



Current Situation of SARS-CoV-2 Infection

» 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/current-status-sars-cov-2-infection

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Certificate



Coronaviruses (CoV) constitute a broad group of viruses that are taxonomically classified in the subfamily Coronavirinae within the family Coronaviridae (order Nidovirales); the term coronavirus encompasses all species belonging to the genera Alphacoronavirus, Betacoronavirus, Gammacoronavirus, and Deltacoronavirus. These are viruses whose genome consists of a single-stranded RNA with positive polarity (+ssRNA) and approximately 30,000 base pairs, featuring a methylated cap at the 5' end and a polyadenylated (poly-A) tail at the 3' end, making it highly similar to the messenger RNA of the host.

COVID-19



tech 06 | Introduction

Coronaviruses were first described in the 1960s in the nasal cavities of patients with the common cold, and until now, only six species of coronavirus were known to infect humans (HCoV) and cause respiratory diseases, up until the current pandemic:

- HCoV-229E, HCoV-0C43, HCoV-NL63, and HKU1 cause mild upper respiratory tract
 infections; only in rare cases can they cause severe infections in pediatric populations
 and elderly adults. They are globally endemic and account for 10-30% of upper
 respiratory tract infections in adults
- The most well-known due to their pathogenicity are MERS-CoV (the coronavirus responsible for Middle East Respiratory Syndrome) and SARS-CoV (responsible for Severe Acute Respiratory Syndrome)
- Detailed investigations concluded that SARS-CoV was first transmitted to humans from civets, a species of cat native to Southeast Asia, and MERS-CoV was transmitted from dromedaries
- The coronavirus identified at the end of 2019 and originally referred to as the "Wuhan outbreak" was temporarily named 2019-nCoV but was later officially designated SARS-CoV-2 by the WHO

The outbreak began in Wuhan, China, a metropolis of 11 million inhabitants in the Hubei province, where local authorities initially reported an unknown origin of the outbreak, which was later linked to a large animal and seafood market in the city.

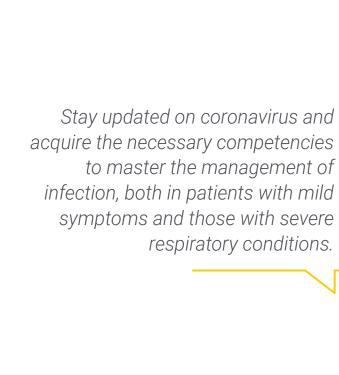
The first information received by the WHO office in China regarding a series of pneumonia cases of unknown etiology occurred on December 31, 2019, with the virus being identified as the cause on January 7, 2020. Three days later, scientists from Shanghai published the full genomic data of the new SARS-CoV-2 coronavirus, whose preliminary analysis suggested some amino acid homology to SARS, suggesting that it could use the ACE2 protein as a receptor, with important implications for predicting its potential to generate a pandemic. On January 10, the WHO published a series of provisional guidelines for all countries on how to prepare for the potential arrival of this virus, including how to manage sick individuals, sample analysis, patient treatment, and infection control in healthcare facilities.

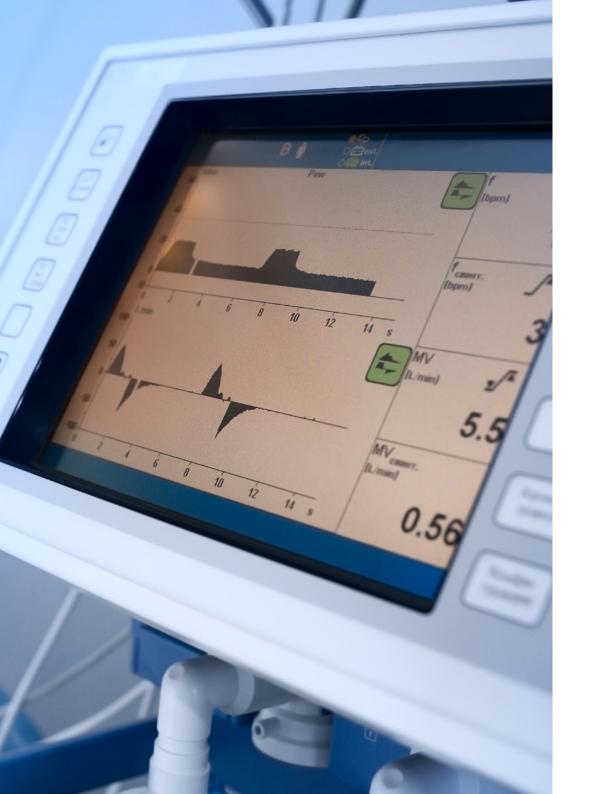
Ultimately, the outbreak could not be contained in China and spread globally, with the WHO declaring a health emergency as it reached pandemic levels, resulting in hundreds of thousands of COVID-19 cases and tens of thousands of deaths in China, Italy, Spain, the United States, and 160 other countries across all continents.

