Postgraduate Diploma

Digital Technology in Dentistry

tech global university

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Postgraduate Diploma

Digital Technology in Dentistry

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Credits: **18 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/dentistry/postgraduate-diploma/postgraduate-diploma-digital-technology-dentistry**

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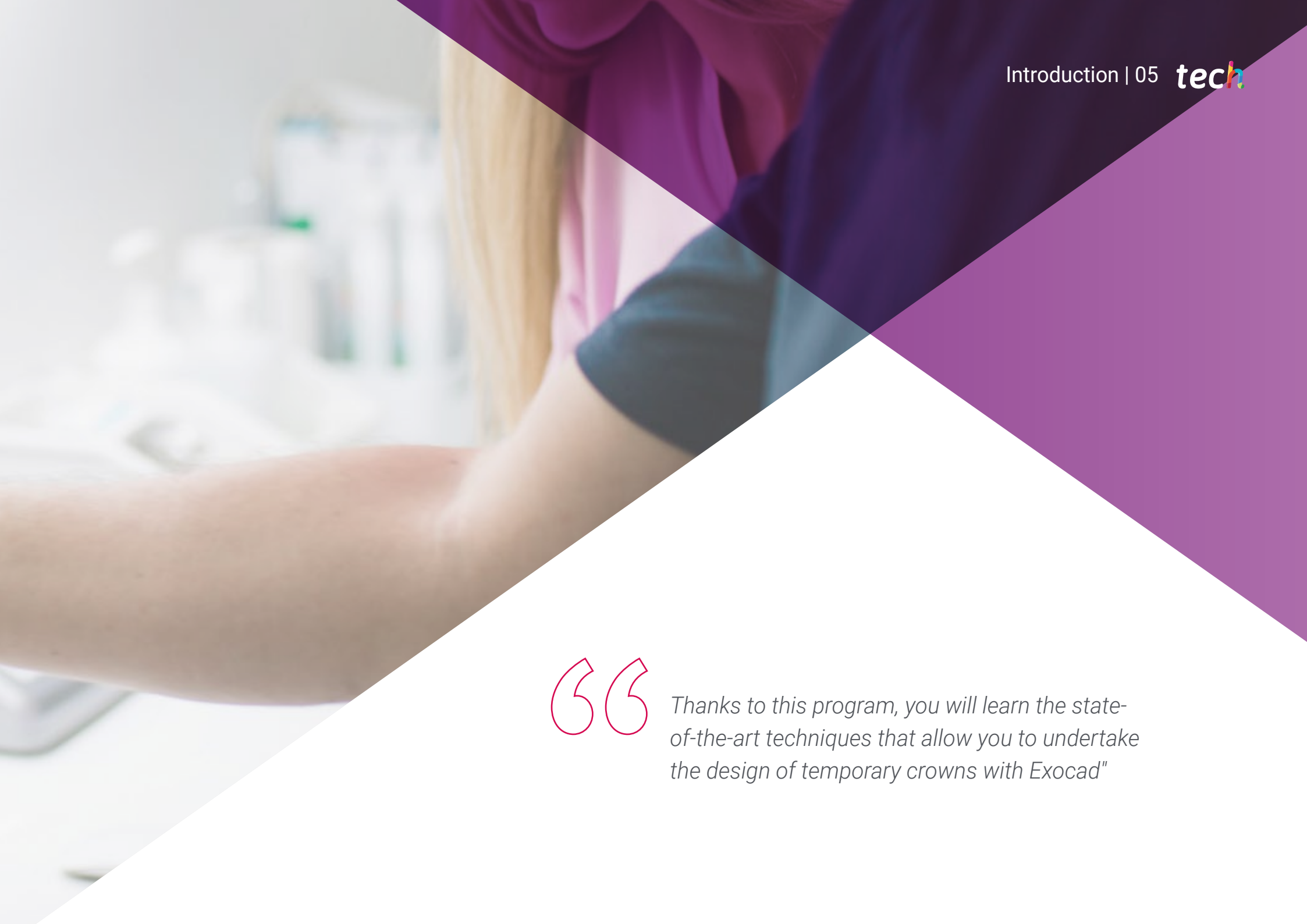
01

Introduction

Digital tools have had a positive impact on the field of dentistry, making it possible to design dental pieces with maximum precision or to perform surgeries with minimum human error. This ensures that the interventions carried out are of superlative quality, fully meeting the client's expectations. Therefore, up-to-date dentists in this field are highly needed in today's clinical environment. As a result, TECH has designed this program, which will allow the student to learn about cutting-edge dental scanning methods and the latest techniques for the design of provisional crowns with Exocad. In addition, its 100% online methodology will allow you to learn without the need to travel to a study center.



