

# Postgraduate Diploma

## Allogeneic Transplantation and Infections in Oncohematology





## Postgraduate Diploma

### Allogeneic Transplantation and Infections in Oncohematology

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Accreditation: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-allogeneic-transplantation-infections-oncohematology](http://www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-allogeneic-transplantation-infections-oncohematology)

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# 01 Introduction

In recent years there have been significant advances in the field of Oncohematology, especially around the improvement of the identification of donors compatible with leukemia patients, the use of peripheral stem cells or improved conditioning therapies. These are advances that every specialist should be aware of, which is why TECH has designed this 100% online degree. Thus, the professional will be able to be updated in just 6 months on the most recent advances in the realization of allogeneic transplantation and infections in oncohematological patients. All this, in addition, with a syllabus based on recent scientific evidence and prepared by leading experts in this field.



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*A Postgraduate Diploma 100% online  
that will take you to be aware of the  
advances in allogeneic transplantation  
and infections in Oncohematology”*

Progress in allogeneic transplantation has improved the survival rate and quality of life of patients, while at the same time perfecting the treatment of other diseases that previously had a difficult prognosis. Undoubtedly, such advances entail a continuous updating of knowledge in diagnostic and therapeutic procedures by specialists.

In this sense, this academic institution has decided to bring together over 540 teaching hours the most exhaustive and advanced information in the field of allogeneic transplantation of hemopoietic progenitors and the most common infections in Oncohematology. All this, in a Postgraduate Diploma designed by an excellent team of specialists of national and international stature.

It is, therefore, an intensive program that will lead the graduate to deepen in the etiopathogenesis, diagnosis and prognosis of this heterogeneous group of myeloid neoplasms, as well as in the complications of allogeneic HSCT as the EICR or SOS.

A complete update that will also lead you to delve into the crucial concepts for the routine management of oncohematological patients, most of whom eventually see their lives threatened by infectious complications.

The professional is thus presented with an ideal opportunity to update his or her knowledge through a quality university degree, which also gives him or her the opportunity to self-manage his or her access time. The graduate only needs a cell phone, tablet or computer with internet connection to visualize, at any time of the day, the syllabus available on the virtual platform.

This **Postgraduate Diploma in Allogeneic Transplantation and Infections in Oncohematology** 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 Hematology and Hemotherapy
- ♦ 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



*Do you want to update your knowledge in Infections in Oncohematology without neglecting your daily responsibilities? TECH has designed the right degree for you"*

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*Increase your competences for the management of oncohematology patients with Cytomegalovirus, VZV or SARS-CoV2”*

The program includes in its teaching staff professionals of the sector who pour into this training the experience of their work, in addition to recognized specialists from reference 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 experts.

*An academic experience that will lead you to delve into the main and most relevant complications of allogeneic transplantation.*

*This advanced syllabus delves into the growing problem of resistant microorganisms in oncohematological patients.*



# 02 Objectives

The aim of this program is to provide the graduate with a renewed vision on Allogeneic Transplantation and Infections in Oncohematology. To achieve this goal, TECH provides an intensive syllabus with numerous teaching materials including clinical videos and case studies that will enhance the theoretical and practical approach of this Postgraduate Diploma. A unique opportunity for updating that only this academic institution offers you.



