



Postgraduate Certificate

Extracorporeal Shock Wave Lithotripsy (ESWL)

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Global University

» Accreditation: 6 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/medicine/postgraduate-certificate/extracorporeal-shock-wave-lithotripsy-eswl

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According to a recent study carried out by the World Health Organization, the prevalence of Renal Lithiasis has increased in recent decades, affecting approximately 20% of the population in industrialized countries. The reasons for this increase are due to multiple factors ranging from changes in dietary habits to lifestyle. In view of this reality, Extracorporeal Shock Wave Lithotripsy (ESWL) is establishing itself as a highly effective therapeutic plan, which enables surgical interventions to stand out for their less invasive nature and low rate of postoperative complications. For this reason, experts have a responsibility to acquire advanced skills in order to integrate this cutting-edge technology into their regular clinical practice to maximize the thoroughness of their treatments and optimize the quality of life of patients in the long term.

With the aim of facilitating this task, TECH presents an innovative program in Extracorporeal Shock Wave Lithotripsy (ESWL). The syllabus will cover subjects ranging from the historical evolution of this instrument or its direct impact on individuals to the characteristics of people who are candidates for this therapy. Likewise, the teaching materials will offer physicians strategies for assessing the effectiveness of the treatment using indicators such as complete fragmentation and the natural elimination of the Kidney Stone. It will also provide the keys to carry out real-time clinical follow-ups to prevent postoperative complications. In this way, graduates will develop advanced skills to skillfully manage Extracorporeal Shock Wave Lithotripsy and will significantly improve the general well-being of patients.

In addition, the university program will be based on a 100% online methodology, so that graduates can complete the program with ease. In turn, the syllabus will be based on the innovative Relearning teaching system conceived by TECH, consisting of progressive and natural repetition to guarantee mastery of its different aspects.

This Postgraduate Certificate in Extracorporeal Shock Wave Lithotripsy (ESWL) contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by experts in Urology
- 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 self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection



You will guarantee compliance with safety and quality regulations in the use of medical devices during different surgical procedures for the treatment of Kidney Stones"

Introduction to the Program | 07 tech



You will delve into a variety of techniques that will allow you to optimally interpret the results of imaging tests and plan minimally invasive treatments"

The program includes in its teaching staff professionals from the sector who bring to this program the experience of their work, as well as recognized 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 prepare for 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 fully understand the results of Extracorporeal Shock Wave Lithotripsy (ESWL) by analyzing success rates, complications and patient satisfaction.

With TECH's exclusive Relearning methodology, you will assimilate the essential concepts of the syllabus in an immediate and efficient way. You won't have to spend long hours studying!







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The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.



The most complete syllabus





World's
No.1
The World's largest
online university

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.









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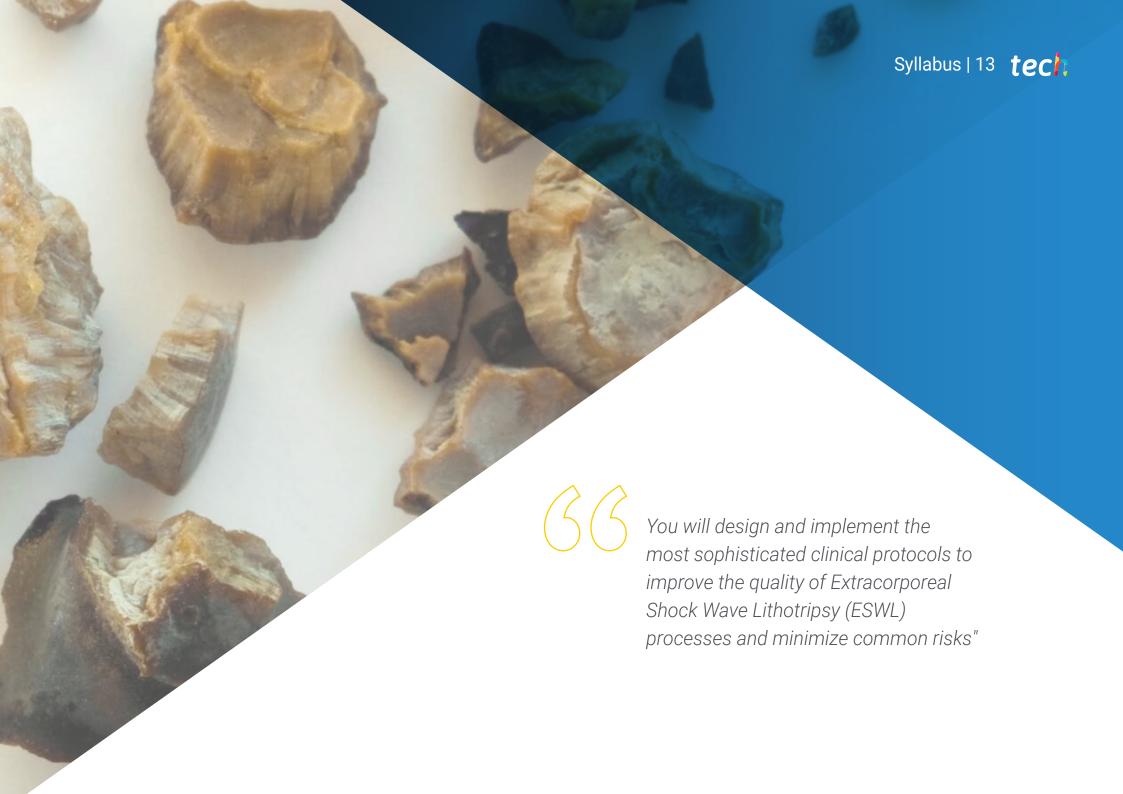
Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's toprated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.