Thanks to this program, you will learn the state-of-the-art techniques that allow you to undertake the design of temporary crowns with Exocad"

Over the last decade, the use of digital technology has become popular for many dental procedures, including the design of dental pieces, the placement of orthodontics or the insertion of highly functional implants. Its progressive incursion has made it possible to offer great safety to the patient during the whole process, as well as to guarantee excellent results from the aesthetic point of view. Due to the benefits offered, knowing how these revolutionary tools work is essential for the dentist who does not want to be left behind with respect to the evolution of the sector.

In view of this situation, TECH has decided to create this program, through which the student will delve into the most advanced aspects of Digital Technology in Dentistry. Throughout the educational journey, you will delve into the cutting-edge applications of PIC phonogranulometry in dental occlusion or the techniques of interpretation of digital cephalometric data. Likewise, you will identify the protocols for the design of inlays or crowns on implants with Exocad.

Thanks to the fact that this program is developed through a 100% online modality, the professionals will be able to optimize their learning without the need to adhere to uncomfortable pre-established schedules. Furthermore, this program has been designed and developed by leading experts in the field of Digital Dentistry, who are actively working in this field. Therefore, all the knowledge you will receive will preserve a complete update.

This **Postgraduate Diploma in Digital Technology in Dentistry** 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 Digital 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

Identify the techniques for the interpretation of digital cephalometric data by means of this Postgraduate Diploma"

Study from anywhere in the world and at any time you want thanks to the 100% online mode of this program"

The Relearning methodology of this program allows you to learn at your own pace from the comfort of your home.

Get your desired dental update with the best study facilities in the educational panorama.

The program's teaching staff includes professionals from the sector 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 educational year. This will be done with the help of an innovative system of interactive videos made by renowned experts.

02

Objectives

TECH has designed the Postgraduate Diploma in Digital Technology in Dentistry with the objective of providing the student with the most recent advances in this field in only 6 months. Through this educational experience, you will be able to delve into equipment digitalization, cephalometric analysis or dental photography, among other issues. Such learning will be preserved by the achievement of the following general and specific objectives.

Incorporate recent advances in Digital Technology in Dentistry into your clinical practice"

General Objectives

- Increase the professional's knowledge of the application of digital technologies in the diagnosis, treatment and planning of clinical cases
- Know the techniques of digital orthodontics and computer-guided implant planning
- Develop skills in interdisciplinary communication and collaboration in teamwork, using digital technology as a tool
- Examine the application of acquired knowledge in clinical practice, in this way improving the quality of patient care

Specific Objectives

Module 1. Equipment digitization

- Understand the basic concepts of digitization and its importance in clinical practice
- Know the different types of equipment that can be digitized and the technologies used for this purpose
- Examine the use of specialized digitizing equipment and software, such as 3D scanners, digital cameras, CAD/CAM software, among others
- Develop skills in editing and manipulating digital data obtained from digitized equipment
- Understand the ethical and legal implications of digitization of equipment, including data privacy and intellectual property
- Integrate digitized equipment into clinical practice
- Interpret and use digital data obtained from digitized equipment for clinical decision making

Module 2. Cephalometric analysis and photography

- Comprehend the basic concepts of cephalometric analysis and its importance in the diagnosis and planning of orthodontic and/or maxillofacial treatments
- Become familiar with the different types of cephalometric analysis and the interpretation of the data obtained
- Know the different types of cameras and lighting equipment used in clinical photography
- Effectively communicate the results of cephalometric analysis and photography to the patient and the interdisciplinary team

Module 3. Digital Flow Endodontic and periodontal guides

- Understand the basic concepts of digital flow in dentistry and its application in Endodontics and Periodontics
- Learn how to use digital tools for endodontic and periodontic planning, such as computed tomography (CT) and design software
- Know the techniques and protocols for endodontic and periodontic planning, including three-dimensional (3D) reconstruction of the dental and periodontal anatomy
- Design surgical and endodontic guides through the use of digital tools

Achieve the objectives that TECH has developed for this program and position yourself as a leading professional in the field of Dentistry"

03

Course Management

With the idea in mind of offering programs of the highest educational level, TECH has chosen a select group of teachers made up of leading specialists in Digital Dentistry to teach this program. All these professionals have extensive clinical experience behind them and use the most advanced technological tools in their daily practice. Therefore, the knowledge offered to the student will be in tune with the latest advances in the sector.

