



# Master's Degree

Dentofacial Orthopedics

» Modality: online

» Duration: 12 months

» Certificate: TECH Global University

» Credits: 60 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/dentistry/master-degree/master-dentofacial-orthopedics

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# tech 06 | Introduction

Dentofacial Orthopedics aims to correct the width, length, or height of the jaws; to stimulate or inhibit jaw growth when it is altered; or to improve dental eruption. But there are other abnormalities that can be prevented or cured thanks to this specialty, such as the reduction or elimination of dental crowding; the correction of habits such as thumb sucking or abnormal swallowing, or asymmetry problems, as well as preserving spaces for permanent teeth that have not yet erupted.

This Master's Degree in Dentofacial Orthopedics will allow the student to review the fundamental knowledge of craniofacial growth and to understand the best way to guide abnormal growth in order to correct dental and facial malposition.

This training is distinguished by its order and distribution of theoretical material, guided practical examples in all its modules, and motivational and explanatory videos. This enables direct clinical management, guiding both the professional and the entire team towards the diagnosis, treatment, and monitoring of patients.

In this way, the student will learn about the most used and effective functional appliances, from expanders, disjunctors, and appliances, to the latest innovations in treatment with clear aligners.

In short, the objective is that the student, after completing this Master's Degree, will be able to completely diagnose patients' growth disorders and carry out effective treatment adapted to the patient's needs.

This **Master's Degree in Dentofacial Orthopedics** contains the most complete and upto-date scientific program on the market. The most important features of the program include:

- Developing practical cases presented by experts in Dentofacial Orthopedics.
- 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.
- The latest developments in Dentofacial Orthopedics.
- Practical exercises where the self-assessment process can be carried out to improve learning.
- Special emphasis on innovative methodologies in Dentofacial Orthopedics.
- 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.





This Master's Degree may be the best investment you can make when choosing a refresher program for two reasons: in addition to expanding your knowledge in Dentofacial Orthopedics, you will obtain a Master's Degree from TECH Global University".

The teaching staff includes a team of Orthodontic and Dentofacial Orthopedics specialists, who bring their experience to this training program, as well as renowned specialists from leading scientific societies.

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 program to train in real situations.

This program is designed around Problem Based Learning, whereby the orthodontist must try to solve the different professional practice situations that arise during the course. For this purpose, the dentist will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of Dentofacial Orthopedics with extensive teaching experience.

Do not hesitate to take our training program and enhance your daily practice.

This 100% online Master's Degree will allow you to combine your studies with your professional work while increasing your knowledge in this field.







# tech 10 | Objectives



# **General Objectives**

- Learn the basic principles of dentomaxillary orthopedics.
- Master the growth process to know how to try to guide it during orthopedic treatment.
- Be able to master the dental eruption process, as well as any possible anomalies.
- Recognize all the structures present in the tests to make a complete and accurate diagnosis, which is essential when choosing the ideal treatment.
- Learn how to perform the most commonly used cephalometry tests, which will provide important data on growth and will allow you to choose one treatment or another.
- Be able to identify vertical problems present in the patient and explain their most common manifestations.
- Learn to identify the manifestations of transversal problems in growth and their causes.
- Learn about all anteroposterior malocclusions and their complexities in order to choose the best possible treatment in each case.
- Learn the rules that must be followed in order to obtain harmonious growth, as well as the devices that exist to achieve it.
- Discover the impact that habits have on craniofacial development and the appliances we can use to correct these habits and allow the patient to develop correctly.
- Be able to identify asymmetries and define their etiology.

