Internship Program
Update on Oncologic Pathology for Pathologists

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Internship Program

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01

Introduction

Recently, the techniques and tools that pertain to Oncologic Pathology have experienced considerable growth. This is due to the fact that, more and more, this health specialty gives greater relevance to the molecular study of neoplasms, instead of the morphological features, giving the pathologist the opportunity to become a consulting expert on cancer diagnosis. At the same time, the educational landscape does not offer enough educational alternatives for those professionals who need to catch up on new trends in the industry. Aware of this, TECH has developed this program for those physicians who wish to update their skills in the diagnosis of tumors. For this purpose, they will be received in a first level hospital institution for 3 intensive weeks.

> *This educational program will develop your practical skills to the fullest, in this way acquiring a holistic mastery of the main skills that distinguish a professional pathologist"*

For years, pathologists have used techniques such as immunohistochemical markers as a tool to classify tumors or rule out benign neoplasms. More recently, however, scientific research has led to the discovery of a greater number of such markers, such as CD20, CD117 or Her2/Nue. Through them, the medical professional can define the potential or not of a lesion to become malignant and can also anticipate the response of the diseased organism to certain therapies. Thanks to this last function, which is closely related to Precision Medicine, many hospital services reduce treatment costs and ensure greater patient survival.

Although there are educational programs that address these kinds of educational advances, none of them emphasize the practical development of these aspects in concrete work scenarios. For this reason, TECH has designed a first-class practical internship that will take place in a prestigious international medical institution. In that instance, the pathologist will be up-to-date on new tools and strategies for the diagnosis of Tumors of the Skin, Brain, Breast or Central Nervous System in general. Furthermore, the program will provide professionals with a direct and immersive learning environment in which they will be able to apply cutting-edge procedures on real patients.

The Internship program consists of 3 educational weeks, in which the graduate will be hosted by experts with extensive experience in the use and implementation of these advances in the area of oncological diagnostics. Together with them, they will master the most modern competencies of mandatory compliance in Oncologic Pathology at this time. In addition, they will be supervised by an assistant tutor, who will be in charge of monitoring their progress. At the end of this program, the pathologist will be prepared to perform all the assimilated procedures in their daily work dynamics in an efficient manner.

02

Why Study an Internship Program?

In the medical field, Oncologic Pathology has become a coveted specialty. Therefore, in this program, TECH wishes to instruct its students in the use of the most up-to-date equipment and techniques in this discipline. The learning of all these procedures will be guaranteed in this 100% practical mode of study, where the assimilation of new skills will be supervised by a renowned adjunct tutor. In addition, this Internship program in Update in Oncologic Pathology for Pathologists will take place for 3 weeks in an international reference hospital.

TECH will open the doors of first class hospitals where you will spend an intensive and rigorous stay, guided by the most distinguished experts of the international Clinical Pathology panorama"

1. Updating from the Latest Technology Available

This Internship Program has been designed so that each TECH graduate can easily apply the latest trends in Oncologic Pathology during their daily professional practice. This is possible thanks to the fact that, during this intensive in-person stay, the physician will become familiar with the most recent and innovative technologies in this health area.

2. Gaining In-depth Knowledge from the Experience of Top Specialists

A large team of professionals who are part of highly prestigious medical centers participate in this Internship Program. Furthermore, each student will have a designated tutor. This expert will be in charge of verifying the students' control over the most up-to-date diagnostic tools related to Oncological Tumors.

3. Entering First-Class Clinical Environments

The choice of the medical institutions that are part of this educational modality has involved meticulous care on the part of TECH. Each of the selected instances has rigorous experts. In addition, they apply up-to-date technologies and their eagerness to provide innovative solutions to each patient. This comprehensive and demanding context will expand the professional horizons of each graduate with speed and flexibility.

4. Putting the acquired knowledge into daily practice from the very first moment

During the 3 weeks of this Internship Program, the pathologist will see and diagnose patients first hand. This is possible thanks to the innovative learning methodology that promotes the link with the daily work practice from the very first moment. In this way, the graduate will be focused on developing practical skills, rather than mastering cumbersome theoretical content.

5. Expanding the Boundaries of Knowledge

TECH has a large number of contacts, agreements and collaborations that make it the largest educational institution in the digital context. All these relationships have led to the most prestigious hospitals joining this educational program. In this way, the students who take this Internship Program will have on-site access to internationally renowned institutions.

You will have full practical immersion at the center of your choice"

03
Objectives

The main objective of this program is for the pathologists to update their skills in Oncologic Pathology in a 100% practical way. Unlike other programs in the educational market, TECH has composed an intensive and immersive in-person program, through which the professionals will expand their skills in a fast and flexible way.