This Postgraduate Diploma is directed and taught by leading specialists in Digital Dentistry, who will provide you with the teaching contents with the greatest applicability in your daily practice"

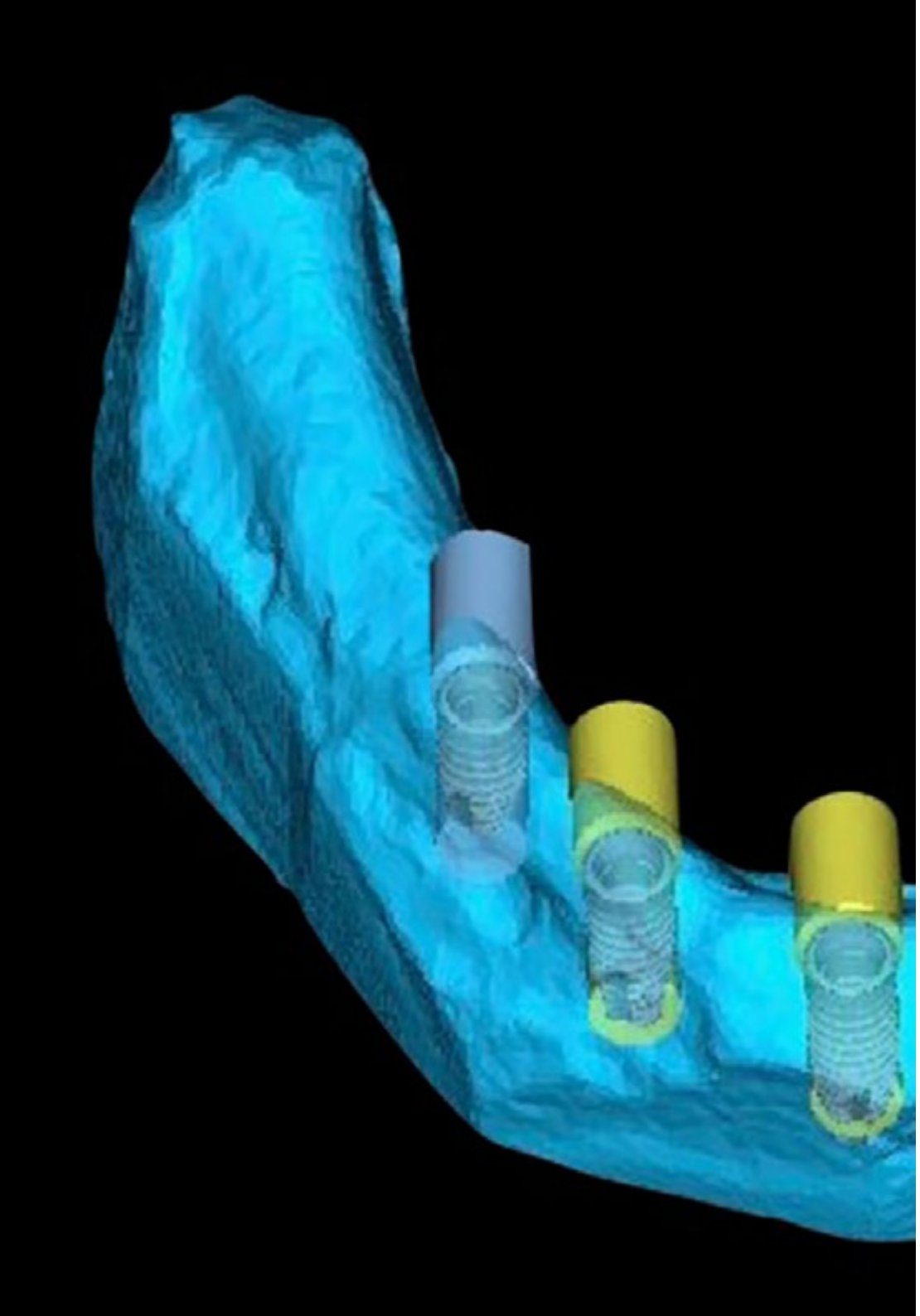
Management

Mr. Ulman, Darío

- Dentist Specializing in Implant Dentistry and Orthodontics
- Dentist in own practice
- International Intraoral Scanner Trainer
- Speaker Corner FONA
- Director of training courses for dentists
- Degree in Dentistry

Mr. Roisentul, Alejandro

- Director of the Oral and Maxillofacial Surgery Unit of Ziv Medical Center
- Clinical Instructor, Bar-Ilan University School of Medicine
- Regional Delegate for Asia of the Latin American Association of Buccomaxillofacial Surgery and Traumatology
- President of the Israeli Association of Oral and Maxillofacial Surgeons
- Winner of numerous awards and honorable mentions



Professors

Ms. Roisentul, Juliana

- Manager and Dental Hygienist at Roisentul Dental
- Dental Hygienist at MaccabbiDent
- Dental Hygienist at the ICHILOV Medical Center
- Teacher and Responsible for studies related to Photography and Dental Hygiene
- Course in Graphic Design

Mr. Badía Montoya, Alberto Luis

- Dentist specialized in Orthodontics
- Creator and Developer of Orthokit
- Graduate in Dentistry from the University of Granada
- Master's Degree in Orthodontics from the University of Oviedo
- Member of: AAO, WFO, AESOR, SEDO

Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"

04

Structure and Content

The syllabus of this program has been developed with the idea of providing the dentist with the most relevant and cutting-edge knowledge in Digital Technology in Dentistry. Its 3 very complete modules have a wide range of highly varied teaching materials, which are available in different textual and multimedia formats. Thanks to this, and by means of a 100% online methodology, you will obtain a completely enjoyable and individualized learning experience.