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Module 1. Extracorporeal Shock Wave Lithotripsy. Transurethral Endoscopic Treatment of Kidney Stones

- 1.1. Extracorporeal Shock Wave Lithotripsy. Evolution Over Time
 - 1.1.1. Management of Lithiasis before Extracorporeal Shock Wave Lithotripsy
 - 1.1.2. Impact of Extracorporeal Shock Wave Lithotripsy
 - 1.1.3. Current Situation of Shock Wave Lithotripsy
- 1.2. Physical Principles and Types of Energy in Evolving Contaminated Urine Liquid
 - 1.2.1. Precursors of Extracorporeal Lithotripsy
 - 1.2.2. Electrohydraulic Generators
 - 1.2.3. Piezoelectric Generators
 - 1.2.4. Electromagnetic Generators
- 1.3. Indications and Contraindications of Extracorporeal Shock Wave Lithotripsy
 - 1.3.1. Contraindications of Extracorporeal Shock Wave Lithotripsy
 - 1.3.2. Characteristics of the Patient Candidate for Extracorporeal Shock Wave Lithotripsy
 - 1.3.3. Characteristics of the Lithiasis Candidate for Extracorporeal Shock Wave Lithotripsy
- 1.4. Results of Extracorporeal Shock Wave Lithotripsy
 - 1.4.1. Position of the Patient in Shock Wave Lithotripsy
 - 1.4.2. Release of Energy in Shock Wave Lithotripsy
 - 1.4.3. Tricks and Technical Details in Shock Wave Lithotripsy
- 1.5. Results of Extracorporeal Shock Wave Lithotripsy
 - 1.5.1. Results of Extracorporeal Shock Wave Lithotripsy in the Kidney
 - 1.5.2. Results of Extracorporeal Shock Wave Lithotripsy in the Ureter
 - 1.5.3. Results of Extracorporeal Shock Wave Lithotripsy in Children
- 1.6. Immediate Follow-up and Complications
 - 1.6.1. Assessment of Residual Lithiasis
 - 1.6.2. Analysis of Lithiasis: Prevention of the Formation of New Lithiasis
 - 1.6.3. Short- and Long-Term Complications of Extracorporeal Shock Wave Lithotripsy





Syllabus | 15 tech

- 1.7. Future of Extracorporeal Shock Wave Lithotripsy. Latest Developments
 - 1.7.1. Latest Developments in Extracorporeal Shock Wave Lithotripsy
 - 1.7.2. The Future of Extracorporeal Shock Wave Lithotripsy
 - .7.3. Key Aspects
- 1.8. Clinical Guidelines for Extracorporeal Lithotripsy
 - 1.8.1. Recommendations for the Performance of Extracorporeal Shock Wave Lithotripsy
 - 1.8.2. Extracorporeal Shock Wave Lithotripsy in the Treatment of Renal Lithiasis
 - 1.8.3. Extracorporeal Shock Wave Lithotripsy in the Treatment of Ureteral Lithiasis
- 1.9. Radiation Protection in Endourology
 - 1.9.1. Principles of Radiation Protection
 - 1.9.2. Radiation Exposure in Endourology in the Patient: Risks and Precautions
 - 1.9.3. Radiation Exposure in Endourology in the Urologist: Risks and Precautions
 - 1.9.4. Dose Reduction Strategies in Endourological Procedures
- 1.10. Urolithiasis and Hospital Management
 - 1.10.1. Hospital Management
 - 1.10.2. Indicators in a Lithotripsy Unit
 - 1.10.3. Key Aspects