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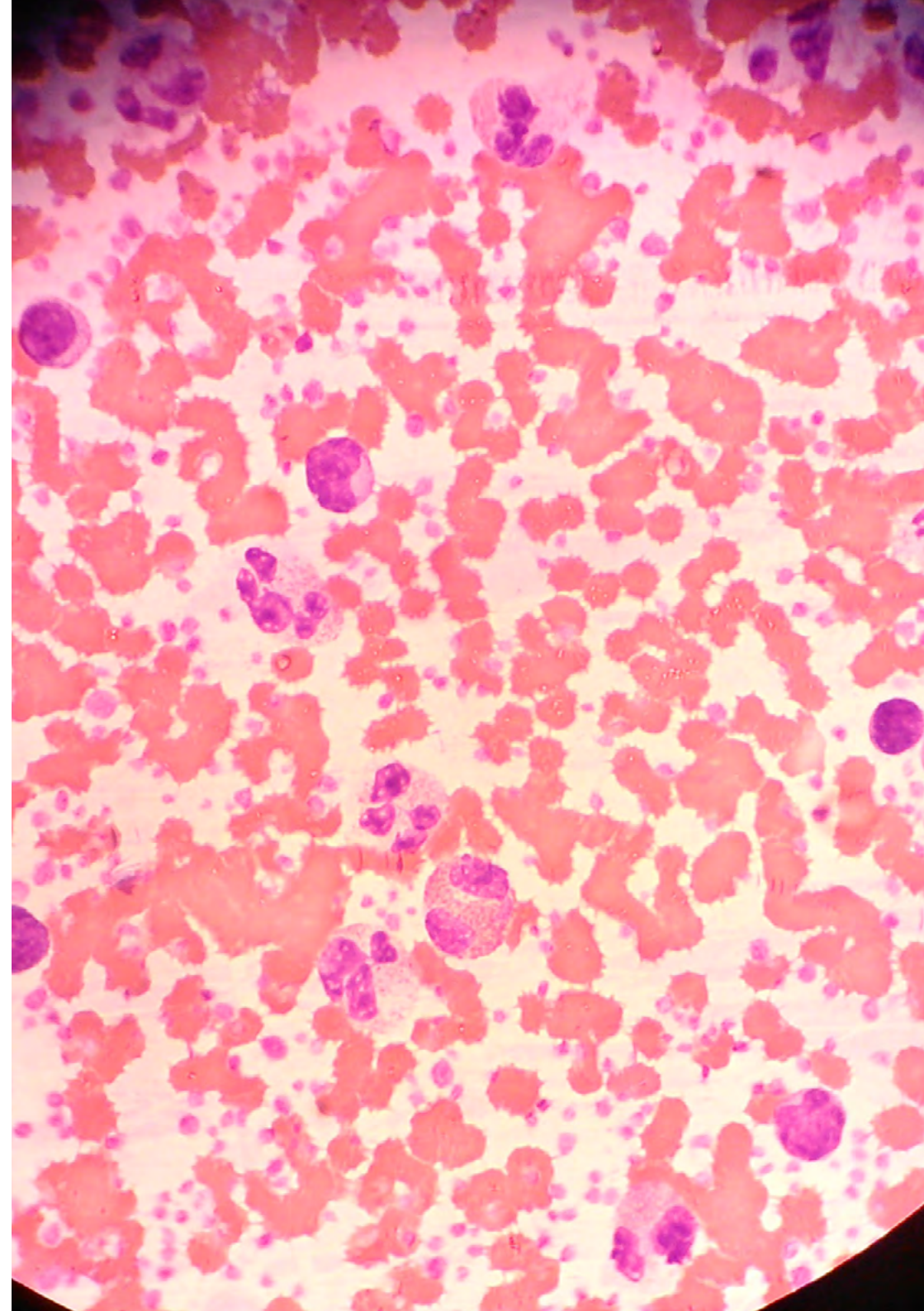
*Obtain clinical cases of patients with early complications of HSCT or with acute graft-versus-recipient disease and improve your skills in their approach”*



## General Objectives

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- Explore the etiopathogenesis, diagnosis, and prognosis of Myelodysplastic Syndromes
- Update knowledge on the pharmacological treatments used in Oncohematology
- Investigate the most recent scientific publications on the most appropriate treatments in LAL
- Delve into the growing problem of resistant microorganisms
- Evaluate current evidence and recommendations in prophylaxis
- Deepen in the routine care of oncohematological patients affected by SARS-CoV2





