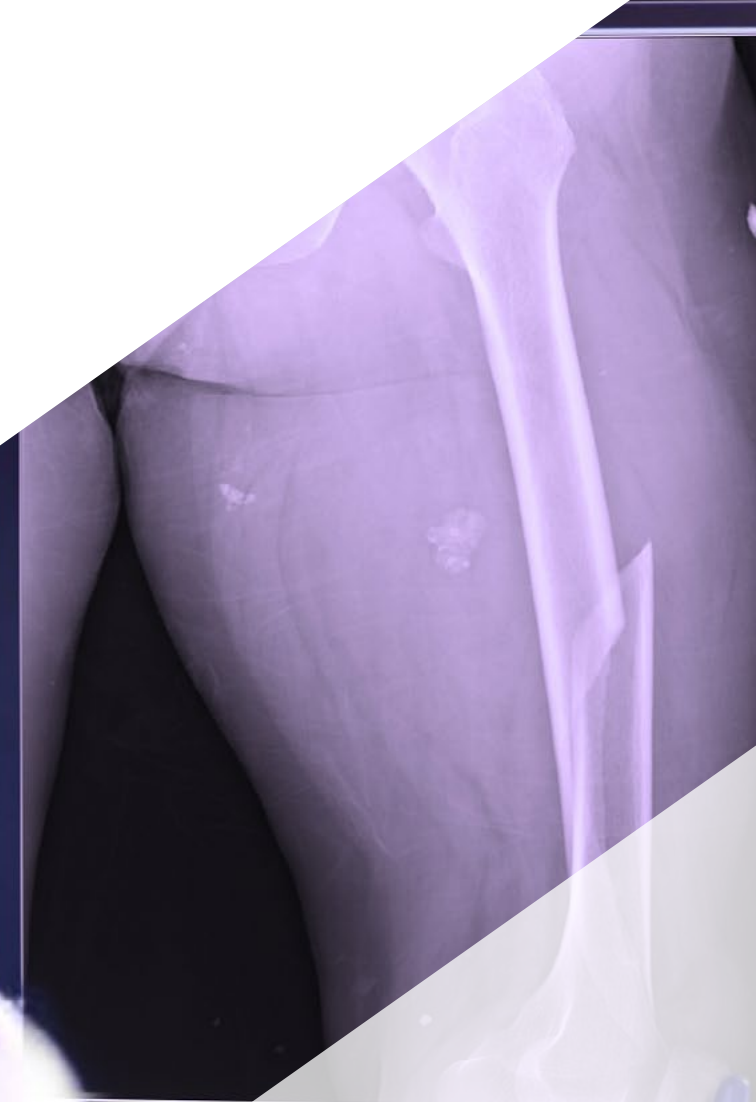


Postgraduate Diploma

Forensic Radiology in Bone Trauma





Postgraduate Diploma Forensic Radiology in Bone Trauma

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

Website: www.techtute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-forensic-radiology-bone-trauma

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 22

06

Certificate

p. 30

01

Introduction

Forensic Radiology has become a health discipline of great relevance to clarify the cause of death of individuals. This branch focuses on the application of imaging techniques to identify, evaluate and document bone abnormalities that may have legal implications (such as in cases of assault). In this regard, the role of nurses during these imaging procedures are key, as they mobilize the deceased to ensure correct positions for the studies. However, this requires a solid understanding of the different existing bone trauma. For this reason, TECH implements a 100% online university program that will delve into this subject to provide nursing staff with a comprehensive vision of skeletal injuries.



“

Through this Postgraduate Diploma, based on Relearning, you will have a robust knowledge of traumatic bone injuries and the most sophisticated imaging techniques for their evaluation"

The analysis of firearm injuries constitutes one of the most important areas in the field of Forensic Radiology. Despite the benefits of technologies such as Computed Axial Tomography, the identification and study of explosive fragments remains a challenge for professionals. In this regard, nurses provide important logistical support during radiological procedures by being in charge of moving the mortal remains. In this way, they ensure that the images to be obtained are distinguished by both their accuracy and quality. The images help to ensure that details of bone and soft-tissue injuries are reflected in the snapshots to help determine the cause of death.

From this perspective, TECH is developing a pioneering Postgraduate Diploma in Forensic Radiology in Bone Trauma for nurses who wish to optimize their clinical practice and develop advanced skills for the care of people who have suffered such injuries. The academic itinerary will focus on the analysis of radiological techniques in both bone and dental fractures, thus examining the most commonly used elements of blunt injuries (including sharp-edged and firearms). The program will also provide graduates with the most innovative radiological techniques for the study of different injuries. In this way, they will have an integral vision of the use of tools such as X-Rays, Magnetic Resonance Imaging or Computed Axial Tomography. Additionally, during the academic pathway they will acquire advanced interdisciplinary skills to foster a comprehensive assessment of bone trauma in forensic cases.