It is currently the leading public health concern from an infectious disease perspective, with a significant impact on morbidity, mortality, and the global economy, and has prompted a global response in prevention efforts, vaccine and drug research, led by the WHO and the Ministries of Health of all countries.

This online Postgraduate Certificate in the Current Status of Coronavirus Infection consolidates the latest research advancements and the highest scientific evidence with a comprehensive and didactic educational program that positions it as a product of the highest scientific rigor internationally. It is aimed at healthcare professionals who, in their daily clinical practice, face the challenge of treating patients or populations with infectious diseases, including cases from the current pandemic. Furthermore, this educational program is supported by a multidisciplinary approach to its topics, offering professional training and advancement in different areas:

respiratory conditions.









tech 10 | Objectives



General Objective

• Ensure professional advancement through the current and in-depth best scientific evidence in microbiology, epidemiology, clinical care, diagnosis, and treatment. This will allow the development of comprehensive health actions (prevention, diagnosis, treatment, rehabilitation) with a multidisciplinary and integrative approach, facilitating the provision of medical care with the highest quality standard for the control of SARS-CoV-2 infections





Specific Objectives

- Provide students with advanced, in-depth, updated, and multidisciplinary information that allows them to comprehensively approach the health-infectious disease process by coronavirus infections
- Offer theoretical and practical training that enables the execution of a definitive clinical diagnosis, supported by the efficient use of diagnostic methods to indicate effective comprehensive therapy
- Create skills for implementing prophylactic plans for the prevention of SARS-CoV-2 infections
- Assess and interpret the epidemiological, climatic, social, cultural, and health conditions
 of countries that favor the emergence and development of SARS-CoV-2 infections
- Explain the complex interrelations between etiological germs and risk factors for acquiring these infections
- Address the crucial role of microbiology, epidemiology, and all healthcare personnel in the control of SARS-CoV-2 infections
- Highlight the importance of morbidity and mortality from SARS-CoV-2 infections in international travelers
- Explain the pathogenic mechanisms and pathophysiology of SARS-CoV-2 infections
- Describe the clinical, diagnostic, and treatment characteristics of SARS-CoV-2 infections
- Address in detail and depth the most current scientific evidence on the development and spread of SARS-CoV-2

- Substantiate the importance of controlling coronavirus diseases to reduce global morbidity and mortality
- Emphasize the role of immunity in SARS-CoV-2 infections and their complications
- Highlight the development of vaccines for the prevention of coronavirus infections
- Emphasize the development of antivirals for the future and other therapeutic modalities for coronavirus infections



A boost to your CV that will give you the competitiveness of the best prepared professionals in the labor market"





tech 14 | Course Management

Management



Dr. Quintero Casanova, Jesús

- Degree in Medicine and Surgery from the Medical University of Havana. Cuba
- Specialist in Internal Medicine. "Héroes del Baire" Hospita
- Master's Degree in Tropical Diseases and Clinical Infectious Diseases from the Pedro Kuori Institute, Havana. Cuba
- Head of the Infectious Diseases Department of the Héroes del Baire Hospital
- Member of the Cuban Society of Internal Medicine
- · Member of the Cuban Society of Paediatricians
- Specialist Doctor in Africa (Chad) and Venezuela in the years 2009, 2013-2015
- Professor on the Medicine Degree and Internal Medicine Speciality at the Faculty of Medical Sciences of Isle of Youth
- Main professor of the Master's Degree in infectious diseases of the Faculty of Medical Sciences of the Isle of Youth
- Member of state examining boards for the medicine degree and internal medicine
- National Research Prize in Cuba, 2002
- · Medical Science Teaching Award. Cuba

