

Professional Master's Degree

Update on Diagnostic and
Therapeutic Techniques
in Radiology



Professional Master's Degree

Update on Diagnostic and Therapeutic Techniques in Radiology

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/medicine/professional-master-degree/master-update-diagnostic-therapeutic-techniques-radiology

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01

Introduction

Diagnostic and Therapeutic Radiology is of fundamental importance in the efficient management of patients. The knowledge of new techniques, indications and their implementation in the diagnosis and treatment of patients, make it essential to always be aware of the most up-to-date information on radiology. This program presents the latest advances in the different areas where diagnosis and treatment have the biggest impact.





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New techniques and protocols of action in the diagnosis and therapeutic processes of patients, make it essential to always be aware of the most up-to-date information on radiology”

Radiology has been increasing in importance in the healthcare system. The support of medical radiology has become essential in the routine medical practise in other specialisms. Technology today facilitates the performance of imaging tests that not long ago required surgical interventions, and the associated risks, in order to gain access to the evidence that allows you to make the appropriate diagnostic judgment in each case.

An early and precise diagnosis increases survival rates and lowers the morbidity of The patients. Therefore, a radiologist is a fundamental part of providing quality medical care, integrating the technological advances in radio-diagnosis into the medical practice of the rest of the specialisms.

Similarly, percutaneous treatments have also evolved rapidly in recent years, due to the constant development of new materials and equipment. For this reason, the specialist must undergo continuous learning in order to be kept up to date and to offer the best care in diagnostic and therapeutic procedures that medicine allows at any given time.

This **Professional Master's Degree in Update on Diagnostic and Therapeutic Techniques in Radiology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- More than 150 clinical cases, recorded with POV (*Point Of View*) systems from different angles, presented by experts in surgery and other specialisms
- 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
- Presentation of practical workshops on procedures and techniques.
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course.
- Action protocols and clinical practice guidelines which cover the most important latest developments in this specialist area
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- Special emphasis on test-based medicine and research methodologies in radiology
- Content that is accessible from any fixed or portable device with an Internet connection



Bring your knowledge up to date with the Professional Master's Degree in Update on Diagnostic and Therapeutic Techniques in Radiology"

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This Professional Master's Degree is the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge in Update on Diagnostic and Therapeutic Techniques in Radiology, you will obtain a qualification from TECH Global University”

The teaching staff includes a team of healthcare professionals, 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 an immersive program designed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the radiologist must try to solve the different professional practice situations that arise throughout the program. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of Radiology with extensive teaching experience.

Improve your daily medical practice with this specialized program.