This syllabus has been designed by the best experts in Digital Dentistry to provide you with the most advanced teaching content in the field"

Module 1. Equipment digitization

1.1. Video Evolution
- 1.1.1. Why Be Digital
- 1.1.2. Multidisciplinary
- 1.1.3. Time/Expenses
- 1.1.4. Advantages/Costs

1.2. Digital Flow
- 1.2.1. File Types
- 1.2.2. Types of Meshes
- 1.2.3. Reliability
- 1.2.4. Comparison of Systems

1.3. Digital Camera and Cell Phone
- 1.3.1. Lighting Techniques in Dentistry
- 1.3.2. Clinical Dental Photography
- 1.3.3. Aesthetic Dental Photography Techniques
- 1.3.4. Image Editing

1.4. Digital Radiology
- 1.4.1. Types of Dental Radiographs
- 1.4.2. Digital Radiology Technology
- 1.4.3. Take Digital Dental Radiographs
- 1.4.4. AI Interpretation of Dental Radiographs

1.5. CBCT
- 1.5.1. CBCT Technology
- 1.5.2. Interpretation of CBCT Images
- 1.5.3. Diagnostic CBCT Imaging
- 1.5.3. CBCT Applications in Implant Dentistry
- 1.5.4. CBCT Applications in Endodontics

1.6. Dental Scanner
- 1.6.1. Scanning of the Dentition and Soft Tissues
- 1.6.2. Digital Modeling in Dentistry
- 1.6.3. Design and Fabrication of Digital Dental Prostheses
- 1.6.4. Applications of the Dental Scanner in Orthodontics

1.7. Dynamic Stereoscopy
- 1.7.1. Dynamic Stereoscopic Imaging
- 1.7.2. Interpretation of Dynamic Stereoscopic Images
- 1.7.3. Integration of Dynamic Stereoscopy into the Dental Work Flow
- 1.7.4. Ethics and Safety in the Use of Dynamic Stereoscopy

1.8. PIC Photogranulometry
- 1.8.1. PIC Phonogranulometry Technology
- 1.8.2. Interpretation of Phonogranulometric Records PIC
- 1.8.3. Applications of PIC Phonogranulometry in Dental Occlusion
- 1.8.4. Advantages and Disadvantages of the PIC Phonogranulometry

1.9. Facial Scanner
- 1.9.1. Facial Scanner Recording
- 1.9.2. Facial Data Analysis and Assessment
- 1.9.3. Integration of the Facial Scanner in the Dental Work Flow
- 1.9.4. Future of Facial Scanning in Dentistry

1.10. Files
- 1.10.1. Types of Digital Files in Dentistry
- 1.10.2. Digital File Formats
- 1.10.3. File Storage and Management
- 1.10.4. Security and Privacy of Digital Files

Module 2. Cephalometric analysis and photography

2.1. Basics of Photography
- 2.1.1. The Non-Digital Image
- 2.1.2. The Digital Image
- 2.1.3. The Detail
- 2.1.4. Advice

2.2. Photography in Science
- 2.2.1. Photography Uses
- 2.2.2. Case Documentation
- 2.2.3. Hospital Photography
- 2.2.4. Social Media

2.3. Photography in Dentistry
- 2.3.1. Photography in Orthodontics
- 2.3.2. Photography in Implant Dentistry
- 2.3.3. Photography in Periodontics
- 2.3.4. Photography in Dental Esthetics

2.4. Dental Photography Purposes
- 2.4.1. Patient Communication
- 2.4.2. Laboratory Communication
- 2.4.3. Legal Communication
- 2.4.4. Artistic

2.5. The Photographic Camera
- 2.5.1. Cameras Types
- 2.5.2. Camera Parts
- 2.5.3. Phone Camera
- 2.5.4. Lenses

2.6. Camera Elements
- 2.6.1. Flashes
- 2.6.2. Light Control
- 2.6.3. Exhibitions
- 2.6.4. A Learning Curve

2.7. Handling Photography
- 2.7.1. Diaphragm
- 2.7.2. Speed
- 2.7.3. Focus
- 2.7.4. Match

2.8. Digital Development, Storage and Design
- 2.8.1. Image Storage
- 2.8.2. Formats
- 2.8.3. Digital Development
- 2.8.4. Program Design