Faculty

Dr. Amaro, Ernesto de la Garza

- Degree in Medicine and Surgery from the University of Havana. Cuba
- Specialist in Family Medicine, Pediatrics, and Intensive Care. "Héroes del Baire" Hospital
- Master's Degree in Infectious Diseases
- Head of the Pediatric Intensive Care Unit at the Héroes del Baire Hospital
- Member of the Cuban Society of Pediatrics and the Cuban Society of Intensive Care
- Member of the Cuban Society of Paediatricians
- Professor on the Medicine Degree and Internal Medicine Speciality at the Faculty of Medical Sciences of Isle of Youth
- Professor of the Master's Degree in Infectious Diseases in the Faculty of Medical Sciences in Isle of Youth

Dr. Batista Valladares, Adrián

- Degree in Medicine and Surgery from the University of Havana. Cuba
- Specialist in Family and Community Medicine
- Master's Degree in Clinical Infectology
- Certificate in Diagnostic Ultrasound
- Diploma in healthcare management
- Head of Senior Citizen Services in Isle of Youth. Cuba
- Member of the Cuban Society of Family Medicine
- Professor of the medicine and family medicine degrees at the Faculty of Medical Sciences in Isle of Youth
- Professor of the Master's Degree in Infectious Diseases in the Faculty of Medical Sciences in Isle of Youth
- Member of state examining boards for the medicine degree and speciality of family medicine
- Member of tribunals for national scientific events. Cuba

Dr. Dávila, Henry Luis

- Degree in Medicine and Surgery from the University of Havana. Cuba
- Specialist in Gynecology and Obstetrics at Héroes del Baire Hospital. Cuba
- Master's Degree in comprehensive care for women
- Head of the Neck Pathology Service at Heroes del Baire Hospital
- Member of the Cuban Society of Gynecology and Obstetrics
- Member of the Cuban Society of Paediatricians
- Medical specialist in Guatemala, 2010-12
- Professor on the Medicine Degree in the Faculty of Medical Sciences in Isle of Youth
- Member of state examination boards in the field of medicine
- Member of tribunals for national scientific events. Cuba
- National research award, Cuba
- Medical Science Teaching Award. Cuba

Ms. González Fiallo, Sayli

- Bahcelor's Degree in Hygiene and Epidemiology
- Master's Degree in Epidemiology
- Professor of the Faculty of Medical Sciences in Isle of Youth
- Director of the Health Analysis, Biostatistics, and Surveillance Unit of the Municipal Health Directorate. Isle of Youth

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Dr. Jiménez Valdés, Erlivan

- Degree in Medicine and Surgery from the University of Havana. Cuba
- Specialist in Pediatrics. "Héroes del Baire" Hospital
- Master's Degree in comprehensive childcare
- Member of the Cuban Society of Pediatrics
- Professor in the Medicine Degree and Pediatrics Specialty in the Faculty of Medical Sciences in Isle of Youth
- Member of tribunals for national scientific events. Cuba
- Medical specialist in Venezuela in 2017

Ms. Lawrence Carmenate, Araelis

- Lic. in Microbiology at the University of Havana
- Master's Degree in infectious Diseases
- Professor on the Medicine Degree in the Faculty of Medical Sciences in Isle of Youth
- Member of the Cuban Society of Microbiology
- Member of the Association of Pedagogues
- Worked in Caracas, Venezuela from 2012 to 2014
- She has participated in national and international microbiology events in Cuba and Venezuela

Dr. Matos Rodríguez, Zaskia

- Specialist in Gynecology and Obstetrics (Level I) at the Héroes del Baire Teaching General Hospital
- Professor of the Medicine Degree and of the specialty at the Faculty of Medical Sciences, Isle of Youth
- Member of the Cuban Society of Gynecology and Obstetrics
- Participation in several research projects and publication of scientific articles in national and international journals in Cuba, Spain, Mexico, Chile, Colombia, United States, and United Kingdom
- She has been awarded the title of Best Scientific Research in the field of health multiple times in recent years on the Isle of Youth
- Mention in the XLII Annual Health Prize Competition at the national level

