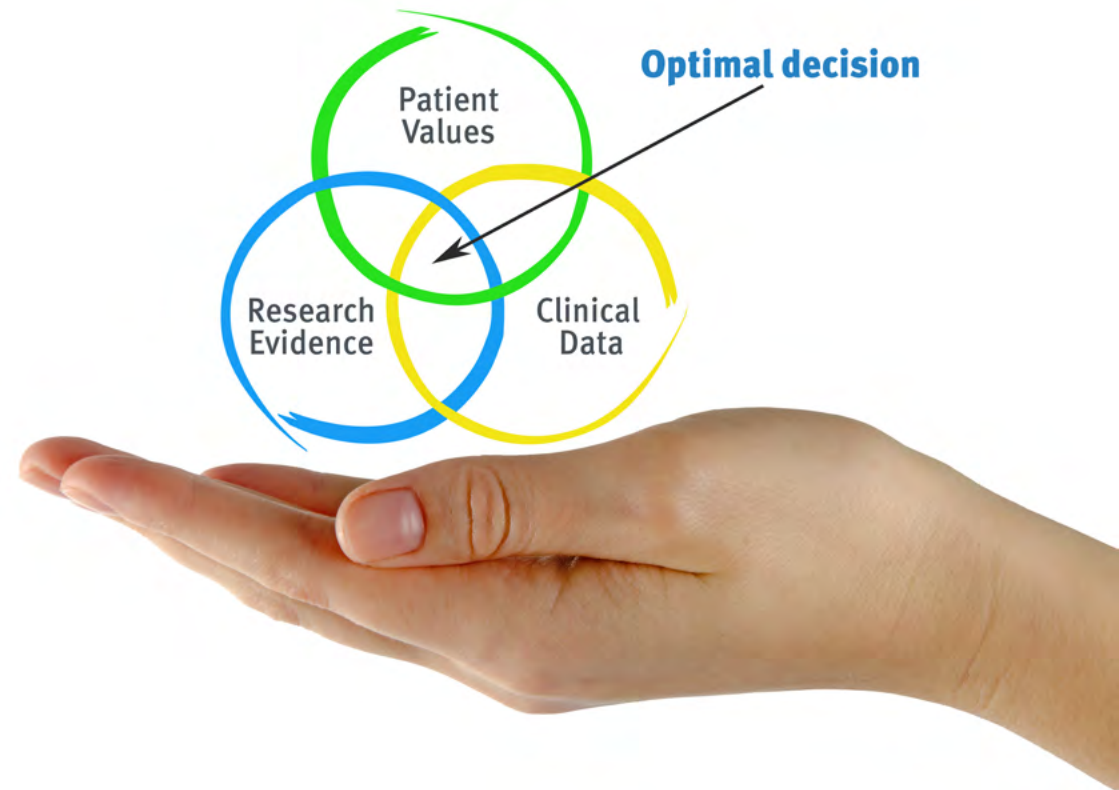
According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the dentist'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. Dentists who follow this method not only grasp concepts, but also develop their mental capacity by means of exercises to evaluate real situations and apply their knowledge.

2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.

3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.

4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

Relearning Methodology

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

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.

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

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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 we have trained more than 115,000 dentists with unprecedented success, in all specialties regardless of the workload. 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 training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for 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.

Educational Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances, and to the forefront of 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.

20%

15%

15%

3%

20%

17%

7%

3%

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 suggesting that observing third-party experts can be useful.

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.

Certificate

The Postgraduate Certificate in Advanced Dental Health Management guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Advanced Dental Health Management** contains the most complete and up-to-date scientific on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Advanced Dental Health Management**

Official Nº of Hours: **150 h.**

tech technological university

Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Advanced Dental Health Management

This is a qualification awarded by this University, equivalent to 150 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 certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Advanced Dental Health Management

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