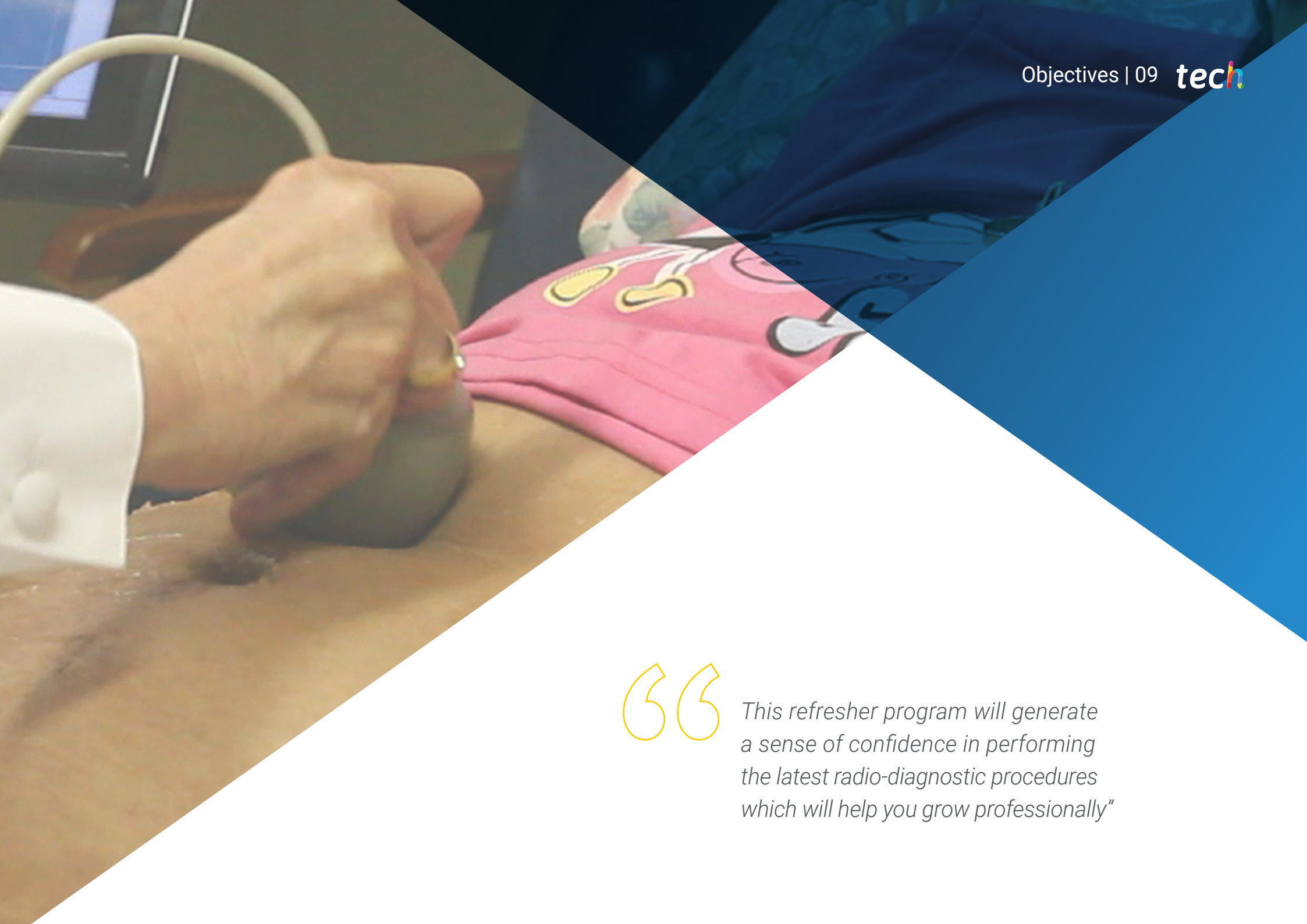
Increase your decision-making confidence by updating your knowledge through this Professional Master's Degree.



02 Objectives

The program is aimed at providing the specialist with the possibility of being up to date in the field of radiology, making use of the latest video and image recording techniques in state-of-the-art hospitals. To this end, the latest educational technology is made available, allowing the exchange of knowledge and experience to keep up to date with the most important developments in the field of diagnostic and therapeutic radiology.





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This refresher program will generate a sense of confidence in performing the latest radio-diagnostic procedures which will help you grow professionally”



General Objectives

- ◆ Know about the latest contributions to radiological diagnosis and treatment which has a positive impact in curing and improving the quality of life of your patients
- ◆ Increase the degree of knowledge in diagnostic and therapeutic radiology in the subspecialties of neurology, sensory organs, pneumology, cardiology, gastroenterology, urology, traumatology, women's pathology and angiology
- ◆ Implement the protocols for medical management of the patient in diagnostic and therapeutic radiology
- ◆ Recognize the new materials used in interventional radiology





Specific Objectives

Module 1. Management in Radiology

- Know about how to manage a radiology department
- Revise the importance of radiological information and the evolution towards a structured report
- Analyze the medical legal implications in radiological practice
- Recognize radiological advances in cerebrovascular disease and protocolize the radiologist's actions in the code stroke
- Analyze the image findings in craniocerebral trauma
- Identify the MR semiology of demyelinating diseases and evaluate the response to treatment
- Describe the radiological findings in dementia and neurodegenerative diseases
- Know the basic concepts of cerebral malformations and evaluate the types of hydrocephalus
- Evaluate infectious diseases with neuroaxis involvement
- Recognize the pathological signs of the hypothalamic-pituitary axis
- Evaluate CT and MRI findings of CNS neoplasms
- Know the different evaluation systems for the response to treatment in CNS neoplasms
- Discriminate between treatment response, pseudoresponse, pseudoprogression and disease progression