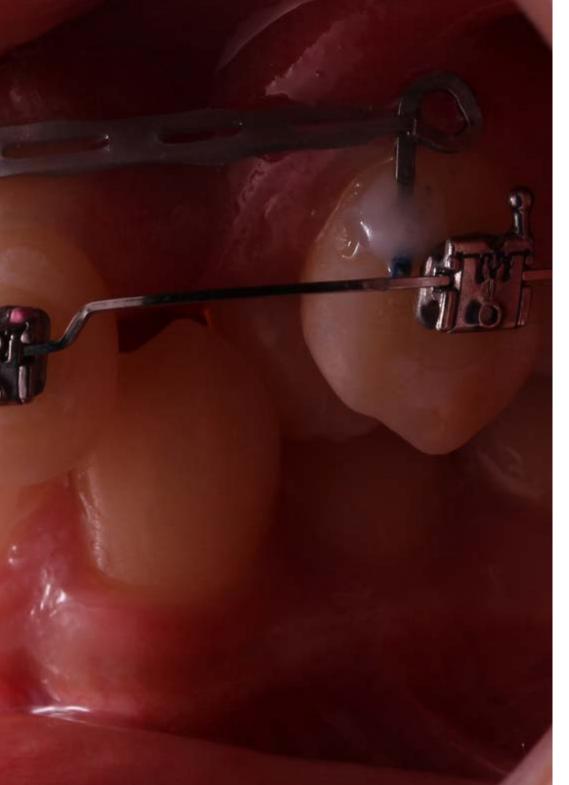






# **Specific Objectives**

- Learn the basic concepts of Orthopedics.
- Know the differences between Orthodontics and Orthopedics.
- Study the different types of forces present.
- Identify the classification and etiology of malocclusions.
- Discover the differences between interceptive and corrective treatment.
- Learn the importance of performing treatments in two phases.
- Recognize the limits of treatment in Orthopedics and the possibility of resorting to Orthognathic Surgery.
- Learn the fundamental concepts of craniofacial growth.
- Recognize the different phases that occur during growth.
- Understand the different accepted theories regarding skeletal growth.
- Know and identify cleft lip and palate.
- Learn the importance of performing orthopedic treatments when the patient is at the peak of growth.
- Learn the chronology and times of eruption.
- Recognize the possible abnormalities of tooth formation that can be found in patients.
- Understand the anomalies in eruption and how to identify them in patients.



# tech 12 | Objectives

- Be able to perform bone-tooth discrepancy and Bolton discrepancy analysis.
- Know how to identify all the structures present in the orthopantomographies, as well as any abnormalities that may exist.
- Be able to identify and analyze teleradiographs, and extract as much information as possible from them.
- Learn how to take quality intraoral and extraoral photographs for case studies and monitoring.
- Identify the latest 3D diagnostic images and the useful information obtained from them.
- Learn the basic concepts on which the cephalometric study is based.
- Identify the patients' current growth stage based on Hassel's stages.
- Perform the most commonly used cephalometric analyses, such as those developed by Steiner, Ricketts, McNamara, and Jarabak, and learn how to interpret the results.
- Recognize the use of overlays as a useful element to assess treatment progress.
- Identify frontal cephalometry, its structures, and the useful information it provides.
- Learn about wrist radiography for studying skeletal growth.
- Be able to identify a comprehensive diagnostic picture of the patient's problems for detailed study.
- Delve into the vertical problem of craniofacial growth.
- Recognize the clinical manifestations of vertical problems, such as open bite and deep bite.
- Describe the different vertical growth patterns, which will be very useful when choosing potential treatments.
- Recognize the prevalence and etiology of vertical growth disorders.
- Learn how to diagnose these vertical problems, by using various diagnostic tests.

- Understand how the occlusal plane is managed with the various appliances to try to improve patients' vertical growth.
- Learn about transverse syndrome and its manifestations.
- Identify the close relationship between transverse bone problems and the upper airway.
- Recognize the manifestations of a possible dentoalveolar compensation, masking a skeletal origin.
- Identify possible treatments for these transverse problems, such as maxillary disjunction or dentoalveolar expansion.
- Learn about the different appliances available to treat these malocclusions.
- Recognize the relationship of these transversal problems to skeletal Class IIIs.
- Know the latest forms of cross-sectional diagnostics and how to interpret them.
- Learn about anteroposterior syndrome and its possible manifestations.
- Learn about the relationship between anteroposterior problems and the lower airways.
- Recognize the prevalence and etiology of these malocclusions and learn to distinguish between a bone problem and a dental problem.
- Delve into normal occlusion or Class I to know which is the ideal occlusion.
- Identify Class II malocclusion and its particularities.
- Carefully analyze the treatment forms and appliances for skeletal and dental Class II.
- Learn the latest methods of mandibular advancement with clear aligners with the Invisalign System.
- Know the Class III malocclusion, both osseous and dental.
- Obtain the necessary knowledge to know how to manage these malocclusions, as well as the most effective appliances to treat them.
- Learn the use of appliances, such as the chin and face mask, which are very useful in these

patients with skeletal Class III.