## Specific Objectives

### Module 1. Myelodysplastic Syndromes

- Review generalities regarding the etiopathogenesis, diagnosis and prognosis of this heterogeneous group of myeloid neoplasms
- Examine the latest diagnostic classifications as well as the currently used international prognostic indexes
- Investigate in a practical way the management of low-risk MDS, the use of erythropoiesis-stimulating agents, the relevance of adequate iron chelation, and the role of new drugs such as Luspatercept
- Delve into the results with hypomethylating agents and with HSCT, as well as the clinical development of promising new drugs

### Module 2. Allogeneic Hematopoietic Progenitor Transplant

- Delve into the fundamental concepts of allogeneic transplantation of hemopoietic progenitors with a practical approach
- Update knowledge about the most relevant complications of the procedure, its different modalities, useful tools for the diagnosis and prognosis of some of them, such as the EICR or the SOS
- Assess the different approaches to prevent and treat Cytomegalovirus or fungal infections
- Identify the methodological limitations that often plague studies in the field of HSCT, especially with regard to its indications

### Module 3. Infections in Oncohematology

- Optimize the routine management of oncohematological patients, which greatly involves infections
- Deepen in the growing problem of resistant bacteria, the different mechanisms of resistance and their surveillance
- Delve into the role of new antibiotics and a judicious policy in the use of empirical antibiotherapy
- Point out the importance of de-escalation and good epidemiological management of each center
- Identify the current evidence and recommendations on prophylaxis and the different modalities of antifungal treatment (empirical, anticipatory or targeted)
- Deepen in the novelties regarding prophylaxis and treatment of different viruses, especially CMV, VZV or (of course) SARS-CoV2



*The medical literature in this degree will lead you to inquire into the methodological limitations that often plague studies in the field of PHCT*

03

# Structure and Content

TECH incorporates in this university degree the most up-to-date content on the Postgraduate Diploma in Allogeneic Transplantation and Infections in Oncohematology. Information with a theoretical-practical perspective that acquires even greater dynamism thanks to the multimedia pills, specialized readings and simulations of case studies that students can access, comfortably from a digital device with internet connection and at any time of the day.



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*A flexible Postgraduate Diploma that provides you with clinical case studies on the latest treatments for oncohematological patients with infections”*

## Module 1. Myelodysplastic Syndromes

- 1.1. General Overview
  - 1.1.1. Pathogenesis. CHIP (Clonal Hematopoiesis of Indeterminate Potential), CCUS (Clonal Cytopenia of Undetermined Significance), ICUS (Idiopathic Cytopenia of Undetermined Significance)
  - 1.1.2. Epidemiology. Clinical Features
  - 1.1.3. De Novo vs. Therapy-Related Myelodysplastic Syndromes
- 1.2. Diagnosis
  - 1.2.1. Cytology
  - 1.2.2. Genetic and Molecular Alterations
  - 1.2.3. Flow Cytometry
- 1.3. Classification. MDS/MPN
  - 1.3.1. WHO
  - 1.3.2. International Consensus Classification (ICC)
  - 1.3.3. MDS/NMP
- 1.4. Prognostic Scoring Systems
  - 1.4.1. IPSS (International Prognostic Scoring System)
  - 1.4.2. IPSS-R (Revised IPSS)
  - 1.4.3. Molecular IPSS
- 1.5. Management of Low-Risk MDS
  - 1.5.1. Use of Erythropoiesis-Stimulating Agents
  - 1.5.2. Iron Chelators
  - 1.5.3. del(5q) MDS. Lenalidomide
  - 1.5.4. Hypoplastic MDS
- 1.6. New Drugs for Low-Risk MDS
  - 1.6.1. Luspatercept
  - 1.6.2. Drugs in Development
- 1.7. Treatment of High-Risk MDS
  - 1.7.1. Hypomethylating Agents
  - 1.7.2. Intensive Chemotherapy
- 1.8. New Drugs in MDS
  - 1.8.1. Venetoclax plus Hypomethylating Agents
  - 1.8.2. IDH1/IDH2 Inhibitors, Imetelstat, and Others