Module 2. Neuroradiology

- Analyze the findings of diagnostic radiology techniques in ophthalmologic pathology
- Describe the radiological semiology of skull trauma
- Identify the signs in different radiological techniques for use in nasosinusal pathology
- Know how to stage pharyngeal and laryngeal neoplasms radiologically

Module 3. Sensory Organs

- Recognize in the different radiological techniques the pathology affecting the airspace, mediastinum and pleura
- Diagnose and stage lung cancer using radiological techniques
- Evaluate the response to lung cancer treatment

Module 4. Abdomen

- Describe abdominal aortography and arteriography, their indications, alternatives, and medical management
- Describe the arteriography of visceral digestive trunks, their indications, alternatives, and medical management
- Stage and evaluate the response to pancreas cancer treatment
- Analyze the radiological semiology of splenic lesions
- Diagnose and evaluate the response to radiological technique treatments for inflammatory bowel disease

Module 5. Chest

- ♦ Identify the main techniques for X-rays
- ♦ Analyze the different types of Pathologies that exist in the thorax
- ♦ Delve into COPD, ILD and general diseases
- ♦ Make an accurate diagnosis to identify possible tumors in the area
- ♦ Identify the main vascular pathologies and their possible medical treatment

Module 6. Musculoskeletal System (MSK)

- ♦ Analyze the radiological findings of disc and joint pathology of the spine
- ♦ Identify the changes produced by trauma pathology and spinal neoplasm
- ♦ Evaluate the radiological semiology (X-ray, ultrasound and MRI) of rotator cuff pathology
- ♦ Recognize injuries secondary to gleno-humeral dislocation with radiological techniques

Module 7. Breast

- ♦ Revise the technological advances for the study of breast pathology (elastography, tomosynthesis and contrast mammography)
- ♦ Systematize the reading and radiologic report of breast cancer with Bi-RADS
- ♦ Systematize percutaneous sampling with FNA or BAG in breast pathology
- ♦ Analyze the findings for the correct local staging of breast cancer
- ♦ Assess the response to treatment of breast cancer with radiological techniques

Module 8. Gynecology

- ♦ Describe the functioning of radiology of the benign pathology of the uterus and adnexa
- ♦ Understand and treat the staging of uterine and cervical cancer
- ♦ Know the different imaging techniques in ovarian cancer

Module 9. Trending topic

- ♦ Know how to establish and recognize the biomarkers in imaging
- ♦ Perform a dual-energy CT and multi-parametric studies in radiology

Module 10. Management and Organization in Image-Guided Therapy

- ♦ Describe the importance of informed consent in Interventional Radiology
- ♦ Understand in depth the operation of the outpatient department and the Interventional Radiology department
- ♦ Know how to apply the different types of anesthesia in Interventional Radiology: local, sedation, analgesia and nerve blocks

Module 11. Basis of Intervention Procedures

- ♦ Describe the techniques for therapeutic neuro-interventionism, their indications, alternatives, and medical management
- ♦ Address the treatment of cerebral vasospasm, ischemic stroke and intracerebral AVMs
- ♦ Identify the spinal vascular malformations

Module 12. Materials in Interventional Techniques

- ♦ Know the most commonly used materials in neuro-interventionism
- ♦ Know and identify vascular, oncologic, musculoskeletal, drainage and non-vascular interventional materials, as well as materials for drainage and non-vascular interventions

Module 13. Venous and Lymphatic Interventional Procedures

- ♦ Identify invasive diagnostic techniques in venous pathology of upper and lower limbs
- ♦ Review the latest evidence in superior and inferior vena cava tumor obstructive pathology
- ♦ Analyze the latest advances in venous thromboembolic disease
- ♦ Increase knowledge of central venous access techniques and placement of catheters and central venous devices
- ♦ Management of intravenous dialysis catheters
- ♦ Increase knowledge about percutaneous lymphatic venous system access and invasive diagnosis and therapy of the lymphatic system
- ♦ Apply indications and techniques for transjugular liver biopsy and hepatic hemodynamic study as , well as venous sampling
- ♦ Distinguish the different percutaneous techniques and strategies for the treatment of venous insufficiency in the lower extremities