- Apply skeletal Class III treatment with Bollard mini-plates outlined by Le Clerk, which, despite being more invasive, obtains a highly significant result.
- Review patient habits that influence these anteroposterior malocclusions.
- Learn the functional rehabilitation method described by Dr. Pedro Planas.
- Recognize the classification of functional lesions present in patients.
- Learn the fundamental laws of occlusion for normal craniofacial development.
- Identify the most effective treatments, from simple occlusal grinding to placing tracks.
- Know how to use functional devices in order to restore the patient's normal function.
- Recognize the importance of habits and the intimate relationship with the correct craniofacial development.
- Understand mouth breathing, its possible causes and treatment.
- Learn about muscular hypotonia syndrome and the most effective devices used to treat it.
- Learn to identify dysfunctional swallowing, how it affects the rest of the stomatognathic apparatus and its possible treatment.
- Identify the most common habits, such as lingual and labial interposition, their relationship with other malocclusions, and the importance of their treatment.
- Recognize thumb sucking habits in patients and how to prevent them from persisting over time.
- Know the most useful devices for treating habits.
- Recognize the importance of working together with a speech therapist to allow for normal craniofacial development over time.
- Identify the asymmetries present in patients and their particularities.

- Classify the asymmetries that can be found in order to improve the efficiency of treatments
- Recognize the etiology and prevalence of asymmetries in order to more effectively identify them.
- Learn the protocols for asymmetries according to their origin and current growth stage.
- Recognize the different existing devices available to treat asymmetries.





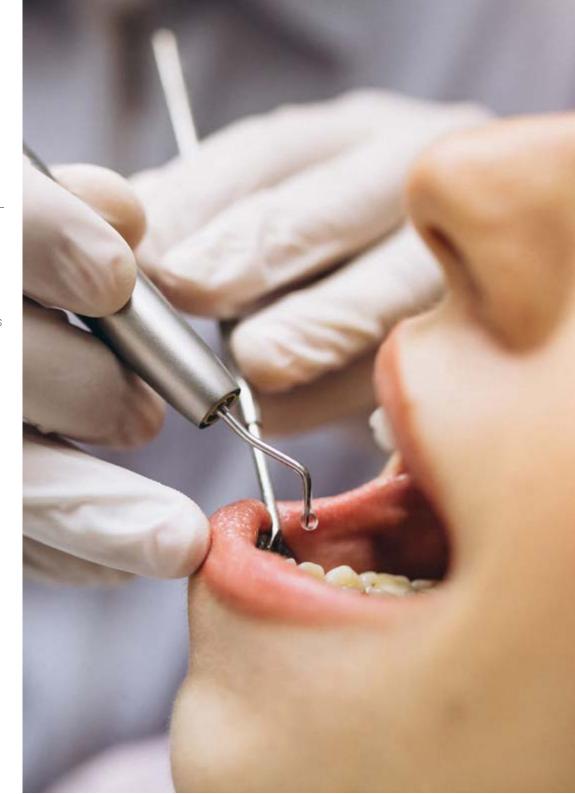
# tech 16 | Skills

# After completing this training, the professional will be able to:



# **General Skills**

- Recognize craniofacial growth and correct maxillofacial abnormalities.
- Correctly diagnose maxillofacial disorders.
- Identify the most effective techniques for the different problems patients may have.
- Offer accurate and effective treatments to patients, taking into account the latest advances in the field.





# **Specific Skills**

- Differentiate between orthopedics and orthodontics to be more effective in your daily practice.
- Classify malocclusions.
- Recognize the boundary between orthopedics and orthognathic surgery.
- Recognize the different stages of maxillofacial growth and the complexity of the process.
- Identify the growth rate of different body parts.
- Make more accurate diagnoses in order to treat patients better.
- Identify the entire eruption process, as well as the abnormalities during this process.
- Use different tools for dentofacial treatments.
- Identify and treat the different types of cephalometry.
- Perform different types of x-rays according to the disorder.
- Offer patients a comprehensive diagnosis.
- Identify the different vertical problems in craniofacial growth.
- Address the prevalence of malocclusions according to sex and race.
- Modify the occlusal plane with treatment, using functional and orthopedic appliances.
- Identify the transverse planes of malocclusions.
- Perform the two essential forms of treatment in this type of transversal problem.
- Differentiate between a transverse bone problem and a dentoalveolar compression.
- Distinguish a sagittal bone problem from a dental problem.
- Recognize the population groups in which malocclusions and facial biotypes are most frequently found.