Regarding the methodology of the university program, TECH is based on the innovative *Relearning* teaching system. Based on the natural repetition of fundamental ideas, this method will ensure that graduates enjoy effective and progressive learning.

This **Postgraduate Diploma in Forensic Radiology in Bone Trauma** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of practical cases presented by experts in Forensic Radiology
- ◆ The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable for professional practice
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



You will have numerous clinical case studies that will increase your technical skills in the management of human bodies with total amputation injuries"

“

You will delve into Virtual Autopsy in deaths caused by firearm projectiles and provide more specialized care to individuals who have suffered these types of injuries"

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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

You will have a multimedia library that will strengthen your learning in a dynamic way, including interactive summaries of each module.

TECH offers you a 100% online university program, adapting to your needs and making it easier for you to complete it while you carry out your full-time healthcare activity.



02 Objectives

Through this university program, nurses will acquire both the knowledge and specific skills to collaborate effectively in the identification of traumatic bone injuries in forensic contexts. In turn, these professionals will be familiar with the most innovative forensic radiology techniques for the evaluation of bone trauma (including CT or MRI scans). Thanks to this, they will improve the care of individuals to ensure the quality of images in radiodiagnostic processes. Graduates will also enhance their communication skills to record findings in a detailed and rigorous manner.



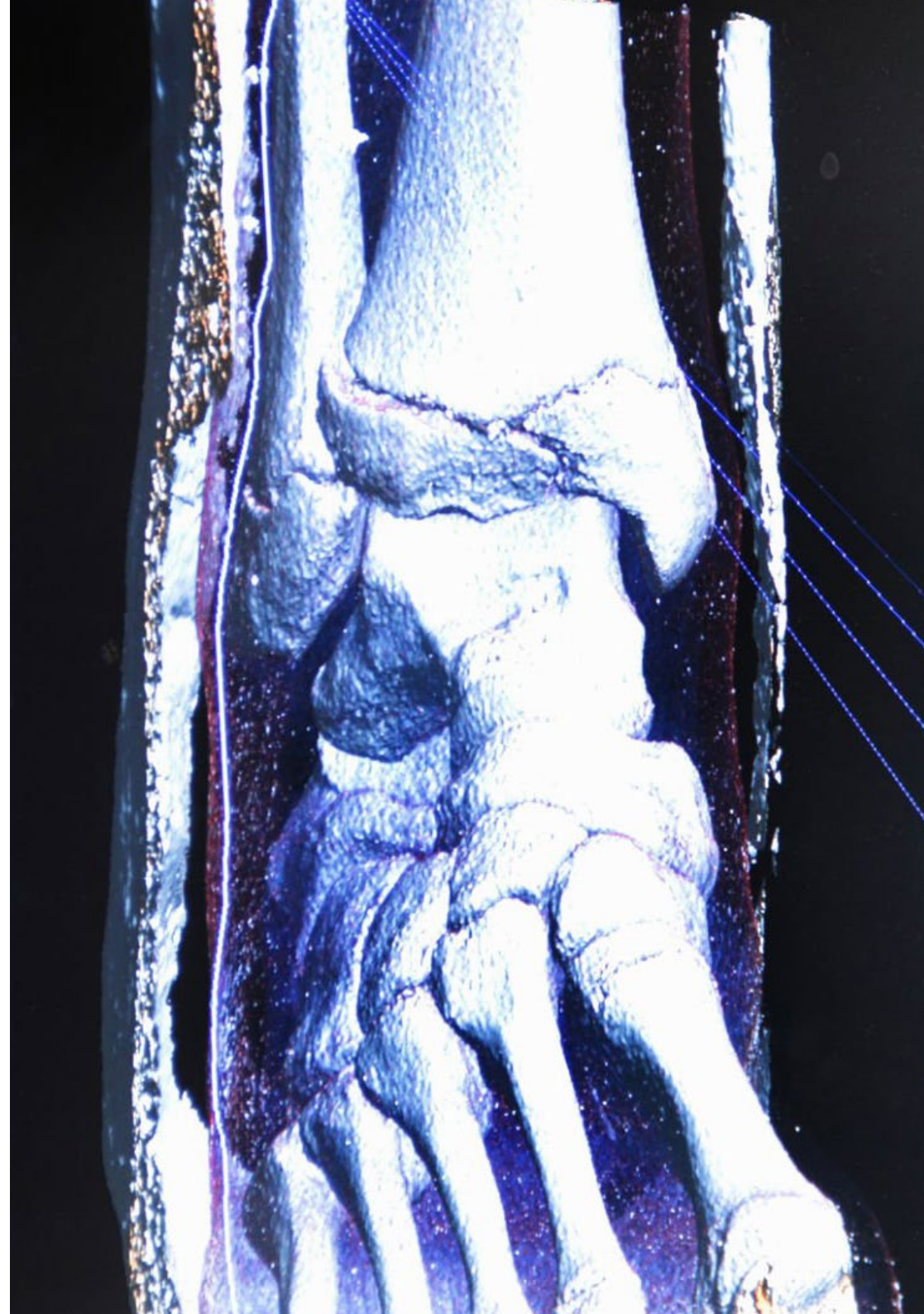
“

You will obtain multiple competencies that will enrich your care work and will make you grow professionally in the field of Forensic Radiology”



General Objectives

- ◆ Identify and recognize the different types of elements that generate blunt injuries in the individual
- ◆ Evaluate the physical and mechanical characterization behind each element to know how it works
- ◆ Recognize the different injury characteristics based on the type of weapon, mechanical application and nature of the tissue
- ◆ Define the extent of injuries to the tissues of the individual
- ◆ Identify and recognize the different types of elements that generate blunt injuries in the individual
- ◆ Evaluate the physical and mechanical characterization behind each sharp element to know how it works
- ◆ Recognize the different injury characteristics based on the type of weapon, mechanical application in the individual and the nature of tissue damage