Module 14. Vascular Diagnosis

- ♦ Gain up-to-date knowledge on invasive vascular diagnostic procedures at the level of the thorax, abdomen and lower limbs
- ♦ Increase knowledge of dilatation and *stenting* techniques in the peripheral vascular system
- ♦ Describe the techniques of thrombectomy and fibrinolysis of the peripheral vascular system
- ♦ Describe the techniques for vascular therapy, their indications, alternatives, and medical management

Module 15. Vascular Therapy

- ♦ Update the techniques of exoplasty and vascular recanalization in the abdominal visceral trunks
- ♦ Correctly apply the treatment of aneurysmal disease at the level of the visceral trunks of the abdominal aorta
- ♦ Recognize the differences between the techniques of endoprosthesis implantation in aortic aneurysms
- ♦ Review the latest revascularization techniques in the treatment of the diabetic foot
- ♦ Gain up-to-date knowledge procedures for stenting, tightening and balloon dilations in the peripheral vascular system

Module 16. Embolotherapy

- ♦ Describe the techniques of renal, prostate, uterine, portal and trauma embolization, their indications, alternatives and medical management
- ♦ Describe chemoembolization and hepatic DEBIRI, its indications, alternatives, and medical management
- ♦ Gain up-to-date knowledge of non-invasive diagnostic procedures for the detection of arterial and venous bleeding
- ♦ Increase knowledge of non-invasive diagnostic techniques in the study of vascular malformations
- ♦ Recognize and apply the indications for treatment by embolotherapy in the different vascular territories and clinical scenarios
- ♦ Review the latest endovascular image-guided embolotherapy techniques
- ♦ Describe the treatment of emergencies in embolotherapy

Module 17. Diagnostic Punctures

- ♦ Systematize the technique of joint puncture for arthrography
- ♦ Compare and evaluate the basic techniques of puncture biopsy and puncture drainage in interventional radiology

Module 18. Diagnostic Neuro-interventionism

- ♦ Review the latest endovascular techniques for the treatment of cerebral aneurysms
- ♦ Describe the treatment of neuro-interventional emergencies (epistaxis and hemorrhages in the otorhinolaryngological area)
- ♦ Gain up-to-date knowledge on the diagnostic and therapeutic algorithm for dural fistulas and intracerebral arteriovenous malformations

Module 19. Therapeutic Neuro-interventionism

- ♦ Identify and indicate the treatment of ischemic stroke using endovascular salvage techniques, angioplasty and *stent* placement
- ♦ Gain up-to-date knowledge of invasive diagnostic procedures by intracerebral and spinal arterial catheterization, as well as venous sampling techniques and intracerebral pharmacological provocation
- ♦ Recognize pre-surgical tumor embolization techniques in neuroradiology

Module 20. Musculoskeletal Interventionism

- ♦ Analyze trauma and degenerative pathology of the wrist with radiological techniques
- ♦ Diagnose pelvic injuries with MRI
- ♦ Recognize the different types of meniscus tears with MRI
- ♦ Identify the normal anatomy and the semiology of knee ligament injuries
- ♦ Evaluate cartilaginous lesions of the knee and arthropathies
- ♦ Analyze post-traumatic lesions of the ankle with imaging techniques
- ♦ Use ultrasound and MRI to recognize sporting muscle injuries
- ♦ Analyze the technique and indications of dual-energy CT

Module 21. Urologic Interventionism

- ♦ Describe the techniques of urologic interventionism, its indications, alternatives and medical management
- ♦ Systematize the reading and radiological evaluation of peritoneal carcinomatosis
- ♦ Recognize the advances in assessing the response to treatment with imaging diagnostic techniques in rectal cancer
- ♦ Evaluate the technique, indications and semiology of virtual colonoscopy with CT
- ♦ Analyze the findings of radiological techniques in pelvic floor pathology
- ♦ Recognize radiological surgery of urologic neoplasms
- ♦ Systematize the reading and radiologic report of prostate cancer with PI-RADS

Module 22. Thoracic Interventionism

- ♦ Describe the radiological semiology of thoracic vascular pathology
- ♦ Evaluate the anatomy and cardiac pathology with CT and MRI
- ♦ Recognize the latest advances in a cardiac CT and cardiac MRI
- ♦ Revise the technological advances in image biomarkers
- ♦ Assess the methodology of multi-parametric studies in radiology