- Identify the different types of malocclusions, both dental and skeletal.
- Recover the patient's muscular function through the influence of mastication on the development of the skull.
- Understand how chewing function can influence the correct development of certain malocclusions.
- Perform treatments to rehabilitate occlusal function, from simple occlusal selective grinding on primary teeth, to placing tracks and also by using functional appliances.
- Identify the importance of habits in the growth and development of the bones and muscles of the head and the rest of the body.
- Recognize the different habits that affect patients in this area, in order to correct them.
- Know the most important functional devices, which will help to correct these common habits and allow the patient to regain optimal muscular and skeletal function.
- Identify asymmetries, both functional and skeletal.
- Classify asymmetries by location and also by whether they are skeletal or non-skeletal.
- Use specific protocols to treat asymmetries, whether functional or skeletal, depending also on whether they are growing or not.





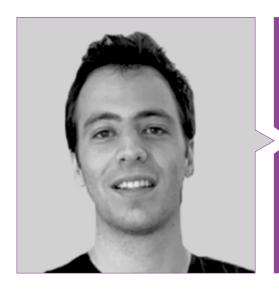
## Management



## Merino González, Belén

- Degree in Dentistry from the European University of Madrid.
- Postgraduate Degree in Surgery, Periodontics, and Implantology from the University of Alcalá de Henares.
- Management in the Surgery Department at Ziving Clinic.
- Collaborator on the TECH Master's Degree in Surgery.
- Associate Professor at Rey Juan Carlos University, Madrid. Surgery Department 2014-2015.
- Speaker at Madrid Dental Association Conferences.
- Surgery course leader.
- Daily practice in a private clinic specializing in Surgery, Implantology, and Periodontics.

### **Co-Direction**



## Merino González, Ramón

- Degree in Dentistry from San Pablo-CEU University.
- Postgraduate Degree in Orthodontics and Dentomaxillary Orthopedics from the University of Alcalá de Henares.
- Management in the Orthodontics and Orthopedics Department at Ziving Clinic.
- Preclinical TECH Master's Degree from the I.U. Mississippi.
- Orthodontist in a private clinic.







# tech 24 | Structure and Content

### Module 1. Introduction to Orthopedics

- 1.1. Basic Concepts.
- 1.2. The Difference between Orthopedics and Orthodontics.
- 1.3. Type of Forces.
  - 1.3.1. Physiological Forces.
  - 1.3.2. Functional Forces.
  - 1.3.3. Orthodontic Forces.
  - 1.3.4. Orthopedic Forces.
- 1.4. Biomechanics
- 1.5. Etiology of Malocclusions
- 1.6. Classification of Malocclusions
- 1.7. Interceptive Treatment
- 1.8. Corrective Treatment
- 1.9. Importance of Two-Phase Treatment.
- 1.10. Boundary between Orthopedics and Orthognathic Surgery

### Module 2. Growth

- 2.1. Definition.
  - 2.1.1. Growth.
  - 2.1.2. Development
  - 2.1.3. Translocation.
  - 2.1.4. Maturation.
- 2.2. Regularities of Growth and Development.
- 2.3. Complexity of the Process.
- 2.4. Growth Rate of Different Body Parts.
- 2.5. Craniofacial Growth Theories.
- 2.6. Cranial Vault and Base Growth.
- 2.7. Nasomaxillary Complex Growth.
- 2.8. Labiopalatal Fissures.
- 2.9. Jaw Growth.
- 2.10. Peak Growth Treatment.