General Objectives

- To introduce the professional in the use and management of medical technology for the detection of Oncologic Pathology
- Perform an adequate interpretation of the data obtained in the Oncologic Pathology tests
- Improve daily work with the use of the latest advances available in oncology treatment

You will have access to a library of multimedia resources 7 days a week, 24 hours a day"

Specific Objectives

- Recognize the characteristics of malignant neoplasms, their classification, according to their histogenesis, as well as aspects related to their biological behavior
- Acquire up-to-date knowledge on cancer epidemiological data worldwide
- Manage screening methods in at-risk populations for early diagnosis of cancerous lesion
- Identify the susceptibility genes involved in breast, lung, thyroid, colon, skin, bone, pancreatic, and neuroblastoma cancers, and by what mechanism they participate in tumorigenesis
- Master the environmental and occupational factors (mutagenic agents) that are directly and indirectly involved in cancer, and the carcinogenic capacity of some toxic substances found in food
- Relate DNA and RNA viruses known to cause cancer in humans
- Understand cancer as a genetic disease resulting from mutations that accumulate in genes that are critical for the growth and development of somatic cells
- Describe the genes associated with cancer, and the importance of DNA analysis to identify individuals, detect predisposing gene polymorphisms, analyze mutations, and establish the diagnosis of cancer as a genetic disease
- Know the symptoms and signs that are most frequently related to cancer, as well as the different systems for the staging of tumor disease and their importance
- Manage and apply the different technologies used to analyze the gene expression profile of neoplasms to identify clinical and biological aspects that are difficult to determine by histopathological examination
- Know the main problems in the management and structuring of data in pathology
- Identify opportunities for research and problem solving through *Big Data*, know its main utilities and limits
- Detect the main anatomopathological signs of death by intoxication
- Identify the macroscopic and histological alterations caused by toxic substances in the body
- Recognize the criteria justifying the reversal of a clinical autopsy to a medical examiner

Thanks to this Internship Program, you will be up-to-date on how to diagnose the macroscopic and histological alterations caused by toxic substances in the body of patients"

04
Educational Plan

This Internship Prgoram will consist of a 3 week program, in which the pathologist will be received in a first level hospital institution, focused on the analysis and diagnosis of oncological diseases. During this intensive in-person stay, the doctor will directly follow up real cases together with specialists with extensive international experience. In addition, the students will be assisted by an assistant tutor who will be in charge of monitoring their progress and contributing to the holistic updating of the professional.

In this completely practical internship program, the activities are aimed at developing and perfecting the necessary skills for the provision of oncological pathology services that require high competencies, and are oriented towards specific training for the practice of the activity, in a state-of-the-art and safe clinical environment.

During 120 educational hours from Monday to Friday, the student will perform the most innovative pathological examinations currently applied in the health field and will analyze the determinants of their use in Brain Tumors, Skin Tumors, Female Breast Tumors, among others. At the same time, students will delve into the role of the pathologist when intervening toxicological manifestations of various kinds in surgical or deceased patients.

The practical education will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees who facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of La medicine (learning to be and learning to relate).

The procedures described below will form the basis of the practical part of the internship, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:

Module	Practical Activity
The most innovative pathological tests on the market to detect Oncologic Pathologies	Perform fluorescence on-site hybridization (FOSH) to determine the position of specific genes
	Implement Polymerase Chain Reaction (PCR) to DNA samples with suspected tumorigenicity
	Perform Western blot hybridization to analyze proteins or peptides related to cancer
	Implementation of molecular biology techniques (FISH, PCR, RT-PCR) for different pathological samples
	Use Electron Microscopy to obtain more comprehensive genetic information of the oncology patient
	Apply those radiological techniques that are used in the functional study and diagnosis of malignant tumors
Toxicology for surgical pathologists in daily practice	Detect the main anatomopathological signs of death by intoxication
	Diagnose the macroscopic and histological alterations caused by toxic substances in the body of the patients
	Determine the most appropriate diagnostic technique, according to the patient's physical condition, to check the toxicological status of the organism
Female Breast Tumors	To evaluate the breast pre- and post-neoadjuvant breast with different diagnostic techniques for diagnostic techniques of oncologic pathology
	Indicate genetic testing to determine variations in the BRCA and TP53 genes significant in breast cancer
	Apply HER2 and other cytology tests to determine the presence of cancer cells in the breast
	Breast cancer typing by hematoxylin-eosin staining and other immunohistochemistry techniques
	Determine if the patient has oncological criteria to be treated with Trastuzumab after a Breast Biopsy has been performed