Module 23. Puncture Drainage

- ♦ Identify the indications for biliary and abscess drainage, its approaches and technique
- ♦ Provide basic and advanced knowledge for the proper development of biopsy puncture techniques in the different visceral territories using imaging methods

Module 24. Ablative techniques

- ♦ Describe the ablative techniques, their indications, alternatives, and medical management
- ♦ Correctly apply the different ablative techniques used in image-guided therapy in oncology



Module 25. Other Aspects of Interest in Interventional Radiology

- ♦ Describe current techniques and protocols for foreign body removal
- ♦ Understand multimodality fusion
- ♦ Apply nanoparticles to the future of interventional radiology

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A unique Internship Program that will enable you to acquire superior education for development in this field”

03

Competencies

After passing the assessments on the Professional Master's Degree in Update on Diagnostic and Therapeutic Procedures in Radiology, the student will have acquired the necessary professional skills for quality, up-to-date practice based on the most recent scientific evidence.





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With this program, you will be able to master the new diagnostic and therapeutic procedures in Radiology”



General Skills

- ♦ Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- ♦ Know how to apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the field of study
- ♦ Integrate knowledge and face the challenge of making judgements based on incomplete or limited information. In addition, include reflections on the social and ethical responsibilities linked to implementing this knowledge and judgement
- ♦ Know how to communicate conclusions, knowledge, and supporting arguments to specialized and non-specialized audiences in a clear and unambiguous way
- ♦ Acquire the learning skills that will enable further studying in a largely self-directed or autonomous manner
- ♦ Develop within the profession in terms of working with other health professionals, acquiring skills to work as a team
- ♦ Recognize the need to maintain your professional skills and keep them up to date, with special emphasis on autonomous and continuous learning of new information
- ♦ Develop the capacity for critical analysis and research in your professional field





Specific Skills

- ♦ Identify the ICT advances involved in the radiology process
- ♦ Explain the importance of radiological information and the evolution towards a structured report
- ♦ Identify the medical legal implications in radiological practice
- ♦ Describe the radiologic semiology of virtual colonoscopy with CT, ligament injuries of the knee, ovarian cancer, demyelinating diseases, traumatic disc disease, thoracic vascular pathology, splenic lesions, rotator cuff pathology, urologic neoplasms
- ♦ Analyze the radiological advances in cerebrovascular disease, in cardiac CT and cardiac MRI, in the assessment of response to treatment with imaging diagnostic techniques in rectal cancer, in the study of breast pathology and in imaging biomarkers
- ♦ Protocol in a timely manner the radiologist's actions in code stroke
- ♦ Describe radiological findings in cranioencephalic trauma, imaging biomarkers, phakomatosis, ophthalmologic pathology, pelvic floor pathology, disc and joint pathology of the spine and in benign pathology of the uterus and adnexa
- ♦ Assess the response to treatment of demyelinating diseases
- ♦ Identify infectious diseases with neuroaxis involvement
- ♦ Explain the different evaluation systems for the response to treatment in CNS neoplasms
- ♦ Define and differentiate between treatment response, pseudoresponse, pseudoprogression and disease
- ♦ Radiologically stage pharyngeal and laryngeal neoplasms
- ♦ Identify the pathology affecting the airspace, mediastinum and pleura in radiology
- ♦ Use the different radiological contrasts for ultrasound, CT and MRI
- ♦ Precisely evaluate focal and diffuse liver pathology
- ♦ Evaluate the pathology of the biliary tract with radiological techniques
- ♦ Evaluate the seriousness of acute pancreatitis with CT
- ♦ Identify poor prognostic signs of rectal cancer with MRI
- ♦ Manage a radiology department
- ♦ Stage the neoplasms of the uterus and cervix
- ♦ Apply the methodology of multi-parametric studies in radiology
- ♦ Describe the management models, indicators, development of strategic plans and organization in Interventional Radiology
- ♦ Appropriately use informed consent and data protection
- ♦ Carry out a Radiology clinical consultation
- ♦ Manage local anesthetic, pain management and sedation and anesthetic block techniques with ultrasound
- ♦ Incorporate the protocols for medical management in diseases commonly managed in Interventional Radiology and Diagnostic Radiology
- ♦ Identify the architectural and technical requirements required for the implementation of an image-guided therapy service or image-guided therapy
- ♦ Identify the materials used in interventional radiology, the indications, handling, problems and solutions
- ♦ Complete knowledge of the subject with some non-systematizable techniques and broaden the vision of Interventional Radiology based on new horizons

04

Structure and Content

The structure of the syllabus has been designed by a team of professionals with knowledge of the implications of medical education in the approach of diagnostic and therapeutic procedures in radiology, who are aware of the relevance of up-to-date specialization, and are committed to quality teaching using new educational technologies.