#### Module 3. Diagnosis

- 3.1. Introduction to Diagnosis.
- 3.2. Eruption Chronology.
- 3.3. Formation Abnormalities.
  - 3.1.1. Agenesis.
  - 3.1.2. Supernumerary Teeth.
  - 3.1.3. Mesiodens.
- 3.4. Eruption Abnormalities.
  - 3.4.1. Ectopic Eruption.
  - 3.4.2. Included Teeth.
  - 3.4.3. Retained Teeth.
- 3.5. Bone-Tooth Discrepancy.
- 3.6. Bolton Discrepancy.
- 3.7. Orthopantomography.
- 3.8. Lateral Skull Teleradiography.
- 3.9. Intraoral and Extraoral Photographs.
- 3.10. 3D Imaging (CBCT, CT)

#### Module 4. Cephalometrics

- 4.1. Introduction to Cephalometry.
- 4.2. Hassel's Growth Stages.
  - 4.2.1. Initiation.
  - 4.2.2. Acceleration.
  - 4.2.3. Transition.
  - 4.2.4. Deceleration.
  - 4.2.5. Maturation.
  - 4.2.6. Completion.

- 4.3. Steiner's Cephalometric Analysis.
- 4.4. Ricketts' Cephalometric Analysis.
- 4.5. McNamara's Cephalometric Analysis.
- 4.6. Jarabak's Cephalometric Analysis.
- 4.7. Superpositions.
- 4.8. Frontal X-Ray.
- 4.9. Wrist X-Ray.
- 4.10. Comprehensive Diagnosis.

#### Module 5. Vertical Problem

- 5.1. Definition.
- 5.2. Open Bite.
- 5.3. Deep Bite.
- 5.4. Mesofacial Pattern.
- 5.5. Dolicofacial Pattern.
- 5.6. Brachyfacial Pattern.
- 5.7. Diagnosis.
- 5.8. Prevalence.
- 5.9. Etiology.
- 5.10. Occlusal Plane Management.

#### Module 6. Transversal Problem

- 6.1. Definition of Transversal Syndrome.
- 6.2. Relationship with the Airways.
- 6.3. Dentoalveolar Compensation (Pedro Lorente Table).
- 6.4. Dentoalveolar Expansion.
- 6.5. Maxillary Disjunction.
- 6.6. Types of Disjunctions.
- 6.7. Relation with Class III (Chin Strap and Facial Mask).
- 6.8. New Diagnostic Methods.

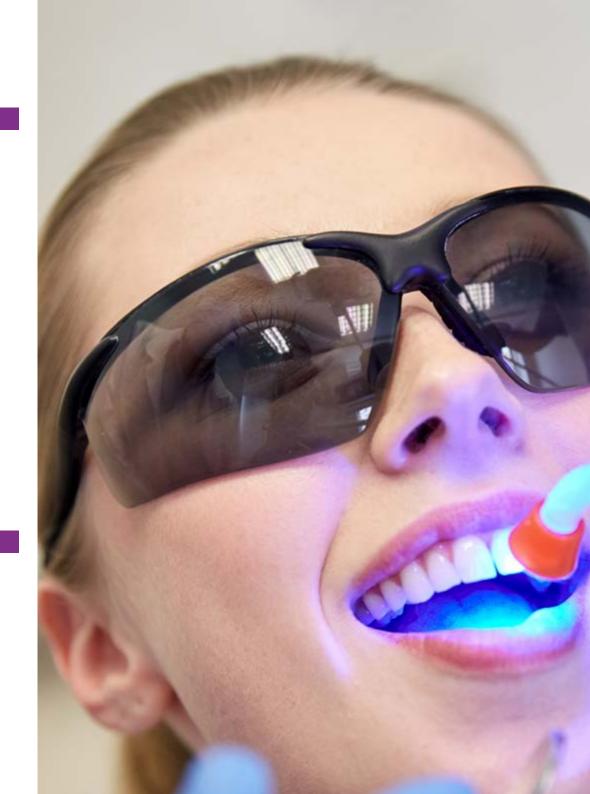
# tech 26 | Structure and Content

### Module 7. Sagittal Problem

- 7.1. Definition of Anteroposterior Syndrome.
- 7.2. Relationship with the Airways.
- 7.3. Prevalence.
- 7.4. Etiology.
- 7.5. Difference between Dental Class and Bone Class.
- 7.6. Class I Malocclusion.
- 7.7. Class II Malocclusion.
  - 7.7.1. Particularities.
  - 7.7.2. Herbst Appliance.
  - 7.7.3. Twin-Block Apparatus.
  - 7.7.4. Functional Appliances.
  - 7.7.5. Constructive Bite.
  - 7.7.6. ITMA (Invisalign®)
- 7.8. Class III Malocclusion.
  - 7.8.1. Particularities.
  - 7.8.2. Anterior Maxillary Traction.
  - 7.8.3. Facial Mask.
  - 7.8.4. Chin Strap.
  - 7.8.5. Protocols.
  - 7.8.6. Le Clerk Bollard Mini-Plates.
- 7.9. Associated Habits.