- 1.9. Hematopoietic Stem Cell Transplantation (HSCT) in MDS
  - 1.9.1. Indications
  - 1.9.2. Conditioning Regimens and Modalities
- 1.10. Role of Comorbidities and Geriatric Assessment
  - 1.10.1. Comorbidity Scales
  - 1.10.2. Quality of Life Assessment
  - 1.10.3. *Patient-Reported Outcomes*

## Module 2. Allogeneic Hematopoietic Progenitor Transplant

- 2.1. Types of Hematopoietic Stem Cell Transplant (HSCT)
  - 2.1.1. HSCT from HLA-Identical Sibling
  - 2.1.2. HSCT from Unrelated Donor (UD)
  - 2.1.3. Haploidentical HSCT
- 2.2. Pre-Transplant Evaluation
  - 2.2.1. Tests to Be Performed
  - 2.2.2. Fertility Preservation
  - 2.2.3. Risk Assessment for HSCT
- 2.3. Selection of the Ideal Donor
  - 2.3.1. Age. Possible Human Leukocyte Antigen (HLA) Differences
  - 2.3.2. CMV Status. Group/Rh Compatibility
  - 2.3.3. Comorbidities. Logistical Issues
- 2.4. Some Early Complications of HSCT
  - 2.4.1. Cytopenias, Bleeding, Infections
  - 2.4.2. Thrombotic Microangiopathy
  - 2.4.3. Mucositis. Diarrhea
- 2.5. Other Possible Complications of HSCT
  - 2.5.1. Graft Failure
  - 2.5.2. Graft Syndrome
- 2.6. Sinusoidal Obstruction Syndrome
  - 2.6.1. Etiopathogenesis and Diagnosis
  - 2.6.2. Prognosis and Treatment
- 2.7. Acute Graft-Versus-Host Disease (aGVHD)
  - 2.7.1. Acute aGVHD: Pathogenesis and Clinical Features
  - 2.7.2. Prophylaxis of aGVHD
  - 2.7.3. Acute aGVHD: Diagnosis and Grading

- 2.8. Treatment of Acute aGVHD
  - 2.8.1. Steroid Management
  - 2.8.2. Options after Steroid Failure
- 2.9. Chronic Graft-Versus-Host Disease (cGVHD)
  - 2.9.1. cGVHD: Pathogenesis and Clinical Features
  - 2.9.2. cGVHD: Diagnosis and NIH Severity Grading
- 2.10. Treatment of Chronic cGVHD
  - 2.10.1. Localized Treatments
  - 2.10.2. Systemic Treatment Options for Steroid-Refractory Cases

### Module 3. Infections in Oncohematology

- 3.1. Bacteria
  - 3.1.1. Basics of Empirical Treatment
  - 3.1.2. Management of Resistant Bacteria
  - 3.1.3. Antibiotic De-escalation
- 3.2. Invasive Fungal Infections. General Overview
  - 3.2.1. Prophylaxis: Indications and Alternatives
  - 3.2.2. Empirical and Targeted Treatment
  - 3.2.3. Possible, Probable, or Proven IFI
- 3.3. Invasive Aspergillosis
  - 3.3.1. Epidemiology. Serial Monitoring
  - 3.3.2. Treatment Choice
  - 3.3.3. Primary and Secondary Prophylaxis. Surgery
- 3.4. Invasive Candidiasis
  - 3.4.1. Epidemiology, Clinical Features, and Diagnosis
  - 3.4.2. Empirical and Targeted Treatment. "Step-down"
  - 3.4.3. Prophylaxis. Removal of Central Venous Catheter
- 3.5. Other Fungal Infections
  - 3.5.1. Mucormycosis
  - 3.5.2. Fusarium, Scedosporium, and Lomentospora
  - 3.5.3. Pneumocystis: Diagnosis and Prophylaxis Indications