- ◆ Define the extent of tissue injuries to the individual: superficial injuries, deep injuries and amputations
- ◆ Determine the use of radiology as an auxiliary method in the judicial process of crimes
- ◆ Identify injuries, mechanisms of injury and causes of death with firearms
- ◆ Identify injury patterns and causes of death with explosive elements
- ◆ Correctly interpret the different types of radiological techniques according to need, tissue condition and availability





Specific Objectives

Module 1. Forensic Radiological Techniques of Bone and Dental Trauma with Blunt Objects

- ♦ Assess the difference in injury between weapon, object, structure and blunt mechanism
- ♦ Recognize mixed injury patterns, such as those caused by short-blunt elements
- ♦ Fundamentals of radiodiagnostic techniques in deceased individuals from which no information can be obtained without altering the organic tissue, either because it is not possible to have access to the interior of the tissue, as in cases of charring or in alterations of human decomposition or because it cannot be altered for further studies
- ♦ Provide support to other disciplines to characterize the injuries of the individual

Module 2. Forensic Radiology of Trauma with Sharp and Cutting Elements

- ♦ Evaluate the difference in injury between weapon, object and cutting structure
- ♦ Recognize, in conjunction with the previous topic, mixed injury patterns, such as those caused by short-concussive elements
- ♦ Support the application of radiodiagnostic techniques in individuals in order to know the extent of the injuries and in deceased persons from whom no information can be obtained without altering the organic tissue
- ♦ Provide support to other disciplines to characterize the injuries of the individual

Module 3. Radiology of Firearms and Explosives Trauma in Forensic Investigation

- ♦ Identify the different types and patterns of injuries that can be generated by firearm projectiles and explosives
- ♦ Determine the different injuries and systemic compromises that can be generated by firearm projectiles and explosives
- ♦ Identify through radiodiagnostic means injured areas
- ♦ Interpret the role of radiology in the legal world



You will be up to date with the most sophisticated procedures for the characterization of wounds and firearm projectile trajectory"

03

Course Management

In order to provide educational excellence, for the design and delivery of this Postgraduate Diploma, TECH brings together a first class teaching staff. Highly specialized in Forensic Radiology in Bone Trauma, these professionals stand out for their extensive professional experience in this field. Additionally, in their commitment to provide the best services, they keep abreast of the latest technological advances in this field. Therefore, they have designed educational content of full applicability to help graduates optimize their daily practice and raise their professional horizons to a higher level.