Module	Practical Activity
Skin Tumors and Hemolymphoid Tumors	Indicate skin biopsies in lesions whose morphological characteristics have changed considerably over time
	Apply different sampling, according to the analytical technique to be applied, for laboratory and molecular pathology units
	Diagnose different types of systemic lymphomas and mature B and T stiper neoplasms
	Perform histopathological diagnosis of Hodgkin's lymphomas
	Recognize the morphological and molecular differences between benign and malignant lesions of the hematolymphoid system
Tumors of the Nervous System, head, neck, and particularities in the diagnosis of tumors in children and particularities in the diagnosis of tumors in children	Evaluate selear and supraselear lesions of the central nervous system using morphological, molecular, and radiological diagnostic techniques
	Perform staging of pre-school astrocytomas for brain tumors
	Indicate routine, special stains, and biomarkers in Medulloblastoma to detect malignant tumors in childhood
	Identify the diagnostic difficulties of precursor lesions of Oral Cancer, as well as tumor pathology of the Oral Mucosa and Salivary Glands, based on the histological and molecular characteristics of these diseases

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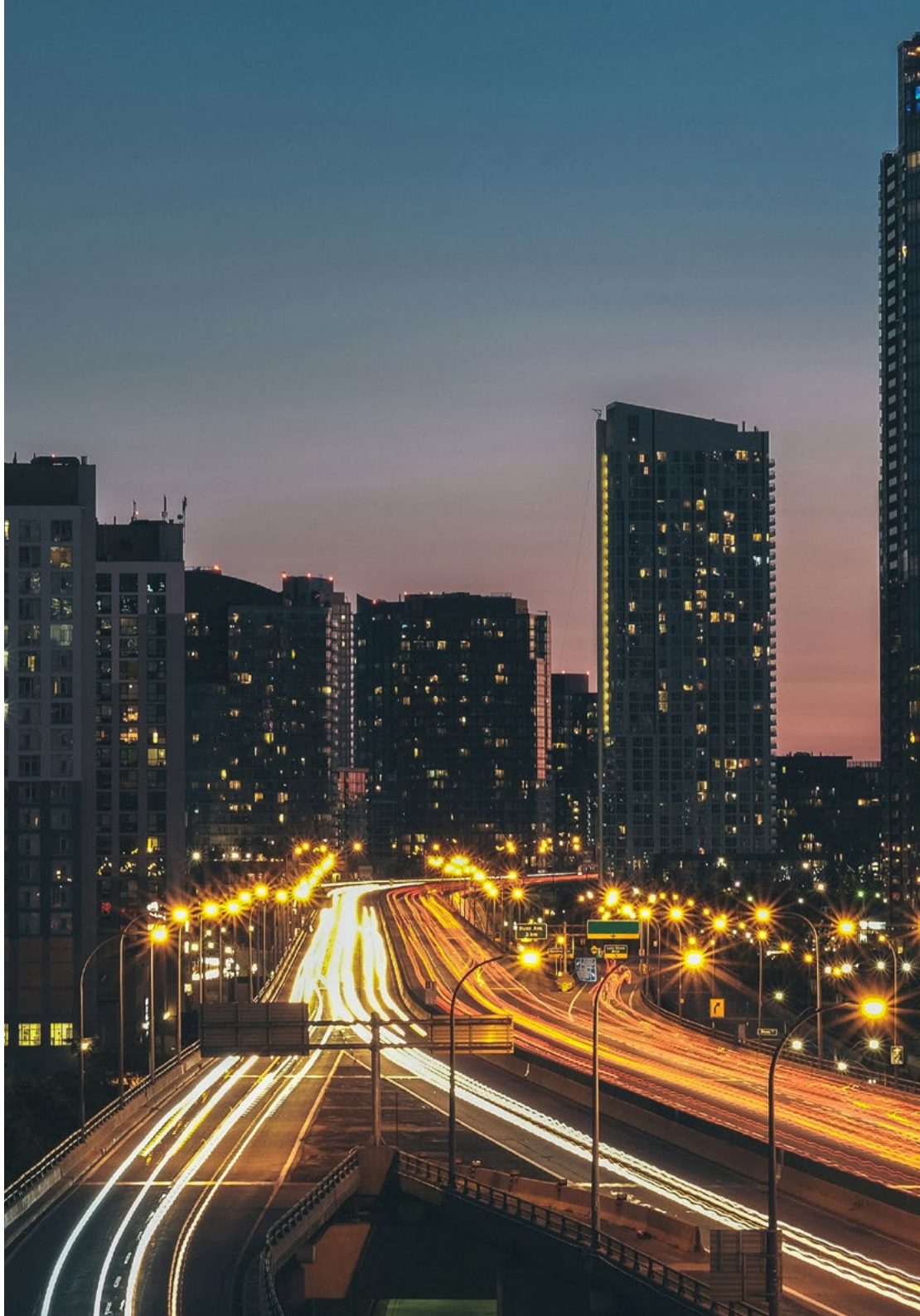
Where Can I Do the Internship Program?