2.9. BSB Digital Cephalometry
- 2.9.1. Fundamentals of Digital Cephalometry in Dentistry
- 2.9.2. Scanning Technologies in Digital Cephalometry
- 2.9.3. Interpretation of Digital Cephalometric Data
- 2.9.4. Clinical Applications of Digital Cephalometry

2.10. Digital Cephalometry Programs (Ortokid)
- 2.10.1. Program Installation
- 2.10.2. Patient Discharge
- 2.10.3. Placement of Reference Points
- 2.10.4. Study Selection

Module 3. Digital Flow Endodontic and periodontal guides

3.1. Endodontic Guides
- 3.1.1. Virtual Planning of Endodontic Guidewire Placement Using 3D Design Software
- 3.1.2. Assessment of the Accuracy and Effectiveness of Digital Flow for Endodontic Guidewire Placement
- 3.1.3. Material Selection and 3D Printing Techniques for the Production of Endodontic Guides
- 3.1.4. Use of Endodontic Guides for Root Canal Preparation

3.2. Import File in Endodontic Guides
- 3.2.1. 2D and 3D Image File Processing for Virtual Planning of Endodontic Guidewire Placement
- 3.2.2. Assessment of the Accuracy and Effectiveness of File Import in Endodontic Guide Planning
- 3.2.3. Selection of 3D Design Software and File Formats for Import into Endodontic Guide Planning
- 3.2.4. Customized Design of Endodontic Guides Using Imported Medical Image Files

3.3. Localization of the Canal in Endodontic Guides
- 3.3.1. Digital Image Processing for Virtual Planning of Root Canal Location in Endodontic Guidewires
- 3.3.2. Assessment of the Accuracy and Effectiveness of Root Canal Location in Endodontic Guide Planning
- 3.3.3. Selection of 3D Design Software and File Formats for Root Canal Location in Endodontic Guide Planning
- 3.3.4. Customized Design of Endodontic Guides Using Root Canal Location in Planning

3.4. Fixing the Endodontic Guide Ring
- 3.4.1. Assessment of Different Types of Rings and Their Relationship to Endodontic Guidance Accuracy
- 3.4.2. Selection of Materials and Techniques for the Fixation of the Ring in the Endodontic Guide
- 3.4.3. Assessment of the Accuracy and Effectiveness of Ring Fixation in Endodontic Guidance
- 3.4.4. Custom Design of the Ring Fixation on the Endodontic Guide Using 3D Design Software

3.5. Dental Anatomy and Periapical Structures in Endodontic Guides
- 3.5.1. Identification of Key Anatomical Structures in the Planning of Endodontic Guides
- 3.5.2. Anatomy of Anterior and Posterior Teeth and Its Implications in Endodontic Guide Planning
- 3.5.3. Anatomy Considerations and Variations in Endodontic Guide Planning
- 3.5.4. Dental Anatomy in the Planning of Endodontic Guides for Complex Treatments

3.6. Periodontal Guides
- 3.6.1. Design and Production of Periodontal Guides Using Digital Planning Software
- 3.6.2. Importing and Recording CBCT Image Data for Periodontal Guide Planning
- 3.6.3. Periodontal Guide Fixation Techniques to Ensure Precision in Surgery
- 3.6.4. Digital Work Flows for Bone and Soft-Tissue Graft Placement in Guided Periodontal Surgery

3.7. Import File in Periodontal Guides
- 3.7.1. Types of Files Used in the Import of Digital Periodontal Guides
- 3.7.2. Procedure for Importing Image Files for the Creation of Digital Periodontal Guides
- 3.7.3. Technical Considerations for File Import in Digital Periodontal Guide Planning
- 3.7.4. Selection of Suitable Software for Importing Files into Digital Periodontal Guides

3.8. Coronary Lengthening Guide Design in Periodontal Guides
- 3.8.1. Definition and Concept of Coronary Lengthening Guide in Dentistry
- 3.8.2. Indications and Contraindications for the Use of Coronary Lengthening Guides in Dentistry
- 3.8.3. Procedure for the Digital Design of Coronary Lengthening Guidewires Using Specific Software
- 3.8.4. Anatomical and Aesthetic Considerations for the Design of Coronary Lengthening Guides in Digital Dentistry

3.9. Stl Export in Periodontal Guides
- 3.9.1. Dental Anatomy and Periodontal Structures Relevant to the Design of Periodontal and Endodontic Guides
- 3.9.2. Digital Technologies Used in the Planning and Design of Endodontic and Periodontal Guides, such as Computed Tomography, Magnetic Resonance Imaging and Digital Photography
- 3.9.3. Periodontal Guide Design
- 3.9.4. Endodontic Guide Design