The specialized reading material that you will find in the Virtual Campus will keep you up to date with the latest scientific postulates relating to the use of technologies for the management of Renal Lithiasis"





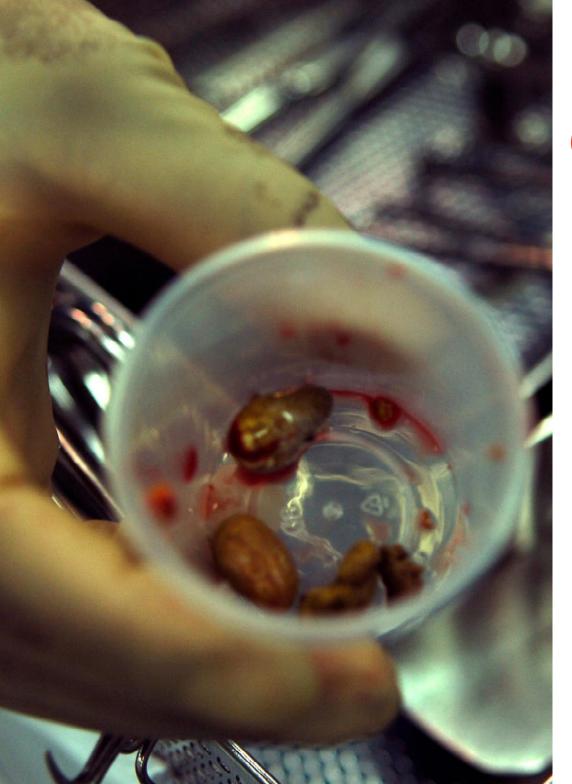
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General Objectives

- Identify the fundamental physical and chemical aspects involved in the formation of Kidney Stones
- Delve into the classification of kidney stones according to the etiological factors that generate them
- Establish the diagnostic foundations based on the study of kidney stones
- Determine the key diagnostic aspects based on the study of urine
- Delve into the metabolic study of patients with renal lithiasis
- Define the classifications of patients at risk of Urolithiasis, considering factors that may contribute to the formation of Stones
- Assess the various associated metabolic conditions and their specific treatments
- Acquire a comprehensive approach to the dietary and clinical management of the lithiasic patient
- Address the etiology and pathophysiology of non-calcium lithiasis, identifying its distinctive characteristics
- Define the medical treatment options available for each type of condition
- Assess the role of genetics and microbiota in the management of Urolithiasis
- Establish guidelines for pH control and coordination of Urolithiasis units
- Evaluate renal physiology and pathophysiology, as well as the mechanisms of obstruction
- Delve into the most widely used diagnostic imaging methods in Renal Lithiasis
- Define therapeutic approaches to renal colic
- Identify the complications associated with lithiasis and propose management strategies based on international clinical guidelines

- Analyze the historical evolution of Extracorporeal Shock Wave Lithotripsy
- Assess the physical principles, types of energy and those of Extracorporeal Shock Wave Lithotripsy
- Examine the results, complications and post-procedure follow-up, as well as the latest advances in this technology
- Establish recommendations based on clinical guidelines and develop radiation protection strategies in the context of Endourology
- Analyze the historical evolution of endourology and its current applications, focusing on technological and surgical advances
- Examine renal and ureteral anatomy relevant to endourology, establishing its importance in the execution of procedures
- Assess the criteria for the selection of surgical techniques and energy sources in Endourology
- Identify the endourological approaches and specific equipment used in semirigid ureteroscopy
- Delve into the historical evolution of flexible ureteroscopy and its development
- Evaluate the standard and extended indications for Retrograde Intrarenal Surgery
- Examine the materials, surgical techniques and advanced technologies used in Retrograde Intrarenal Surgery
- Identify intraoperative and postoperative complications, establishing strategies for their prevention and management, with a focus on the application of ALARA principles
- Analyze the different patient positions in percutaneous nephrolithotomy