“

*Throughout the academic itinerary,
you will be advised by a teaching
team composed of true professionals
in Forensic Radiology in Bone Trauma"*

Management



Dr. Ortega Ruiz, Ricardo

- ♦ Investigator of Crimes against Humanity and War Crimes
- ♦ Judicial Expert in Human Identification
- ♦ International Observer in Drug Trafficking Crimes in Iberoamerica
- ♦ Collaborator in police investigations for the search of missing persons in foot or canine tracking with Civil Protection
- ♦ Instructor of adaptation courses in Basic Scale to Executive Scale aimed at the Scientific Police
- ♦ Master's Degree in Forensic Sciences applied to the Search for Missing Persons and Human Identification by Cranfield University
- ♦ Master's Degree in Archeology and Heritage with the Specialty of Forensic Archeology for the Search of Missing Persons in Armed Conflict

Professors

Dr. Lini, Priscila

- ♦ Legal Advisor at the Federal Prosecutor's Office at the Federal University of Latin American Integration
- ♦ Technical Collaborator at the Public Defender's Office of the State of Mato Grosso do Sul
- ♦ Master's Degree in Law from the Pontifical Catholic University of Paraná
- ♦ Bachelor's Degree in Biological Sciences from Instituto Prominas
- ♦ Law Degree from State University of University Paraná (2007)
- ♦ Specialization in Physical and Forensic Anthropology from the Institute of Professional Training in Forensic Sciences



04

Structure and Content

This university program will provide graduates with specialized knowledge about the analysis of bone injuries using radiological techniques in the forensic context. Composed of 3 exhaustive modules, the study plan will delve into issues ranging from the types of injuries caused by blunt weapons or firearms to the analysis of the most common injuries due to these causes. The syllabus will delve into the use of state-of-the-art imaging equipment, among which Computed Axial Tomography stands out. Therefore, nurses will perform interdisciplinary collaborations to document the findings related to Bone Trauma, using an appropriate technical language.





“

The multimedia resources in this program will take you deeper into the radiological assessment of blast injuries in a more visual way”

Module 1. Forensic Radiological Techniques of Bone and Dental Trauma with Blunt Objects

- 1.1. Classification of Blunt Profile Injury Elements
 - 1.1.1. Blunt Weapons
 - 1.1.2. Blunt Objects
 - 1.1.3. Blunt Mechanical Force Injuries
 - 1.1.4. Structural Injuries
 - 1.1.5. Short Blunt Injuries
- 1.2. Injury Mechanics of Blunt Elements
 - 1.2.1. Blunt Weapons
 - 1.2.2. Blunt Objects
 - 1.2.3. Blunt Mechanical Force Injuries
 - 1.2.4. Injuries Through Structures
 - 1.2.5. Short Blunt Injuries
- 1.3. Injury Typologies of Blunt weapons
 - 1.3.1. Superficial Injuries
 - 1.3.2. Deep Injuries
 - 1.3.3. Total or Partial Amputation Injuries
- 1.4. Types of Injuries Caused by Blunt Objects
 - 1.4.1. Superficial Injuries
 - 1.4.2. Deep Injuries
 - 1.4.3. Total or Partial Amputation Injuries
- 1.5. Injury Typologies Due to Blunt Injury Mechanics
 - 1.5.1. Superficial Injuries
 - 1.5.2. Deep Injuries
 - 1.5.3. Total or Partial Amputation Injuries
- 1.6. Injury Typologies of Blunt Structures and Short-Contusive Elements
 - 1.6.1. Superficial Injuries
 - 1.6.2. Deep Injuries
 - 1.6.3. Total or Partial Amputation Injuries



- 1.7. Marks on the Skeleton of Injuries Due to Blunt Mechanics
 - 1.7.1. Blunt Weapons
 - 1.7.2. Blunt Objects
 - 1.7.3. Blunt Mechanical Force Injuries
 - 1.7.4. Injuries Through Structures
 - 1.7.5. Short Blunt Injuries
- 1.8. Radiological Techniques for the Study of Blunt Force Injuries
 - 1.8.1. X-Ray
 - 1.8.2. Computerized Axial Tomography
 - 1.8.3. Other Radiographic Techniques
- 1.9. Radiobiological Techniques for the Study of Injuries of Blunt Objects and Structures
 - 1.9.1. X-Ray
 - 1.9.2. Computerized Axial Tomography
 - 1.9.3. Other Radiographic Techniques
- 1.10. Radiobiological Techniques for the Study of Blunt Mechanical Injuries and Short Blunt Elements
 - 1.10.1. X-Ray
 - 1.10.2. Computerized Axial Tomography
 - 1.10.3. Other Radiographic Techniques