This learning model, eminently practical and in-person, will take place in institutions specialized in the analysis of Oncologic Pathology. The physicians will have access to them through TECH's wide network of agreements and contacts and, at the same time, will have the opportunity to choose the facilities that best suit their geographic location or educational interests.

Select the hospital that best suits your needs thanks to TECH's eagerness to offer you a personalized and 100% practical education"



The student will be able to do this program at the following centers:

Hospital HM Modelo

Country: Spain
City: La Coruña

Address: Rúa Virrey Osorio, 30, 15011, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

Hospital HM Rosaleda

Country: Spain
City: La Coruña

Address: Rúa de Santiago León de Caracas, 1, 15701, Santiago de Compostela, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Hair Transplantation
- Orthodontics and Dentofacial Orthopedics

Hospital HM Regla

Country: Spain
City: León

Address: Calle Cardenal Landázuri, 2, 24003, León

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Update on Psychiatric Treatment in Minor Patients

Hospital HM Nou Delfos

Country: Spain
City: Barcelona

Address: Avinguda de Vallcarca, 151, 08023 Barcelona

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Aesthetic Medicine
- Clinical Nutrition in Medicine

Hospital HM Madrid

Country: Spain
City: Madrid

Address: Pl. del Conde del Valle de Súchil, 16, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Palliative Care
- Anaesthesiology and Resuscitation

Hospital HM Montepríncipe

Country: Spain
City: Madrid

Address: Av. de Montepríncipe, 25, 28660, Boadilla del Monte, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Palliative Care
- Aesthetic Medicine

Hospital HM Torrelodones

Country: Spain
City: Madrid

Address: Av. Castillo Olivares, s/n, 28250, Torrelodones, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

Hospital HM Sanchinarro

Country: Spain
City: Madrid

Address: Calle de Oña, 10, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

Hospital HM Nuevo Belén

Country: Spain
City: Madrid

Address: Calle José Silva, 7, 28043, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- General and Digestive System Surgery
- Clinical Nutrition in Medicine

Hospital HM Puerta del Sur

Country: Spain
City: Madrid

Address: Av. Carlos V, 70, 28938, Móstoles, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Palliative Care
- Clinical Ophthalmology

HM CIOCC - Centro Integral Oncológico Clara Campal

Country: Spain
City: Madrid

Address: Calle de Oña, 10, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Gynecologic Oncology
- Clinical Ophthalmology

HM CIOCC Barcelona

Country: Spain
City: Barcelona

Address: Avenida de Vallcarca, 151, 08023, Barcelona

Network of private clinics, hospitals and specialized centers distributed
Throughout the spanish geography

Related internship programs:
-Advances in Hematology and Hemotherapy
-Oncology Nursing

HM CIOCC Galicia

Country: Spain
City: La Coruña

Address: Avenida das Burgas, 2, 15705, Santiago de Compostela

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Gynecologic Oncology
- Clinical Ophthalmology

Policlínico HM Arapiles

Country: Spain
City: Madrid

Address: C. de Arapiles, 8, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Anaesthesiology and Resuscitation
- Pediatric Dentistry

Policlínico HM Distrito Telefónica

Country: Spain
City: Madrid

Address: Ronda de la Comunicación, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Optical Technologies and Clinical Optometry
- General and Digestive System Surgery

Policlínico HM Las Tablas

Country: Spain
City: Madrid

Address: C. de la Sierra de Atapuerca, 5, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Nursing in the Traumatology Department
- Diagnosis in Physiotherapy

Policlínico HM Moraleja

Country: Spain
City: Madrid

Address: P.º de Alcobendas, 10, 28109, Alcobendas, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Rehabilitation Medicine in Acquired Brain Injury Management

Policlínico HM Sanchinarro

Country: Spain
City: Madrid

Address: Av. de Manoteras, 10, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
-Gynecological Care for Midwives
-Nursing in the Digestive System Department

06

General Conditions

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.

General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Internship Program, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: The Internship Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

07

Certificate

This **Internship Program in Update on Oncologic Pathology for Pathologists** contains the most complete and up-to-date program in the professional and academic landscape.

After the student has passed the assessments, they will receive their corresponding Internship Program diploma issued by TECH Technological University via tracked delivery*.

The certificate issued by TECH will reflect the grade obtained in the test.

Title: **Internship Program in Update on Oncologic Pathology for Pathologists**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour consecutive shifts**

Total Hours: **120 h. of professional practice**


tech technological university

Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having successfully passed and accredited the following program

INTERNSHIP PROGRAM

in

Update on Oncologic Pathology for Pathologists

This is a qualification awarded by this University, with a duration of 120 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.

Unique TECH Code: AFWORD23S techtitute.com/certificates

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