Teaching Objectives | 19 tech



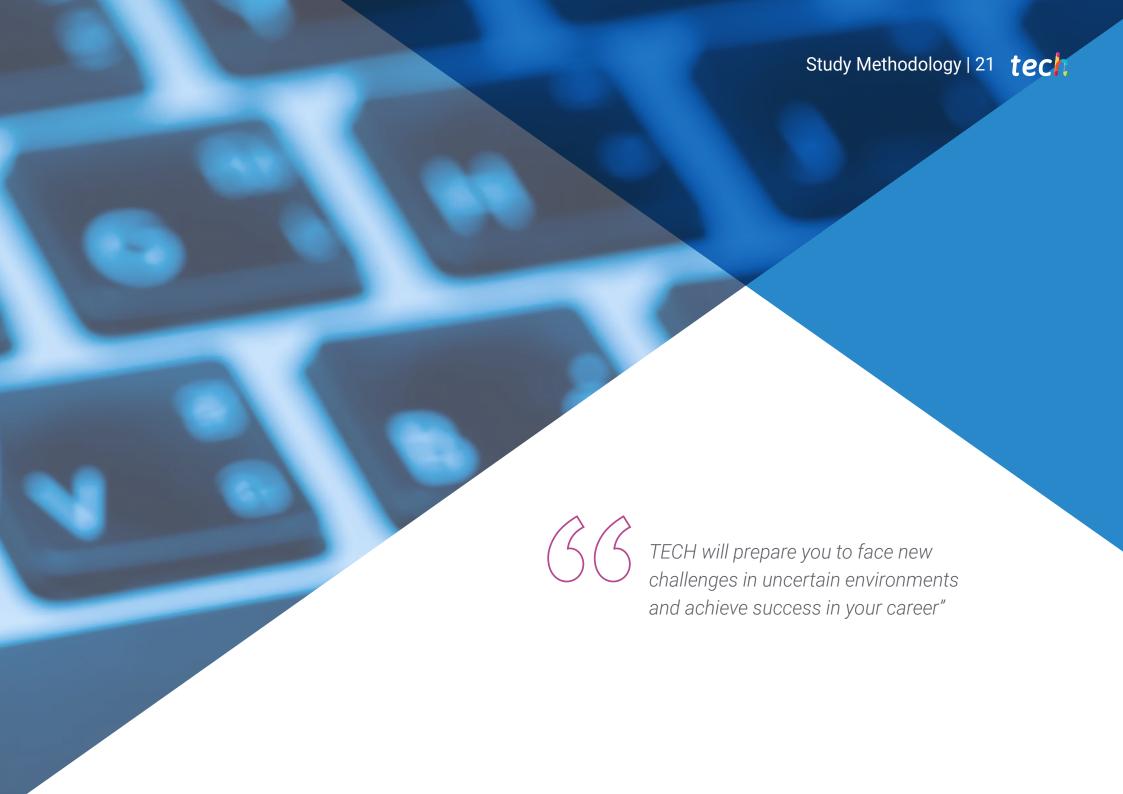
Specific Objectives

- Define the physical principles and types of energy applied in Extracorporeal Shock Wave Lithotripsy
- Analyze the clinical results and complications derived from the use of Extracorporeal Shock Wave Lithotripsy in Renal Lithiasis
- Assess the recommendations of clinical guidelines in the follow-up of the condition
- Propose improvements and new technological applications in Extracorporeal Shock Wave Lithotripsy to optimize results



You will solve practical exercises based on real urological cases in simulated learning environments, which will enhance your skills to treat a wide range of Urological Conditions"



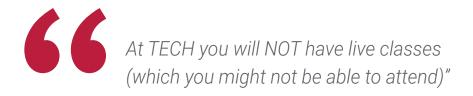


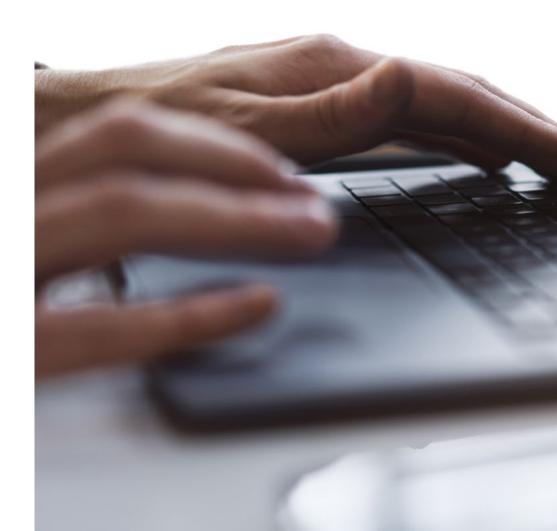
The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.