- 3.6. Cytomegalovirus
  - 3.6.1. Epidemiology and Diagnosis
  - 3.6.2. Prophylaxis: Indications and Alternatives
  - 3.6.3. Treatment
- 3.7. Varicella-Zoster Virus (VZV)
  - 3.7.1. Varicella in Immunocompromised Patients
  - 3.7.2. Shingles prophylaxis and treatment
  - 3.7.3. Recombinant Zoster Vaccine
- 3.8. Adenovirus
  - 3.8.1. Diagnosis
  - 3.8.2. Treatment
- 3.9. COVID-19
  - 3.9.1. Prognosis
  - 3.9.2. Early Treatment and Pre-exposure Prophylaxis
  - 3.9.3. Treatment for Severe Pneumonia
- 3.10. Other Viruses
  - 3.10.1. RSV (Respiratory Syncytial Virus)
  - 3.10.2. Influenza
  - 3.10.3. EBV (Epstein-Barr Virus)



*Delve into the clinical development of new drugs in Myelodysplastic Syndromes whenever you want with total comfort from your cell phone"*

# 04 Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



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*TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”*

## 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.

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*At TECH you will NOT have live classes  
(which you might not be able to attend)”*



### 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*”

## 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.

## 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.

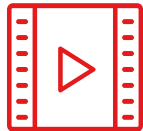
The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

*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

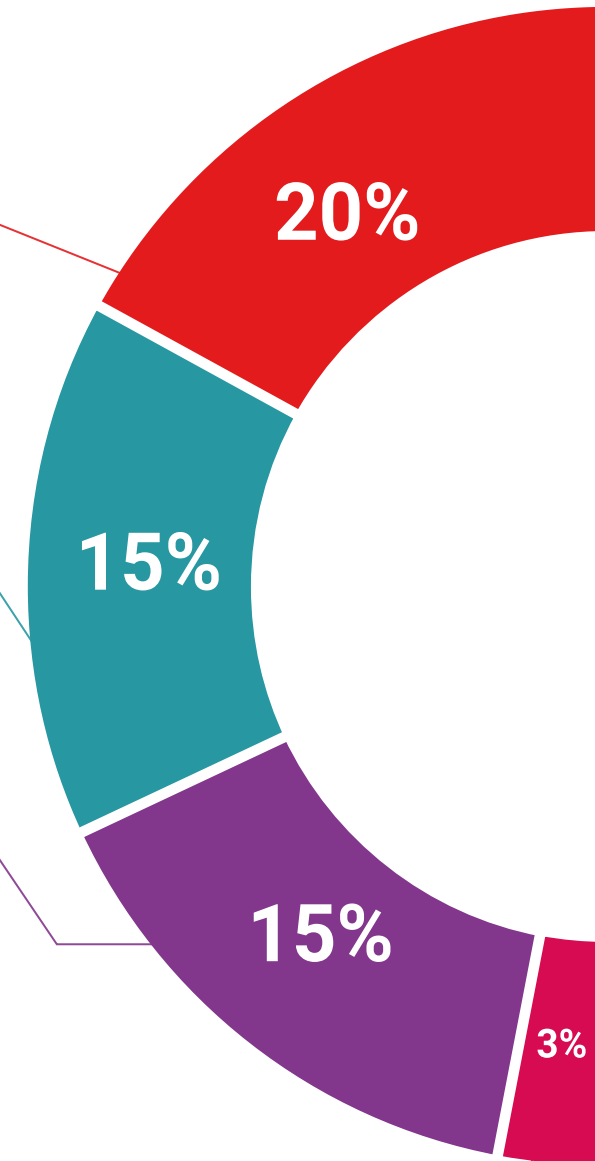
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