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This Professional Master's Degree in Update on Diagnostic and Therapeutic Techniques in Radiology contains the most complete and up-to-date scientific program on the market”

Module 1. Management in Radiology

- 1.1. Radiological Report
- 1.2. Medical Legal Aspects in Radiology
- 1.3. PACS. RIS. Teleradiology
- 1.4. Radiology Services Management

Module 2. Neuroradiology

- 2.1. Cerebrovascular Disease
- 2.2. Cranioencephalic Trauma
- 2.3. Demyelinating Diseases
- 2.4. Dementia and Neurodegenerative Diseases
- 2.5. Basic Aspects of Cerebral Malformations. Hydrocephalus
- 2.6. Infections
- 2.7. Study of the Pituitary Gland
- 2.8. Spinal Cord Injuries
- 2.9. Central Nervous System (CNS) Tumors
- 2.10. Monitoring and Assessment in Response to Supratentorial CNS Tumors
- 2.11. Advanced Neuroradiology Techniques

Module 3. Sensory Organs

- 3.1. Ophthalmologic Pathology
- 3.2. Study of the Base of the Skull
- 3.3. Nasosinusal pathology
- 3.4. Neoplasms ENT

Module 4. Abdomen

- 4.1. Iodinated, Gadolinium (Gd)-based and Enteral Contrast Agents
- 4.2. Focal Liver Lesion
- 4.3. Diffuse Liver Disease
- 4.4. Management of Cirrhosis Liver
- 4.5. Study and Pathology of the Biliary Route
- 4.6. Pancreatitis
- 4.7. Pancreatic Cancer

- 4.8. Splenic Lesions
- 4.9. Inflammatory Bowel Disease
- 4.10. Peritoneal Carcinomatosis
- 4.11. Staging and Response Assessment in Rectal Cancer
- 4.12. Technique and Indications of CT Colonoscopy
- 4.13. Defecography: Technique and Indications
- 4.14. Renal, Ureteral and Bladder Cancer
- 4.15. Multiparametric Study of Prostate Cancer
- 4.16. Testicular Cancer

Module 5. Chest

- 5.1. Chest X-ray. Interpretation and basic semiology.
- 5.2. Pleura, chest wall and diaphragm
- 5.3. DILD Vasculitis
- 5.4. COPD Asthma. Large and small airway
- 5.5. Infections in the immunocompetent and immunocompromised patient
- 5.6. Lung cancer and other thoracic neoplasms
- 5.7. Mediastinal Tumors
- 5.8. Vascular Pathology
- 5.9. Thoracic Trauma
- 5.10. cardiac imaging

Module 6. Musculoskeletal System (MSK)

- 6.1. Rotator Cuff Pathology
- 6.2. Glenohumeral Instability
- 6.3. Degenerative Wrist Pathology
- 6.4. Degenerative Wrist Trauma
- 6.5. Degenerative Spine Pathology
- 6.6. Meniscal Pathology
- 6.7. Knee Ligament Pathology
- 6.8. Cartilage and Knee Arthropathy
- 6.9. Ankle Trauma Lesions
- 6.10. Musculotendinous Injuries



Module 7. Breast

- 7.1. Breast Cancer Screening and Bi-RADS System
- 7.2. FNA and Breast BAG
- 7.3. Breast Cancer Staging
- 7.5. Monitoring and Response Assessment in Breast Cancer

Module 8. Gynecology

- 8.1. Radiology of the Benign Pathology of the Uterus and Adnexa
- 8.2. Staging in Uterine and Cervical Cancer
- 8.3. Imaging Techniques in Ovarian Cancer

Module 9. Trending topic

- 9.1. Biomarkers in Imaging
- 9.2. Dual-Energy CT
- 9.3. Multi-parametric Studies in Radiology