The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.



TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"

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Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.





A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

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 assess 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.

Study Methodology | 27 tech

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:



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.

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.



Practicing Skills and Abilities

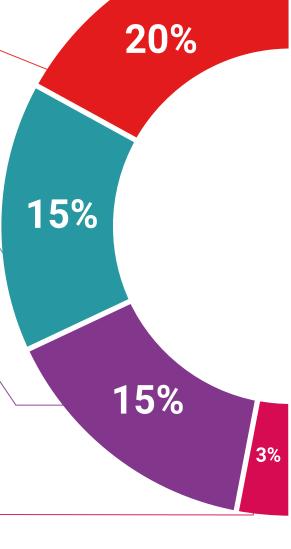
You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



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 exclusive educational system for presenting multimedia content 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 education.

Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting



We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

Classes



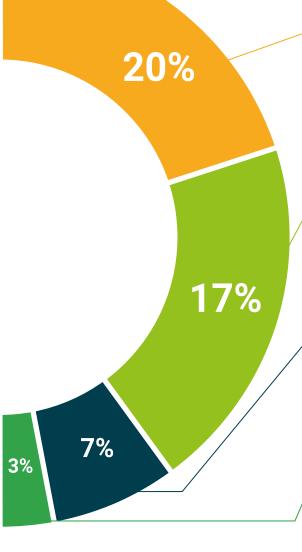
There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence for 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.





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Management



Dr. Servera Ruiz de Velasco, Antonio

- Director of Endourology and Lithiasis at the Hospital of Manacor
- Urology Specialist at Juaneda Miramar Hospital
- Internship in Laparoscopic Pelvic and Retroperitoneal Surgery at Heidelberg University Hospital
- Scientific Researcher
- Director of 6 international Clinical Trials
- Internship in Robotic Surgery at the Institut Mutualiste Montsouris
- Internship in Laparoscopic and Percutaneous Surgery at the Italian Hospital of Buenos Aires
- PhD in Health Sciences from the University of the Balearic Islands
- Degree in Medicine and Surgery from the University of Zaragoza
- Member of the European College of Urology

Professors

Dr. Guimerá García, Jordi

- Medical Director of the Urology Clinic of Dr. Guimerá
- Specialist in Urology at Son Espases University Hospital
- Occupational Physician at Asepeyo
- Internship at the Miami Transplant Institute
- Urology residency at the Son Espases University Hospital
- PhD in Public Health and Prevalent Diseases from the University of the Balearic Islands
- Degree in Medicine from the Autonomous University of Madrid
- Certification as a Fellow of the European Board of Urology

Dr. Campos Valverde, Daniel

- Physician in the Lithiasis and Endourology Unit of the Jiménez Díaz Foundation University Hospital
- Expert in Advances in the Diagnosis, Treatment and Monitoring of Urothelial Carcinoma
- Specialist in 3D Bioprinting
- Residency in Urology at the University Hospital of Ciudad Real
- Master's Degree in Urologic Oncology from TECH University
- Degree in Medicine from Universidad San Pablo CEU
- Certification as a Fellow of the European Board of Urology

Dr. Bahilo Mateu, Pilar

- · Specialist in Urology. Expert in Lithotripsy
- Urologist at La Fe University and Polytechnic Hospital
- Urologist at the Quirónsalud Valencia Hospital
- Author and co-author of articles published in scientific journals

Dr. Budía Alba, Alberto

- Head of the Lithotripsy and Endourology Unit at La Fe University and Polytechnic Hospital in Valencia
- National Coordinator of the Lithiasis group of the Spanish Association of Urology
- Vice President of AUCV
- Associate Professor at the University of Valencia
- Doctor of Medicine and Surgery cum laude by the ULV
- Degree in Medicine and Surgery at ULV
- Master's Degree in Management and Organization of Hospitals and Health Services from the UPV
- Member of: EULIS and EAU





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This private qualification will allow you to obtain a diploma for the **Postgraduate Certificate in Extracorporeal Shock Wave Lithotripsy (ESWL)** 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: Postgraduate Certificate in Extracorporeal Shock Wave Lithotripsy (ESWL)

Modality: online

Duration: 6 weeks

Accreditation: 6 ECTS



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

Postgraduate Certificate in Extracorporeal Shock Wave Lithotripsy (ESWL)

This is a private qualification of 180hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024



^{*}Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.



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