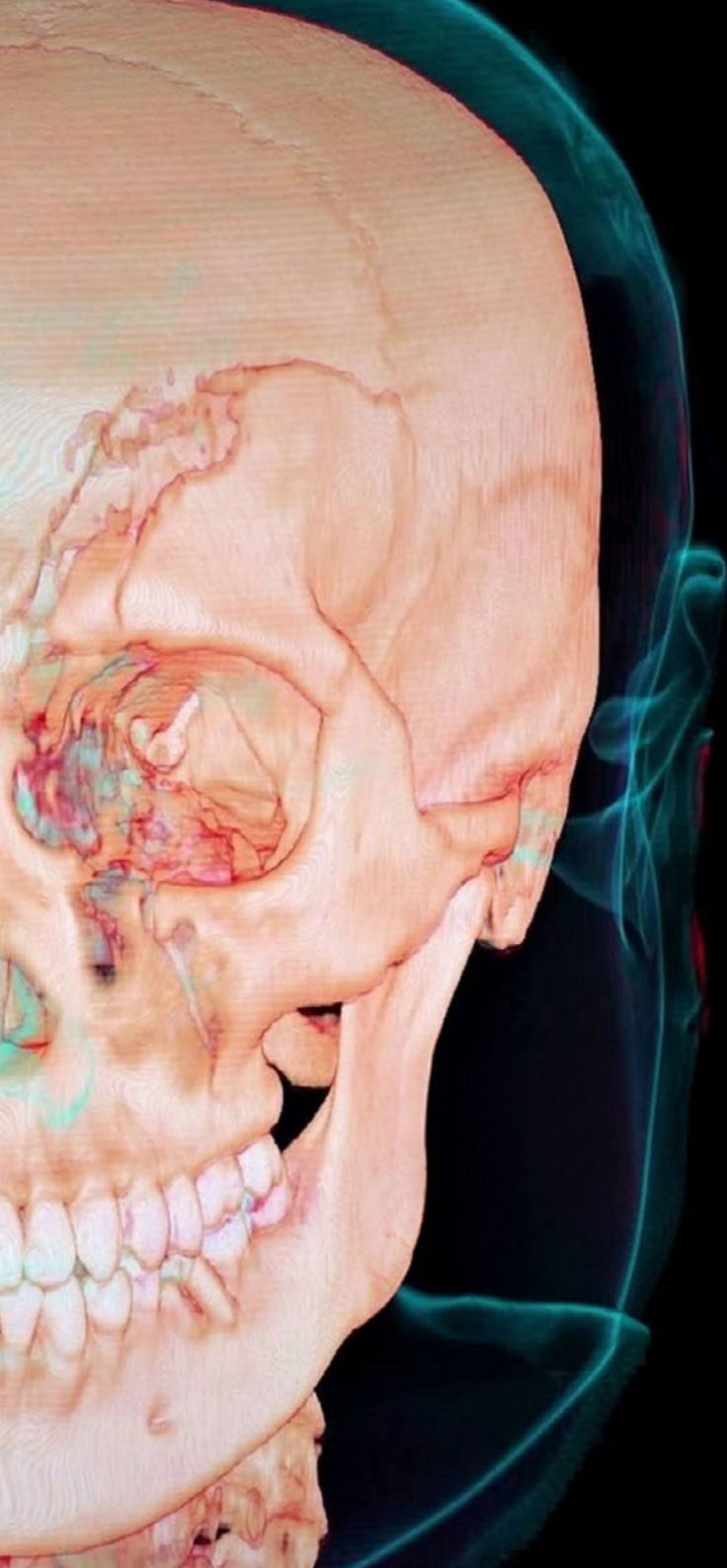
Module 2. Forensic Radiology of Trauma with Sharp and Cutting Elements

- 2.1. Classification of Sharp Weapons
 - 2.1.1. Cutting Weapons
 - 2.1.2. Sharp Weapons
 - 2.1.3. Sharps
- 2.2. Injurious Mechanics of Edged Weapons
 - 2.2.1. Cutting Weapons
 - 2.2.3. Sharp Weapons
 - 2.2.4. Sharps
- 2.3. Types of Injuries Caused by Cutting Weapons
 - 2.3.1. Superficial Injuries
 - 2.3.2. Deep Injuries
 - 2.3.3. Total or Partial Amputation Injuries
- 2.4. Injury Typologies of Sharp-Edged Weapons by Sharp Weapons
 - 2.4.1. Superficial Injuries
 - 2.4.2. Deep Injuries
 - 2.4.3. Total or Partial Amputation Injuries
- 2.5. Injury Typologies of Sharp-Edged Weapons by Sharps
 - 2.5.1. Superficial Injuries
 - 2.5.2. Deep Injuries
 - 2.5.3. Total or Partial Amputation Injuries
- 2.6. Skeletal Marks from Sharp-Edged Weapon Injuries
 - 2.6.1. Cutting Weapons
 - 2.6.2. Sharp Weapons
 - 2.6.3. Sharps
- 2.7. Radiological Techniques for the Study of Cutting Weapon Injuries
 - 2.7.1. X-Ray
 - 2.7.2. Computerized Axial Tomography
 - 2.7.3. Other Radiographic Techniques
- 2.8. Radiological Techniques for the Study of Sharps Injuries
 - 2.8.1. X-Ray
 - 2.8.2. Computerized Axial Tomography
 - 2.8.3. Other Radiographic Techniques
- 2.9. Radiological Techniques for the Study of Sharps Injuries
 - 2.9.1. X-Ray
 - 2.9.2. Computerized Axial Tomography
 - 2.9.3. Other Radiographic Techniques
- 2.10. Analysis of Lesions at the Maturation Stage and in Animals
 - 2.10.1. Cutting Lesions in Individuals in Early Stages of Maturation.
 - 2.10.2. Cut Marks on Individuals in Late Stages of Biological Maturation
 - 2.10.3. Cutting Injuries in Animals