Dr. Serrano Amador, Alexander

- Specialist in General Integral Medicine (Level I)
- Assistant Professor of the Medical Sciences Branch in Isle of Youth
- Diploma in Higher Medical Education
- Diploma in Direction and Management of Medical Services
- Head of the Municipal Teaching Department of General Comprehensive
 Medicine and Public Health of the Medical Sciences Branch in Isle of Youth
- Member of the Cuban Society of General Medicine







tech 20 | Structure and Content

- 1.1. Discovery, Evolution, and Microbiology of Coronaviruses
 - 1.1.1. Discovery of Coronaviruses
 - 1.1.2. Global Evolution of Coronavirus Infections
 - 1.1.3. General Microbiological Characteristics
 - 1.1.4. Genome
 - 1.1.5. Main Virulence Factors
- 1.2. Emergence and Global Behavior of SARS-CoV-2
 - 1.2.1. Emergence and Evolution of the SARS-CoV-2 Outbreak in China
 - 1.2.2. Current International Epidemiological Situation of the SARS-CoV-2 Pandemic
 - 1.2.3. Operational Definitions: Suspected Case and Confirmed Case
 - 1.2.4. Transmission Scenarios, Mechanisms, and Patterns of Spread in the Most Affected Countries
 - 1.2.5. Case Reporting Algorithm
- 1.3. Latest International Recommendations for the Prevention and Control of SARS-CoV-2 Infection in the Population
 - 1.3.1. WHO Recommendations for Prevention of Transmission and Control of Infection at the Community Level
 - 1.3.2. Pre-Hospital Isolation Recommendations
 - 1.3.3. Impact of Border Control Measures on SARS-CoV-2 Infections
 - 1.3.4. International Experiences: China, Europe, America
- 1.4. International Recommendations for the Use of Personal Protective Equipment in Healthcare Institutions
 - 1.4.1. Recommendations for Preventing Transmission among Healthcare Workers and in Healthcare Institutions
 - 1.4.2. Specific Recommendations on the Use of Personal Protective Equipment for Healthcare Workers
 - 1.4.3. Hospital Isolation Recommendations
- 1.5. The Immune System and SARS-CoV-2 Infections
 - 1.5.1. Immunological Mechanisms Involved in the Immune Response to SARS-CoV-2
 - 1.5.2. Cytokine Storm in Coronavirus Infections and Immunopathology
 - 1.5.3. Modulation of the Immune System in Coronavirus Infections





Structure and Content | 21 tech

- 1.6. Natural History of SARS-CoV-2 Infections
 - 1.6.1. Stages of SARS-CoV-2 Infection
- 1.7. Pathogenesis and Pathophysiology of SARS-CoV-2 Infections
 - 1.7.1. Pathophysiological and Pathogenic Alterations of SARS-CoV-2 Infections
 - 1.7.2. Clinical Implications of the Main Pathophysiological Alterations
- 1.8. Clinical Manifestations of SARS-CoV-2
 - 1.8.1. Symptoms and Signs in Uncomplicated Patients
 - 1.8.2. Severity Criteria in SARS-CoV-2 Infections
 - 1.8.3. Most Frequent Complications
 - 1.8.4. Clinical Manifestations in Pediatric Patients
 - 1.8.5. Clinical Manifestations in Pregnant Women
 - 1.8.6. Clinical Presentation in Non-Severe Patients without Complications Treated in the Community or Mildly Hospitalized
 - 1.8.7. Clinical Presentation in Severe Patients with Complications Treated in Intensive Care Units
- 1.9. Use of Diagnostic Tests for Coronavirus
 - 1.9.1. Indications for Diagnostic Tests According to Defined Operational Algorithms
 - 1.9.2. Technique and Recommendations for Collecting Microbiological Samples for SARS-CoV-2 Diagnosis
- 1.10. Updated Recommendations for the Treatment of SARS-CoV-2 Infections
 - 1.10.1. Recommendations for the Management and Treatment of Suspected or Confirmed SARS-CoV-2 Cases
 - 1.10.2. Use of Antivirals and Other Antimicrobials in SARS-CoV-2 Infections
 - 1.10.3. Recommendations on the Use of Medications for Managing Other Diseases in Patients with SARS-CoV-2 Infection
- 1.11. Latest Recommendations in the Management of Mechanical Ventilation in Patients with SARS-CoV-2 Infections
 - 1.11.1. Current Practices in Mechanical Ventilation for Severe Patients with Acute Respiratory Failure or Respiratory Distress Syndrome



