

Postgraduate Certificate

Clinical Epidemiology in Public Health





Postgraduate Certificate Clinical Epidemiology in Public Health

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitute.com/us/medicine/postgraduate-certificate/clinical-epidemiology-public-health

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01

Introduction

Clinical Epidemiology has undergone changes that have revolutionized the way diseases are approached at the population level. In recent decades, significant advances in data collection and analysis, as well as in the application of epidemiological methods, have led to tangible improvements in healthcare. The development of predictive modeling techniques to prevent the spread of infectious diseases such as Zika and Ebola is a case in point. In addition, the implementation of randomized clinical trials has favored the efficacy of medical interventions and facilitated the adoption of health policies. For this reason, TECH has developed a program with which physicians will be able to specialize in intervention studies through the innovative Relearning methodology. They will also have access to interactive resources, such as detailed videos, elaborated by active experts.



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Update your knowledge and improve your skills for the elaboration of intervention studies in Epidemiology with TECH, the best digital university in the world according to Forbes"

Clinical Epidemiology plays a pivotal role in the field of Public Health by providing a scientific approach. This discipline has been vital in understanding epidemics such as HIV and in the subsequent development of advocacy plans to provide crucial information to the population and develop education programs, as well as to facilitate access to testing and treatment. In this context, this Postgraduate Certificate is born with a specialized program that aims to provide physicians with a broad and complete vision, preparing them to face the challenges of this area of knowledge from a multidisciplinary perspective.

Likewise, graduates will analyze the capacity of epidemiology to generate solid data on the distribution and determinants of diseases, facilitating the identification of patterns and the understanding of their causes. This favors the development of appropriate prevention and control strategies. We will also focus on the differentiation between pragmatic and explanatory clinical trials, as well as to delve into the ethical implications of the different approaches.

In addition, they will delve into the evolution of Clinical Epidemiology, which has been fundamental in providing physicians with competencies in the elaboration and application of clinical protocols in health care. Therefore, with this program, they will be prepared to interpret studies, evaluate the quality of the evidence and apply the results to individualized patient care.

At the same time, students will be able to specialize 100% online, without preset schedules and adapting study time to their daily routine. In addition, they will be able to update their knowledge from anywhere, using an electronic device with an Internet connection. TECH will provide them with interactive, multimedia and attractive didactic material, based on the innovative Relearning learning method, which consists of the reiteration of key concepts to achieve a deeper understanding of the contents.

This **Postgraduate Certificate in Clinical Epidemiology in Public Health** 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 Public Health and Health Management
- ♦ 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



Specialize through case analyses elaborated and guided by professionals in the area of Clinical Epidemiology and Public Health"

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Analyze the ethical implications of the different approaches to clinical trials with this Postgraduate Certificate of excellence”

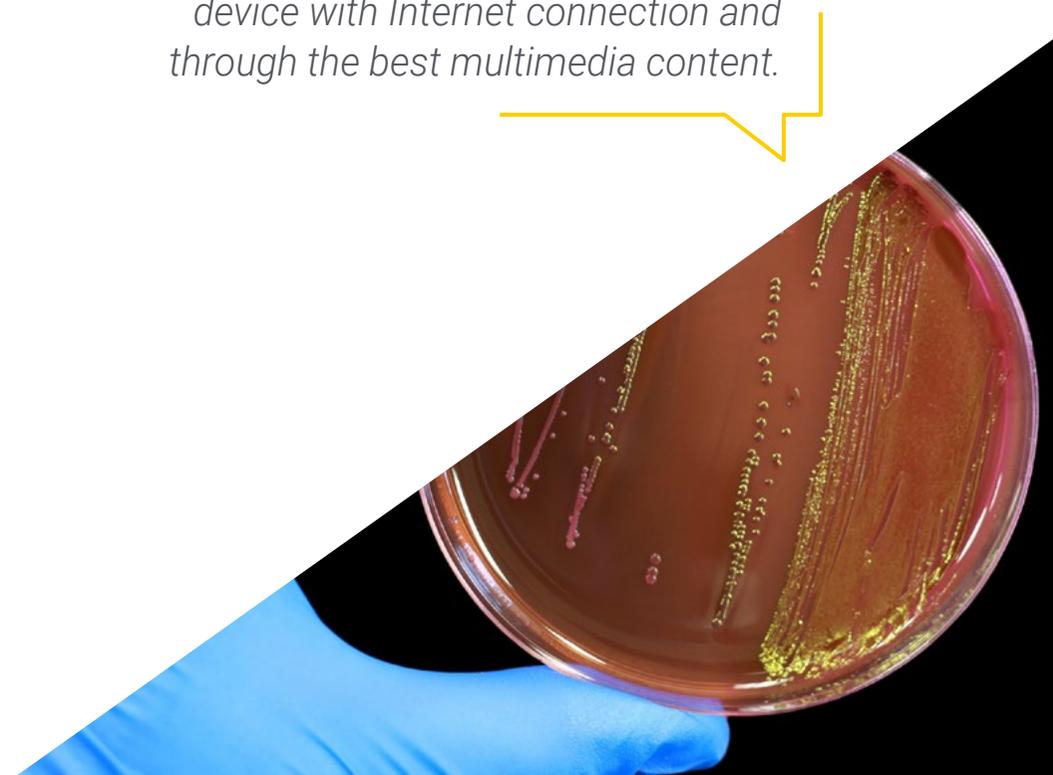
The program's teaching staff includes professionals from the sector who contribute their work experience to this specializing program, as well as renowned specialists from leading societies and prestigious universities.