### Module 8. Neuro-Occlusal Rehabilitation

- 8.1. Concepts.
- 8.2. Minimally Invasive Orthodontics.
- 8.3. Classification of Functional Injuries.
- 8.4. Planar Laws.
- 8.5. Selective Grinding.
- 8.6. Direct Tracks.
- 8.7. Appliances.





# Structure and Content | 27 tech

### Module 9. Habits

- 9.1. Importance and Relationship with Development.
- 9.2. Mouth Breathing.
- 9.3. Muscle Hypotonia
- 9.4. Dysfunctional Swallowing.
- 9.5. Lingual Interposition.
- 9.6. Lip Interposition.
- 9.7. Thumb Sucking.
- 9.8. Habit Control Devices.
- 9.9. Speech Therapy.

### Module 10. Asymmetries.

- 10.1. Definition.
- 10.2. Classification of Asymmetries.
- 10.3. Etiology.
- 10.4. Functional Asymmetries Protocol.
- 10.5. Skeletal Asymmetries in Growth Protocol.
- 10.6. Asymmetric Appliances.
- 10.7. Functional Asymmetric Appliances.
- 10.8. Case Studies.







# tech 30 | Methodology

#### At TECH we use the Case Method

In a given clinical situation, what would you do? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Dentists learn better, faster, and more sustainably over time.

With TECH you can 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:

- Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
- 2. The learning process has a clear focus on 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.



# tech 32 | Methodology

### Re-learning Methodology

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

Our 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, which represent a real revolution with respect to simply studying and analyzing 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.



# Methodology | 33 tech

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 we have trained more than 115,000 students with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning 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 to success.

In our program, learning is not a linear process, but rather a spiral (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.

# tech 34 | Methodology

In this program you will have access to the best educational material, prepared with you 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 really specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### **Surgical Techniques and Procedures on Video**

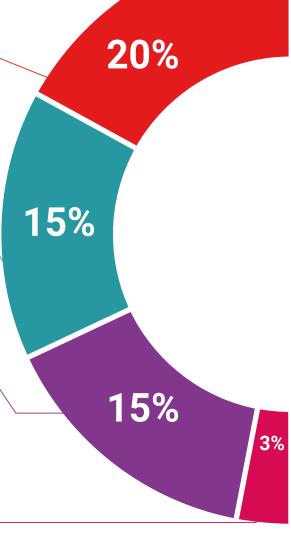
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current dental techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **Interactive Summaries**

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

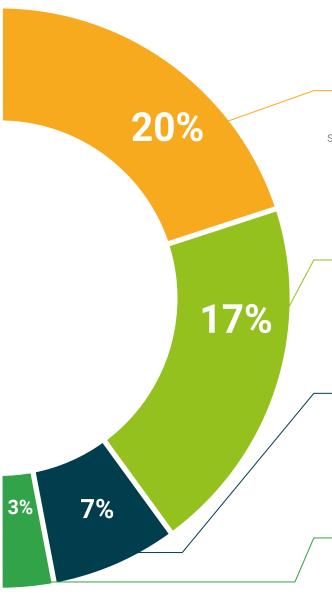
This multimedia content presentation training system was awarded by Microsoft as a "European Success Story".





#### **Additional Reading**

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.



#### **Expert-led case studies and case analysis**

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### **Testing & Re-testing**

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your 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 our future difficult decisions.

#### **Quick Action Guides**

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.







# tech 38 | Certificate

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

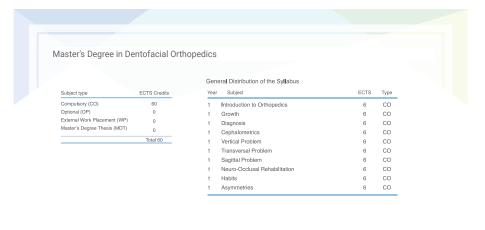
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Accreditation: 60 ECTS







<sup>\*</sup>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.

tech global university

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