3.10. Dental Anatomy and Periodontal Structures
- 3.10.1. Virtual Dental and Periodontal Anatomy
- 3.10.2. Design of Customized Periodontal Guides
- 3.10.3. Assessment of Periodontal Health Using Digital Radiographs
- 3.10.4. Guided Periodontal Surgery Techniques

Enjoy fully optimized learning through multimedia teaching formats such as video or interactive summary"

05

Methodology

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

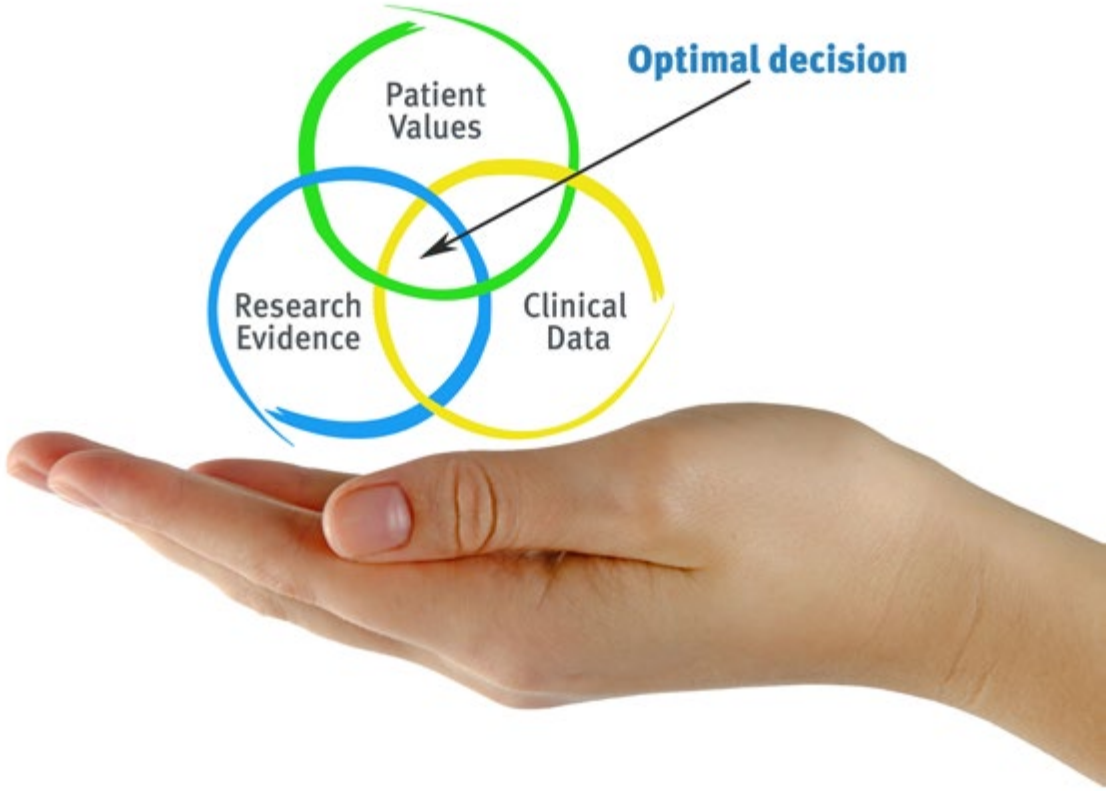
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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:

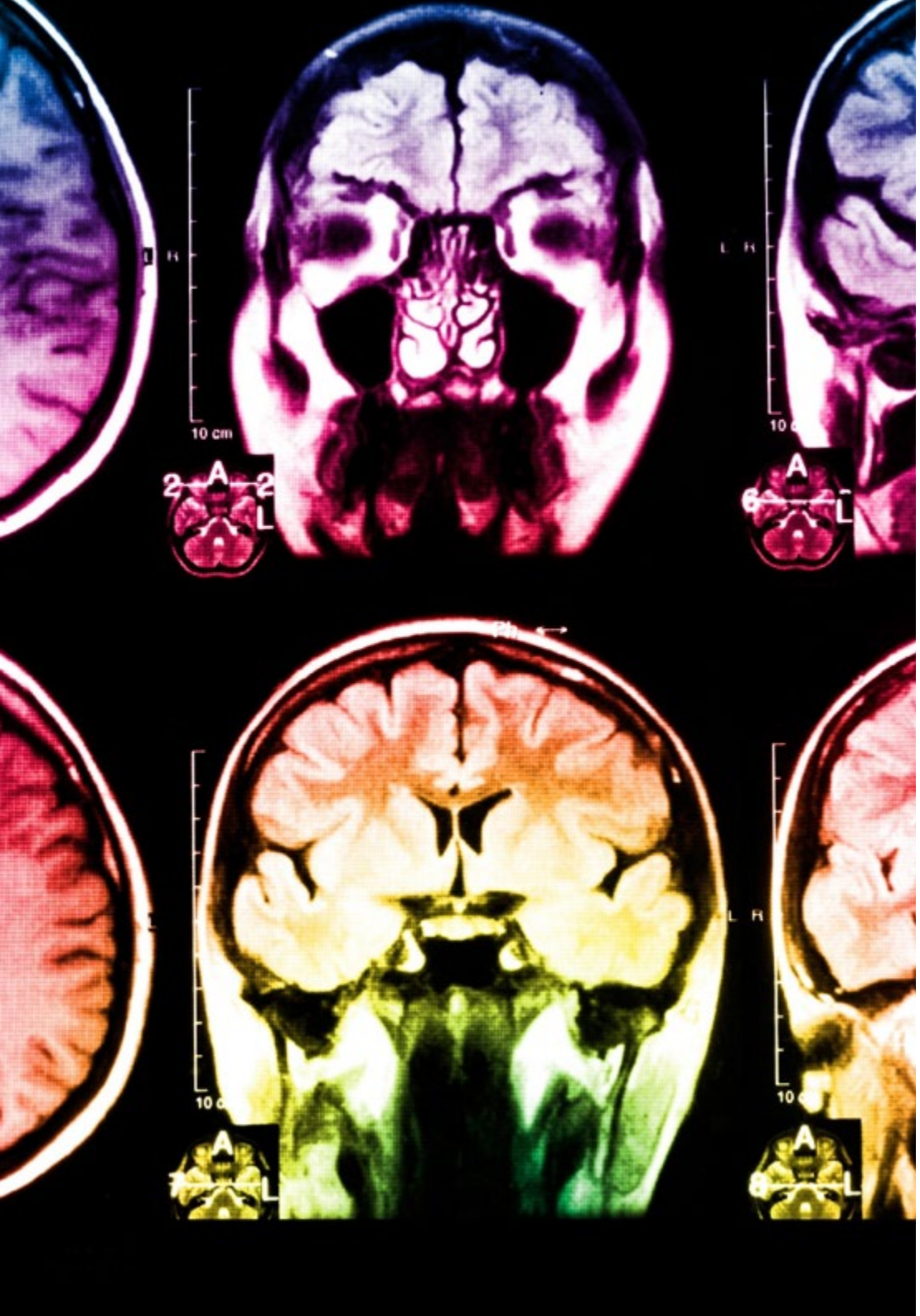
1. Dentists who follow this method not only grasp concepts, but also develop their mental capacity by means of exercises to evaluate real situations and apply their knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas 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.



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.