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.

Thanks to the innovative Relearning method, you will master the concepts of Clinical Epidemiology in an optimal way and you will be able to put them into practice.

Develop your professional career from anywhere, with an electronic device with Internet connection and through the best multimedia content.



02 Objectives

The syllabus of this Postgraduate Certificate will equip physicians with the essential skills and knowledge to understand, prevent and control diseases at the population level. In this context, they will delve into data analysis and the development of epidemiological studies, as well as methods for implementing intervention strategies. In addition, they will be skilled to face the challenges of Public Health with scientific rigor, acquiring a social commitment by analyzing the main health risks of different vulnerable groups.



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Face the challenges of Epidemiology at a global level with an innovative and 100% online program that analyzes the social determinants of Health"



General Objectives

- ♦ Develop a broad and comprehensive conceptual framework of the situation, challenges and needs of Public Health in the 21st century
- ♦ Examine the international and global framework of Public Health policies
- ♦ Determine the key factors for a correct communication in health crisis: crisis communication and communication crisis
- ♦ Identify the theoretical and methodological framework for evaluation in Public Health
- ♦ Identify the steps to be followed for disease assessment using epidemiological data
- ♦ Compile the research methodology related to disease surveillance
- ♦ Identify the main risk and protective factors in communicable and non-communicable diseases
- ♦ Analyze the importance of quality assessment of intervention studies
- ♦ Develop the fundamentals of clinical epidemiology, measurement of frequency and distribution of diseases
- ♦ Critically evaluate the efficacy and effectiveness of clinical interventions, pharmacological treatments, surgical interventions and prevention strategies
- ♦ Fundamentals of the principles of the epidemiological method
- ♦ Fundamentals of the principles of health promotion, social determinants of health, health-related behavioral theories, and strategies to promote healthy lifestyles and environments
- ♦ Analyze the main health risks for different vulnerable groups
- ♦ Implement a holistic and integrative vision in the impact assessment of environmental risks on health protection





Specific Objectives

- Develop the ability to identify and describe the main components of an intervention study, as well as to determine its different types
- Analyze the importance of quality assessment of intervention studies
- Compile examples of good- and poor-quality intervention studies
- Evaluate the methodology and design of pragmatic and explanatory clinical trials
- Analyze the different phases of the design of diagnostic test validity studies and the methodological quality and correctness of these studies
- Provide a basis for the quality and methodological correctness of prognostic factor studies.
- Introduce patient safety as a key concept in quality healthcare
- Propose activities for the evaluation of Public Health plans, implementing strategies based on scientific evidence



Achieve your goals and boost your career, with the most up-to-date material on the university scene"

03

Course Management

In this Postgraduate Certificate, TECH has expert professors of great prestige, fulfilling its maxim of offering quality teaching. Students will be able to update their knowledge and specialize in the hands of a team of professionals with extensive practical experience in the health field and specifically in Clinical Epidemiology in Public Health.

They also foster a collaborative learning environment that favors the development of critical thinking and enhances the professional growth of graduates.