Module 3. Radiology of Firearms and Explosives Trauma in Forensic Investigation

- 3.1. Firearms and Projectiles
 - 3.1.1. Classification of Firearms
 - 3.1.2. Elements that Compose a Firearm
 - 3.1.3. Structure of the Firearm
 - 3.1.4. Firearm Projectiles
- 3.2. Characterization of Wounds and Firearm Projectile Trajectory
 - 3.2.1. Entrance Orifice
 - 3.2.2. Trajectory
 - 3.2.3. Outlet Orifice
- 3.3. X-ray Technique and Firearm Projectiles
 - 3.3.1. Number of Projectiles
 - 3.3.2. Probable Trajectory
 - 3.3.3. Probable Caliber
 - 3.3.4. Type of Firearm
- 3.4. Axial Tomography and Firearm Projectiles
 - 3.4.1. Number of Projectiles
 - 3.4.2. Trajectory
 - 3.4.3. Type of Weapons Used
- 3.5. Ultrasound and Firearm Projectile
 - 3.5.1. Number of Projectiles
 - 3.5.2. Trajectory
 - 3.5.3. Type of Weapons Used
- 3.6. Virtual Autopsy in Deaths Caused by Firearm Projectile Wounds
 - 3.6.1. Simple Radiography
 - 3.6.2. Computerized Axial Tomography
 - 3.6.3. Magnetic Resonance





- 3.7. Explosives
 - 3.7.1. Typologies of Explosive Elements
 - 3.7.2. Categorization
 - 3.7.3. Mechanics of Explosions
- 3.8. Classification of Blast Injuries
 - 3.8.1. Primary
 - 3.8.2. Secondary
 - 3.8.3. Tertiary
 - 3.8.4. Quaternary
- 3.9. Radiodiagnostic Imaging in the Search for and Retrieval of Evidence
 - 3.9.1. Simple Radiography
 - 3.9.2. Computerized Axial Tomography
 - 3.9.3. Magnetic Resonance
- 3.10. Radiological Assessment of Blast Injuries
 - 3.10.1. Cranial
 - 3.10.2. Cervical
 - 3.10.3. Chest
 - 3.10.4. Abdomen
 - 3.10.5. Extremities



This university program will allow you, in only 450 hours, to experience a leap in quality in your profession. What are you waiting for to enroll?"

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.