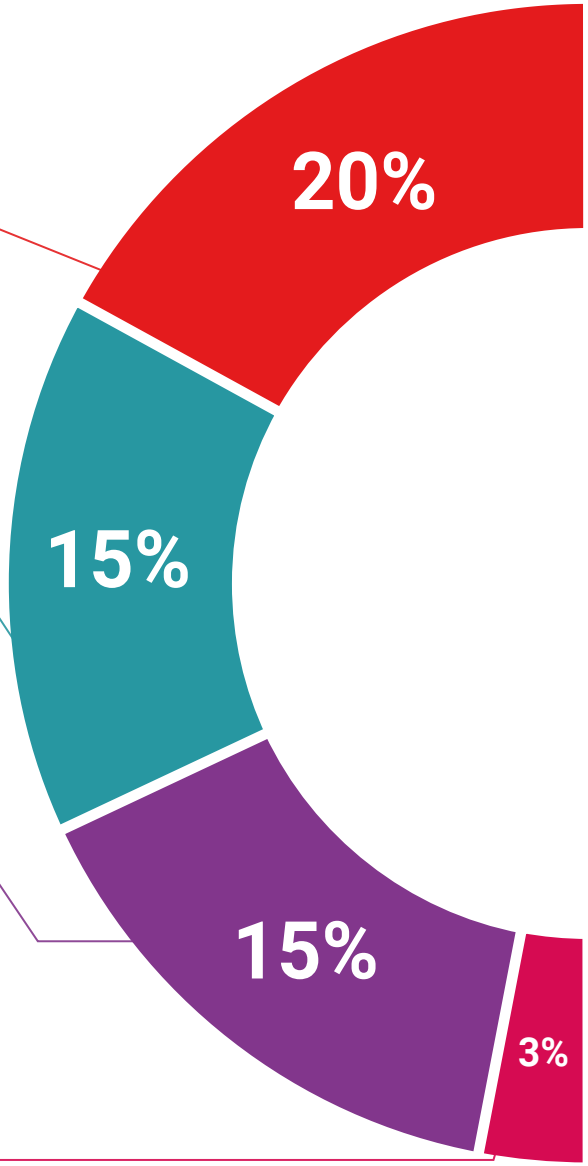
Interactive Summaries

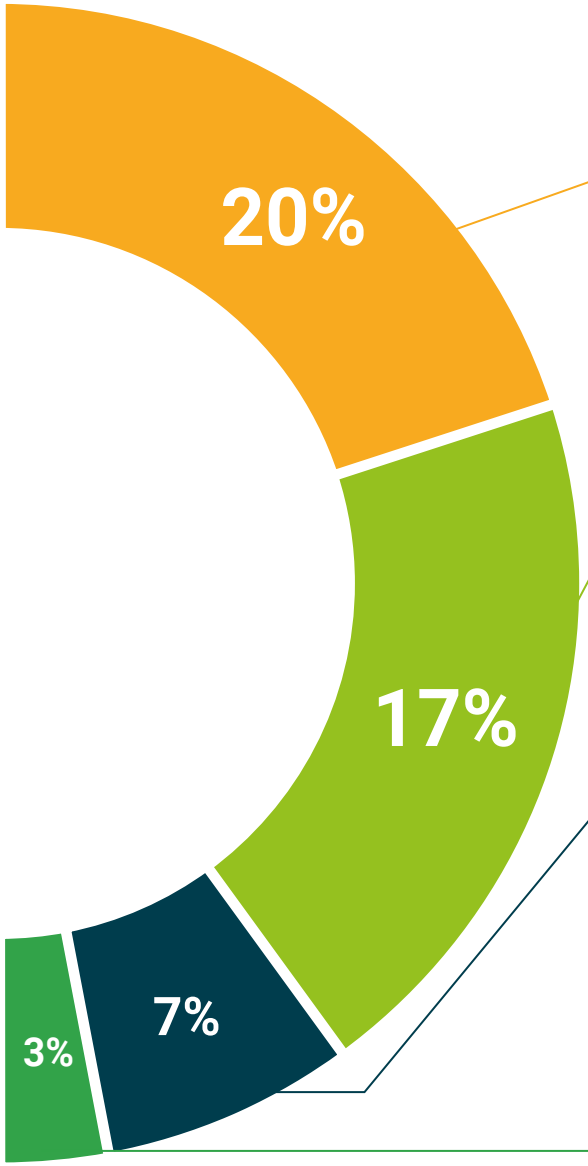
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.





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.

06

Certificate

The Postgraduate Diploma in Digital Technology in Dentistryguarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Diploma in Digital Technology in Dentistry** 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.

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.

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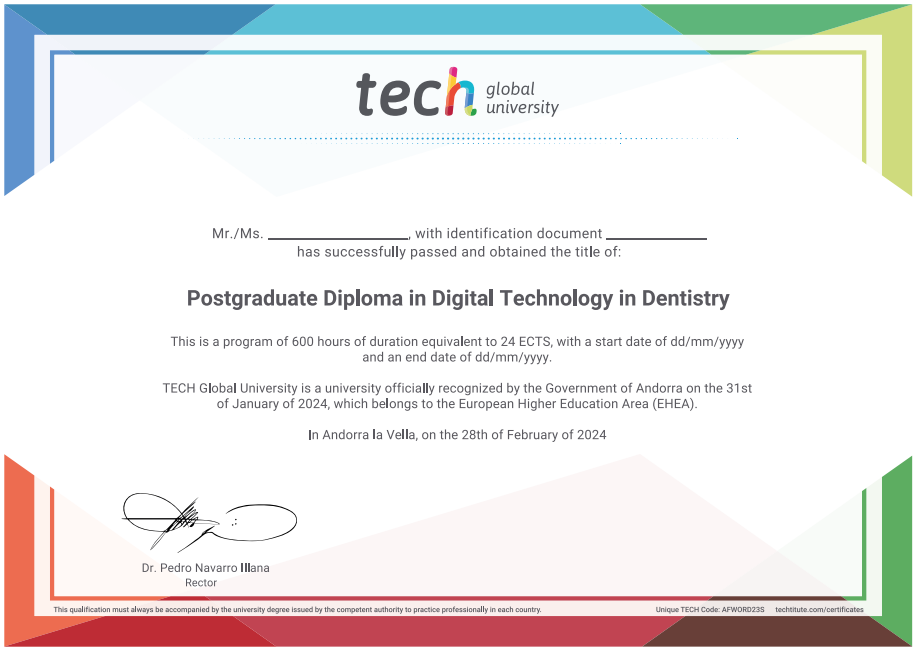
tech global university

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

Postgraduate Diploma in Digital Technology in Dentistry

This is a program of 600 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
Rector

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 Global University will make the necessary arrangements to obtain it, at an additional cost.

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