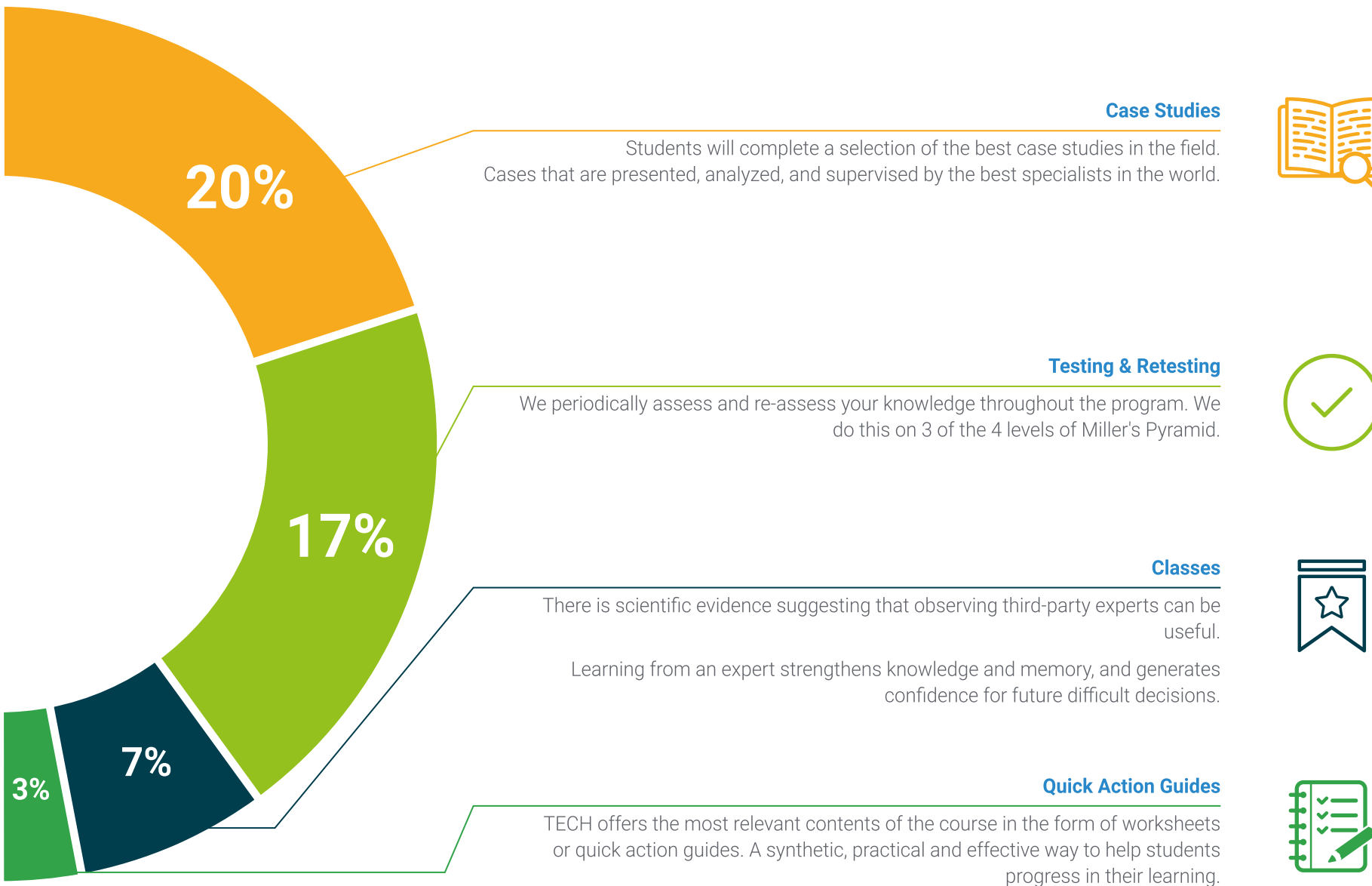
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





# 05 Certificate

This Postgraduate Diploma in Allogeneic Transplantation and Infections in Oncohematology guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Postgraduate Diploma 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 diploma for the **Postgraduate Diploma in Allogeneic Transplantation and Infections in Oncohematology** 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 Diploma in Allogeneic Transplantation and Infections in Oncohematology**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**





**Postgraduate Diploma**  
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