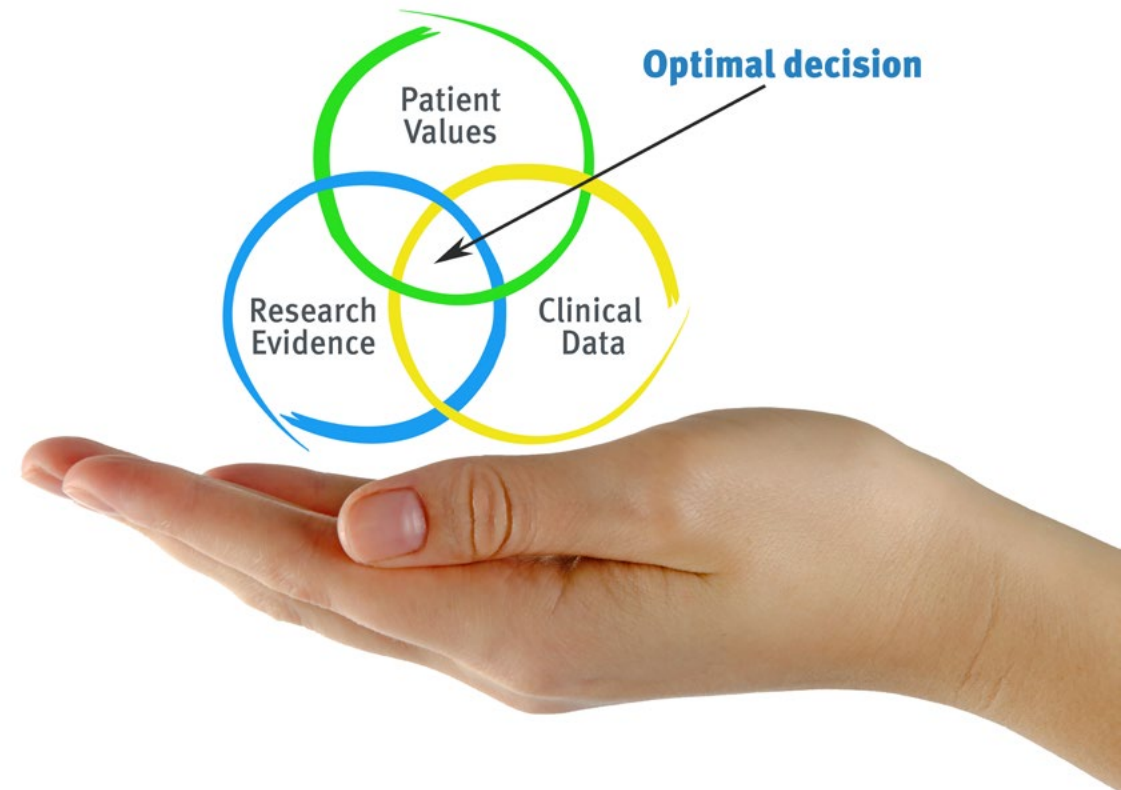
“

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 Nursing School 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. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing 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. Nurses 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 nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.



The nurse 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 175,000 nurses with unprecedented success in all specialities regardless of practical 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 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 really 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.



Nursing Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, 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 them as many times as you want.



Interactive Summaries

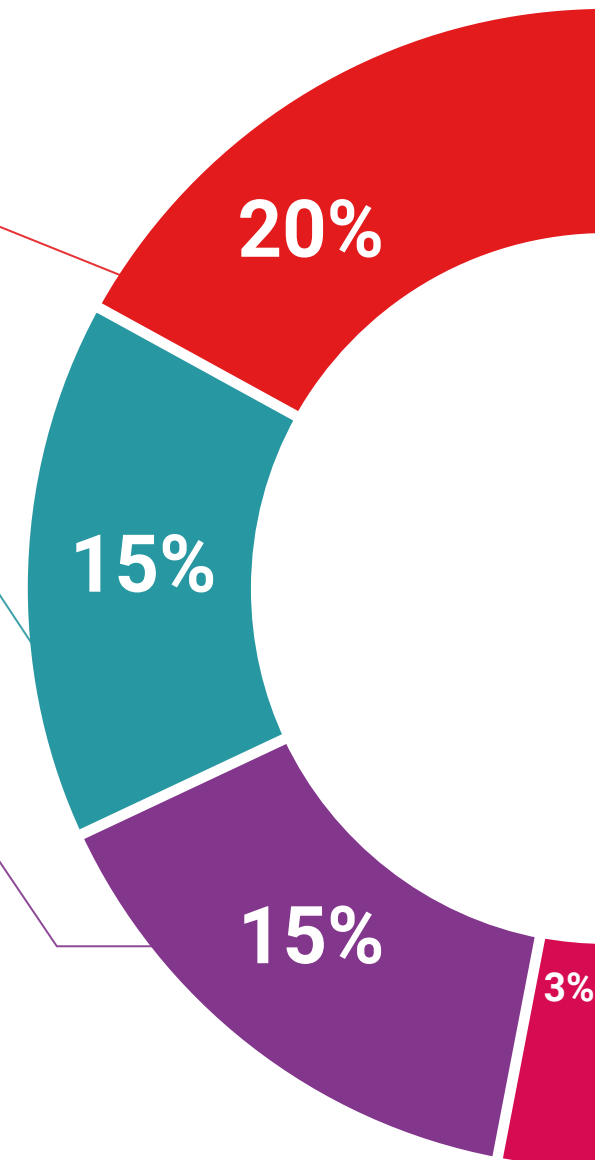
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