Module 10. Management and Organization in Image-Guided Therapy

- 10.1. Informed Consent in Interventional Radiology
- 10.2. The Outpatient Clinic and the Interventional Radiology Department
- 10.3. Anaesthesia in Interventional Radiology
- 10.4. Medical Management Protocols in General and Interventional Radiology
- 10.5. Medication Used in Neurointerventionism
- 10.6. Medication Used in Vascular and Non-Vascular Interventionism
- 10.7. Management in Interventional Radiology: URV, GRD, indicators
- 10.8. Intervention Rooms

Module 11. Basis of Intervention Procedures

- 11.1. Radiological Protection in Interventional Procedures
- 11.2. Arterial and Venous Puncture for Interventional Access: Seldinger and Trocar Technique
- 11.3. Ultrasound Puncture for Vascular Access
- 11.4. Compression of Puncture Sites and Care

Module 12. Materials in Interventional Techniques

- 12.1. Materials in Neuro-interventionism
- 12.2. Materials in Vascular Interventional Techniques
- 12.3. Materials in Oncologic Interventional Techniques
- 12.4. Materials in Musculoskeletal Interventional Techniques
- 12.5. Materials for Drainages and Non-Vascular Interventional Techniques

Module 13. Venous and Lymphatic Interventional Procedures

- 13.1. Phlebography of the Upper and Lower Limbs. Cavography
- 13.2. Superior Vena Cava Syndrome
- 13.3. Pulmonary Embolism and Deep Vein Thrombosis
- 13.4. Central Routes, *Port a Cath*, PICS
- 13.5. Diagnostic and Therapeutic Lymphography
- 13.6. Inferior Vena Cava Filter Placement
- 13.7. Dialysis Catheter Placement, Replacement and Removal
- 13.8. Angioplasty and Thrombectomy of Vascular Access for Dialysis
- 13.9. Transjugular Liver Biopsy, Hepatic Hemodynamic Study and Hepatic Venous Sample
- 13.10. Treatment of Venous Insufficiency in Lower Limbs

Module 14. Vascular Diagnosis

- 14.1. Abdominal Aortography and Arteriography of Lower Limbs
- 14.2. Arteriography of Visceral Digestive Trunks

Module 15. Vascular Therapy

- 15.1. Peripheral Vascular Angiopathy and *Stents*
- 15.2. Peripheral intrarterial thrombolysis
- 15.3. Percutaneous Vascular Closures
- 15.4. ATP of Renal Arteries and *Stent*
- 15.5. ATP and *Stenting* of Visceral Digestive Trunks
- 15.6. Aneurysms in Visceral Arteries. Diagnosis and Treatment
- 15.7. Aortic Aneurysms. Endoprosthesis
- 15.8. Treatment of Diabetic Foot



Module 16. Embolotherapy

- 16.1. Upper and Lower Gastrointestinal Bleeding
- 16.2. Renal Embolization
- 16.3. Embolization in Trauma
- 16.4. Prostate Embolization
- 16.5. Uterine Embolization
- 16.6. Portal Embolization
- 16.7. Hepatic Chemoembolization
- 16.8. Hepatic Debiri

Module 17. Diagnostic Punctures

- 17.1. Image-Guided Percutaneous Biopsy. FNA
- 17.2. Renal Biopsy
- 17.3. Hepatic biopsy
- 17.4. Pulmonary Biopsy
- 17.5. CT-Guided Biopsy

Module 18. Diagnostic Neuro-interventionism

- 18.1. Cerebral Arteriography
- 18.2. Spinal Arteriography
- 18.3. Petrosal Sinus Sampling
- 18.4. Wada Test

Module 19. Therapeutic Neuro-interventionism

- 19.1. Embolization of Cerebral Aneurysms
- 19.2. Treatment of Cerebral Vasospasm
- 19.3. Carotid *Stent*, Vertebral *Stent* and Cerebral Stent
- 19.4. Endovascular Treatment of an Ischemic Stroke
- 19.5. Embolization in Epistaxis
- 19.6. Embolization of Cerebral Meningiomas and Paragangliomas
- 19.7. Treatment of Intracerebral AVMs
- 19.8. Dural Fistulas, Diagnosis and Treatment
- 19.9. Spinal Vascular Malformations