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*Get up to date in this area of Health
by the hand of the best experts and
position yourself as a reference
professional in Clinical Epidemiology”*

Management



Ms. Ruiz Redondo, Julia María

- ◆ Coordinator of the National Working Group on Public Health 2.0 in the SEMG
- ◆ Coordinator of the General Directorate of Public Health in the Ministry of Health of Castilla-La Mancha
- ◆ Coordinator of the Regional Advisory Group on Immunization at the Regional Ministry of Health of Castilla-La Mancha
- ◆ Nurse Inspector in the Management of Coordination and Inspection of Castilla-La Mancha in the SESCAM
- ◆ Nurse of Specialized Care in the Hospital Emergency Area at the General Hospital of Tomelloso
- ◆ Master's Degree in Medical Management and Clinical Management by the UNED, ISCIII, National School of Health
- ◆ Master's Degree in Vaccines from the Catholic University of San Antonio de Murcia
- ◆ Master's Degree in Specialized Emergency Nursing Care, Critical Patient Area and Post-Anesthesia Care by the University of Valencia
- ◆ Master's Degree in Nursing Services Management from the UNED
- ◆ Senior Healthcare Management Program from San Telmo Business School
- ◆ Graduate in Nursing from the Catholic University of Avila
- ◆ Diploma in Nursing from the University of Jaén

Professors

Dr. Armenteros Yeguas, María Inés

- ♦ FEA of Internal Medicine at the Sandoval Health Center, San Carlos Clinical Hospital
- ♦ Clinical Researcher at the Biomedical Research Foundation of the San Carlos Clinical Hospital
- ♦ Resident Intern of Internal Medicine at the San Carlos University Hospital
- ♦ Hybrid Professional Master's Degree in Infectious Diseases and International Health Miguel Hernández University
- ♦ Master's Degree in Human Immunodeficiency Virus Infection from the Rey Juan Carlos University
- ♦ Postgraduate Course in Fundamentals of Design and Statistics from the Autonomous University of Barcelona
- ♦ Graduate in Medicine and Surgery from the Complutense University of Madrid

Dr. Mera Cordero, Francisco

- ♦ Director of the Precision Medicine Unit of Long Covid and Post Viral Syndromes at Blue Healthcare
- ♦ Clinical Director and Collaborating Researcher of the study "ACE 2 in Post COVID Syndrome" of the Severo Ochoa Molecular Biology Center
- ♦ Emergency Physician in Assistència Sanitària
- ♦ Master's Degree in Diabetes and Nutrition by the Francisco de Vitoria University
- ♦ Degree in Medicine and General Surgery from the University of Zaragoza
- ♦ Disseminator in the Health Dissemination Channel COVID Persistent in Medicina TV
- ♦ Presenter in Iberoamerican Channel @AIREyVIDA2021
- ♦ Member of the Board of the Spanish Network for Research in Persistent COVID
- ♦ Member of the CIBER POSTCOVID Group of the Carlos III Institute

Dr. Sánchez Diz, Paula

- ♦ Technical Research Coordinator at the Spanish Society of General and Family Physicians (SEMG)
- ♦ Coordinator and Member of the Executive Committee of the Spanish Research Network on Persistent COVID (REICOP)
- ♦ Technical Auditor of UNE-EN ISO/IEC 17025 and UNE-EN ISO/IEC 17043 in Clinical Trial laboratories
- ♦ Specialist Molecular Biology Technician at Nasertic
- ♦ Teaching and Research Staff at the University of Santiago de Compostela
- ♦ Predoctoral Research Staff linked to research projects
- ♦ PhD in Biology from the University of Santiago de Compostela
- ♦ Degree in Biology from the University of Santiago de Compostela



A unique, crucial and decisive learning experience to boost your professional development"

04

Structure and Content

TECH has designed a program with a complete syllabus, based on the most relevant concepts of Clinical Epidemiology and its influence on Public Health. Likewise, the requirements proposed by the team of experts of this Postgraduate Certificate have been taken into account, establishing a rigorous syllabus. In this context, physicians will delve into the process of intervention studies, stressing the importance of the selection of the population for research and analyzing its subsequent clinical application, to generate solid and applicable evidence in health policies, with the aim of ensuring the welfare of populations.