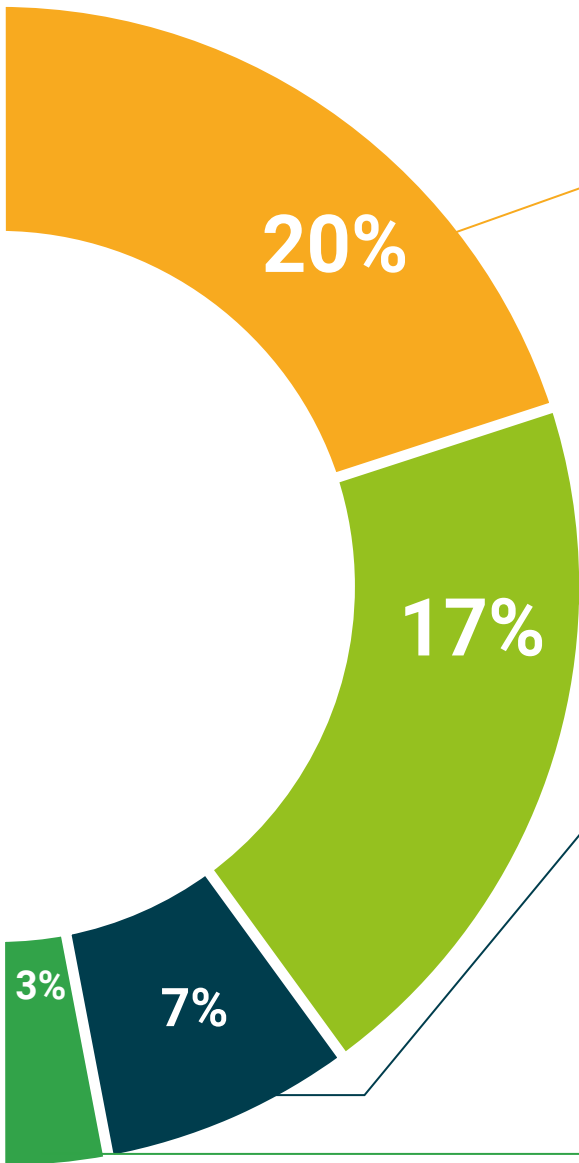
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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 Forensic Radiology in Bone Trauma guarantees students, in addition to the most rigorous and up-to-date education program, 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 a **Postgraduate Diploma Forensic Radiology in Bone Trauma** 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.

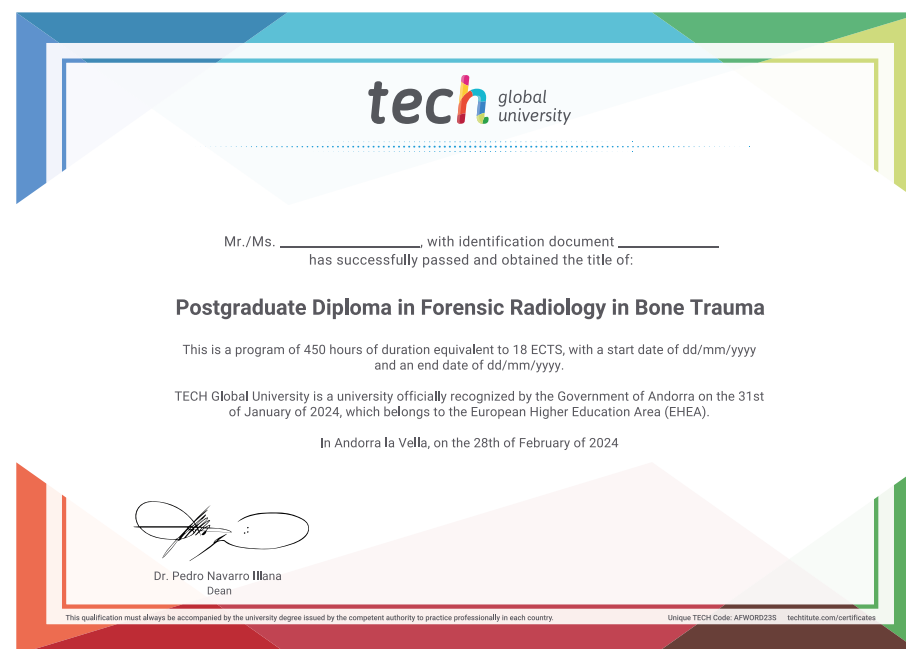
This **TECH Global University**, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Forensic Radiology in Bone Trauma**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**



*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.

future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
online trauma
development language
classroom



Postgraduate Diploma Forensic Radiology in Bone Trauma

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Postgraduate Diploma

Forensic Radiology in Bone Trauma