Module 20. Musculoskeletal Interventionism

- 20.1. Discography
- 20.2. Vertebroplasty, Vesselplasty and Kyphoplasty
- 20.3. Infiltration and Facet Rhizolysis
- 20.4. Percutaneous Discectomy
- 20.5. Epidurolisis and Pain Management
- 20.6. Percutaneous Ganglionic Block for Pain
- 20.7. Joint Infiltrations

Module 21. Urologic Interventionism

- 21.1. Percutaneous Nephrostomy
- 21.2. Anterograde Double J
- 21.3. Retrograde Double J and Endourological Interventionism
- 21.4. Ureteral and Urethral Endoprosthesis

Module 22. Thoracic Interventionism

- 22.1. Thoracentesis, Thoracic Drainage and Associated Techniques
- 22.2. Drainage of Thoracic Abscesses

Module 23. Puncture Drainage

- 23.1. Biliary Drainage
- 23.2. Drainage of Abscesses. Approaches and Technique
- 23.3. Percutaneous Gastrostomy and Gastrojejunostomy
- 23.4. Percutaneous Cholecystostomy

Module 24. Ablative techniques

- 24.1. Tumor Ablation with Radiofrequency and Microwaves
- 24.2. Tumor Cryoablation. Irreversible Electroporation

Module 25. Other Aspects of Interest in Interventional Radiology

- 25.1. Extraction of Foreign Bodies
- 25.2. Multimodality Fusion
- 25.3. Nonparticles. Future of Interventional Radiology

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.





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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

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is 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. Gervas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



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.

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



At the forefront of world teaching, the 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, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a 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 highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



Interactive Summaries

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

This exclusive 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 on the usefulness of learning by observing experts. The system known as 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 Professional Master's Degree in Update on Diagnostic and Therapeutic Techniques in Radiology guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree issued by TECH Global University.



“

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

This private qualification will allow you to obtain a **Professional Master's Degree diploma in Update on Diagnostic and Therapeutic** 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.

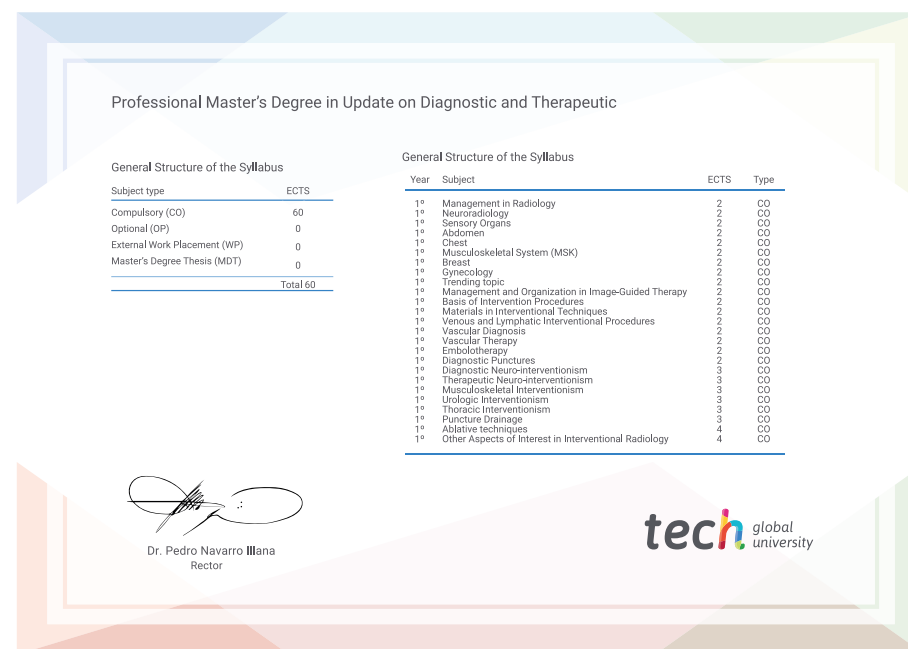
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Professional Master's Degree in Update on Diagnostic and Therapeutic**

Modality: **online**

Duration: **12 months**

Accreditation: **60 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.



Professional Master's Degree

Update on Diagnostic and
Therapeutic Techniques
in Radiology

- » Modality: online
- » Duration: 12 months
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- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Professional Master's Degree

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