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Delve into the design of diagnostic test studies, as well as the development of specific intervention studies"

Module 1. Clinical Epidemiology

- 1.1. Design and Quality Assessment of Intervention Studies in Epidemiology
 - 1.1.1. Intervention Studies, Types and Key Design Elements
 - 1.1.2. Ethical Aspects of Intervention Research
 - 1.1.3. Design of Specific Intervention Studies
 - 1.1.4. Tools for Assessing the Quality of Intervention Studies
 - 1.1.5. Critical Appraisal of Intervention Studies
 - 1.1.6. Importance of Design and Quality Assessment
- 1.2. Pragmatic vs. Explanatory Randomized Clinical Trials
 - 1.2.1. Differentiation Between Pragmatic and Explanatory Clinical Trials
 - 1.2.2. Ethical Implications of Each Approach
 - 1.2.3. Critical Evaluation of the Methodology and Design of Each Type of Trial
 - 1.2.4. Application of Knowledge to Clinical Practice and Research
 - 1.2.5. Promotion of Critical Thinking and Analytical Skills
 - 1.2.6. Design and Conduct of Clinical Studies
- 1.3. Design of Diagnostic Test Studies
 - 1.3.1. Selection of the Study Population and Definition of Inclusion and Exclusion Criteria
 - 1.3.2. Determination of the Study Design and Selection of the Reference Methodology
 - 1.3.3. Calculation of Diagnostic Accuracy and Analysis of Results
- 1.4. Evaluation of the Quality of a Diagnostic Test Study
 - 1.4.1. Study Validity Analysis
 - 1.4.2. Evaluation of the Accuracy of the Diagnostic Test
 - 1.4.3. Analysis of the Clinical Utility of the Diagnostic Test
- 1.5. Design and Quality Assessment of Prognostic Factor Studies
 - 1.5.1. Selection and Definition of Prognostic Factors
 - 1.5.2. Study Design and Selection of the Study Population
 - 1.5.3. Evaluation of the Quality of the Study and the Prognostic Model
- 1.6. Evidence-based Clinical Recommendations: GRADE 1
 - 1.6.1. Systematic Review of the Scientific Literature Identification of Clinical Recommendations
 - 1.6.2. Quality of Evidence and Strength of Recommendations
 - 1.6.3. Clinical Recommendations Applicable to Clinical Practice





- 1.6.4. Development of Clinical Protocol or Clinical Guideline Based on the Identified Recommendations
- 1.6.5. Implementation and Follow-up of the Clinical Protocol or Guideline in Patient Care Evidence and Focus on Improving Clinical Outcomes
- 1.6.6. Periodic Evaluation, through Monitoring of Clinical Outcome Indicators and Feedback from the Health Professionals Involved
- 1.7. Evidence-based Clinical Recommendations: GRADE 2
 - 1.7.1. Analysis and Synthesis of the Available Evidence in the Scientific Literature for the Development of Recommendations
 - 1.7.2. Identification and Evaluation of the Quality of the Relevant Studies that Support the Clinical Recommendations
 - 1.7.3. Application of the Principles of the GRADE Methodology to Establish the Strength and Certainty of Clinical Recommendations
 - 1.7.4. Developing Clinical practice Guidelines that Incorporate Evidence-based Recommendations and that are Useful for Clinical Decision Making
 - 1.7.5. Periodic Updating and Revision of Clinical Recommendations Based on the Available Scientific Evidence
- 1.8. Evaluation of the Quality of Care
 - 1.8.1. Quality Criteria and Standards from the Point of View of Safety
 - 1.8.2. Evaluation of the Effectiveness of the Results obtained through the Actions Evaluated of the Actions Evaluated and their Components
 - 1.8.3. Measurement of Patient Outcomes and Experiences, Patient-Reported Outcome Measures (PROM) and Patient-Reported Experience Measures (PREM)
 - 1.8.4. Indicators for Assessing the Degree of Involvement, Participation and Satisfaction of Healthcare Professionals
- 1.9. Incorporation of Patients' Values and Preferences: Shared Decisions
 - 1.9.1. Effective Communication and Understanding of Values and Preferences
 - 1.9.2. Education and Counseling on Treatment Options
 - 1.9.3. Facilitation of Shared Decision Making
- 1.10. Patient Security.
 - 1.10.1. Identification and Recording of Adverse Events
 - 1.10.2. Analysis of Errors and Underlying Causes
 - 1.10.3. Implementation of Corrective Actions and Prevention Measures