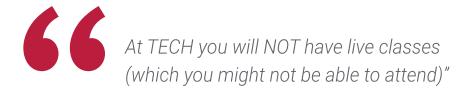


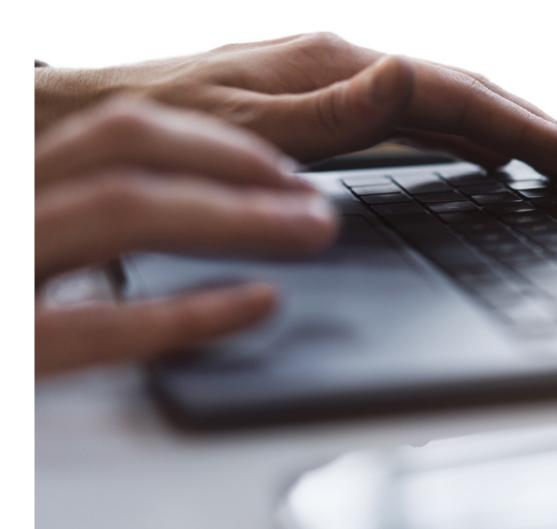
The student: the priority of all TECH programs

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.



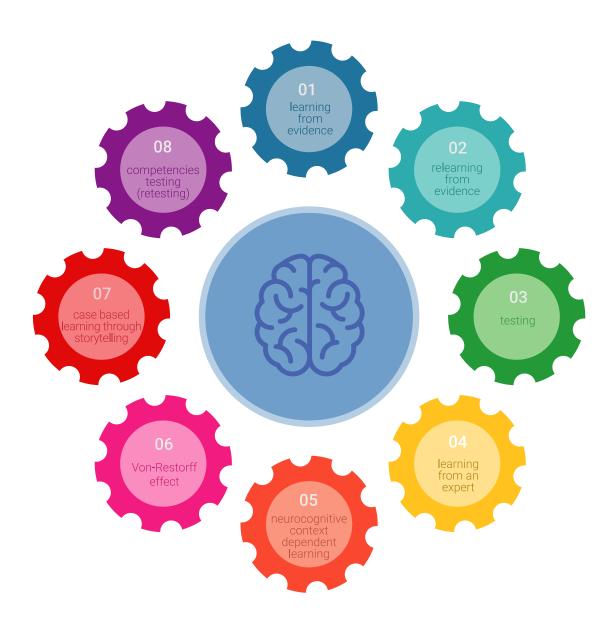
Relearning Methodology

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 | 29 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

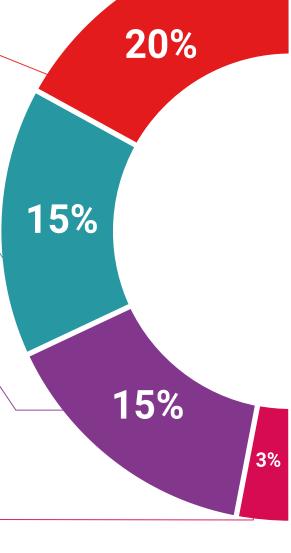
You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



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



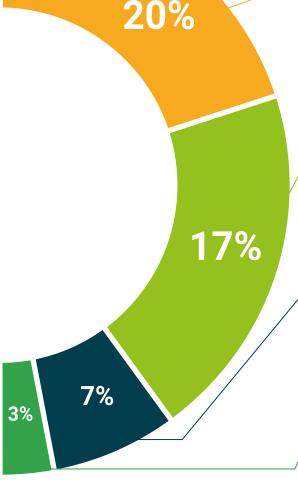
There is scientific evidence suggesting that observing third-party experts can be useful.

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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This private qualification will allow you to obtain a diploma for the **Postgraduate Certificate** in **Current Status of SARS-CoV-2 Infection** 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 Current Status of SARS-CoV-2 Infection

Modality: **online**

Duration: 6 weeks

Accreditation: 6 ECTS



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

Postgraduate Certificate in Current Status of SARS-CoV-2 Infection

This is a private qualification of 180 hours 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



health confidence people information tutors guarantee accreditation teaching technology



Postgraduate Certificate Current Situation of SARS-CoV-2 Infection

- » Modality: online
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- » Accreditation: 6 ECTS
- » Schedule: at your own pace
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