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

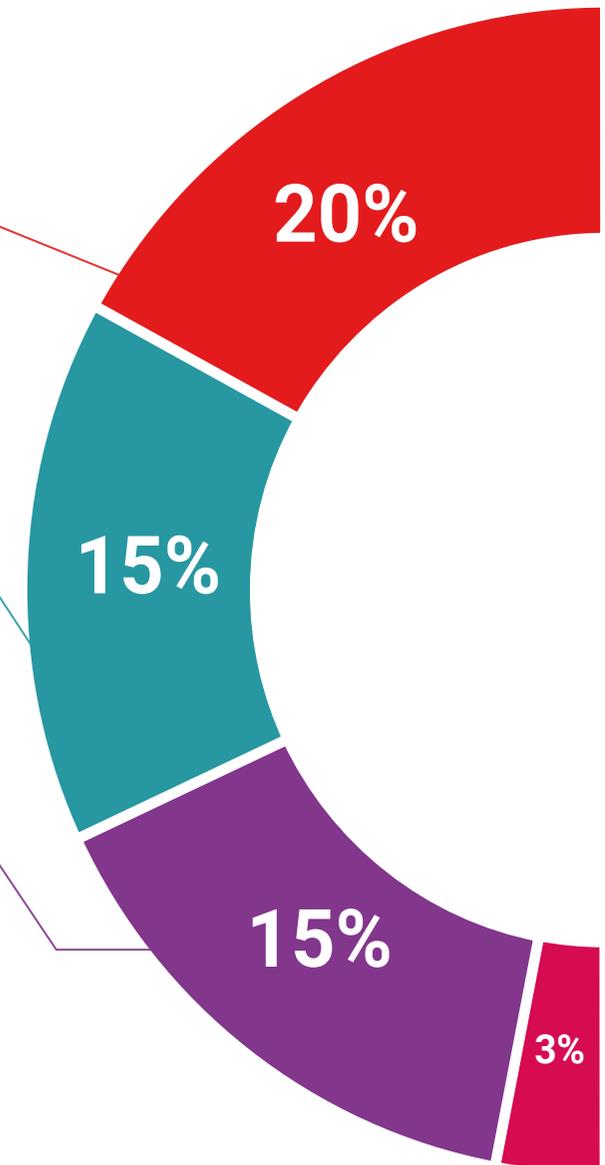
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

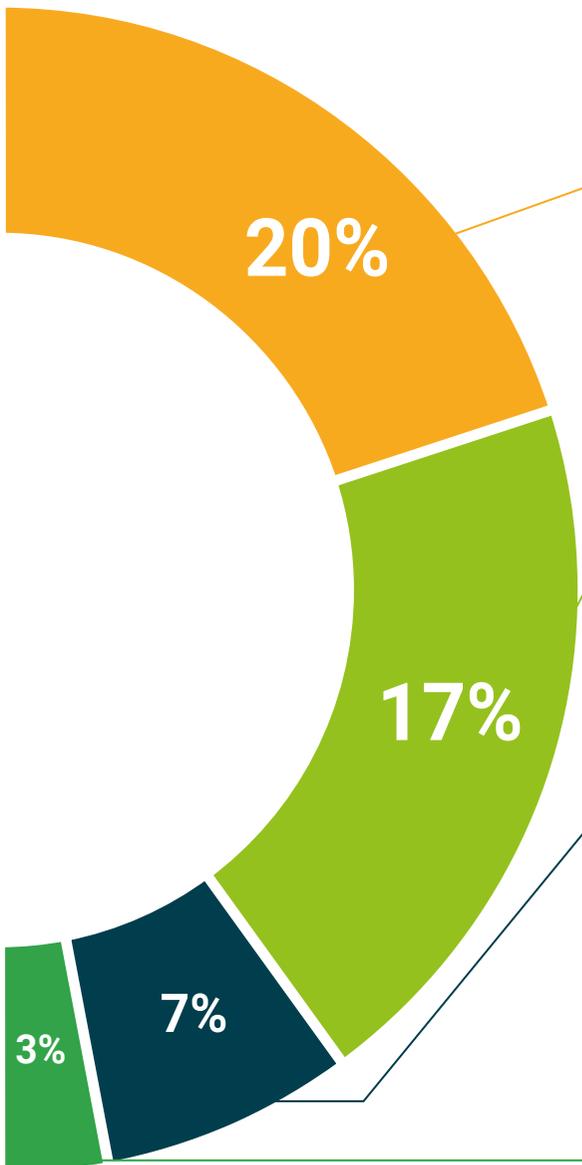
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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 Postgraduate Certificate in Clinical Epidemiology in Public Health guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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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 **Postgraduate Certificate in Clinical Epidemiology in Public Health** 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 Clinical Epidemiology in Public Health**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 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
knowledge present quality
online development languages
virtual classroom



Postgraduate Certificate

Clinical Epidemiology in Public Health

- » Modality: online
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Postgraduate Certificate

Clinical Epidemiology in Public Health

