

Postgraduate Certificate

Refraction, Amblyopia
and Congenital Cataract



Postgraduate Certificate Refraction, Amblyopia and Congenital Cataract

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/refraction-amblyopia-congenital-cataract

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01

Introduction

Pathologies such as congenital cataracts are a threat to an infant's vision, due to their potential to pause the process of normal visual development in children. Currently, refraction, cataracts and amblyopia in early ages continue to be one of the greatest challenges for specialists, since the complexity of the treatment affects the lack of ocular maturation, which hinders interventions of this type. For this reason, this program is designed for the graduate to deepen their understanding of basic optical principles and their relationship with ocular refraction. All this, in a 100% online teaching format that provides flexibility and convenience, in addition to including the best multimedia didactic material.



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This course is designed for professionals to enhance their knowledge about refraction, amblyopia and congenital cataract”

Over the years the treatments have evolved, due to the important research of specialists in the sector, even so, with the difficulties that it has. That is why, thanks to multiple studies, the prevention of these pathologies is more effective and they are able to give a quicker and more efficient solution to these ocular problems that hinder the development of the child. Therefore, today this is an area of knowledge that requires constant evolution and that finds more and more methods and techniques for the visual rehabilitation of the child.

It is relevant to mention that Pediatric Ophthalmology is a discipline that has advanced professionally due to its boom in recent years, generating all kinds of research. And although it maintains its technical bases, some of them have been perfected thanks to studies designed from the ocular area in early ages. On the other hand, keeping updated in this field is complex, due to the technological acceleration in the sector. That is why TECH has designed this Postgraduate Certificate designed for the professional to enhance their knowledge and skills in this area of medicine.

This university program integrates a complete and exclusive syllabus where the graduate will deepen knowledge related to visual function in pediatric patients with amblyopia, in addition to strengthening skills related to retinopathy of prematurity, retinoblastoma, hereditary retinal disorders and retinal vascular anomalies. In this sense, it comprehensively covers the most relevant pathologies involving the retina. Therefore, this Postgraduate Certificate uses innovative tools in education, supported by a specialized teaching team.

TECH provides students with the best quality online education, giving them the possibility of taking virtual classes at any time of the day with the benefit of flexible scheduling. You only need an electronic device with Internet connection, avoiding the unnecessary transfer to a study center in person. In addition to applying the Relearning method for a greater dynamism allowing you to successfully develop the program.

This **Postgraduate Certificate in Refraction, Amblyopia and Congenital Cataract** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Practical case studies presented by experts in Pediatric Ophthalmology
- ♦ The graphic, schematic and eminently practical contents of the book provide scientific and practical information on those disciplines that are essential 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



TECH provides you with multimedia content to support you in achieving your goals of updating your knowledge in Pediatric Ophthalmology, providing you with dynamism and convenience with online methodology"

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The professional will learn about ocular pathologies and strengthen their knowledge in causes of leukocoria in childhood"

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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 academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

This qualification covers the fundamentals of optics and refraction using innovative tools in education.

TECH applies the Relearning method allowing to consolidate the concepts in a simple way to successfully develop the Postgraduate Certificate.



02 Objectives

This Postgraduate Certificate has been designed with the purpose of providing the graduate with prestigious and innovative content on new technologies and advances in pediatric refractive correction in the area of Ophthalmology. Likewise, TECH, being at the forefront of online academics, offers such content through multiple technological teaching materials. Therefore, at the end of this updating process, the ophthalmologist will have reinforced his or her skills regarding convergence excess and its impact on vision.



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This Postgraduate Certificate has been elaborated with the purpose of offering the specialist to offer the specialist exclusive and updated material and updated material in the area of Pediatric Ophthalmology"



General Objectives

- ♦ Acquire a thorough and up-to-date knowledge of the diagnosis and treatment of ophthalmologic conditions in children, including neonates and infants
- ♦ Develop a solid understanding of the basics of childhood vision development, covering ocular embryology, related genetics, and the anatomy and physiology of the growing visual system
- ♦ Understand and address ocular anterior segment pathologies, including palpebral, orbital, conjunctival pathology, developmental alterations of the anterior segment, and corneal and ectatic diseases in the pediatric age group
- ♦ Become familiar with the diagnosis and management of pediatric glaucoma, pediatric uveitis, aniridia and other conditions related to the anterior segment
- ♦ Acquire specific knowledge of retinopathy of prematurity, retinoblastoma, hereditary retinal disorders, retinal vascular anomalies, pediatric retinal detachment, and other pediatric retinal conditions
- ♦ Delve into the field of pediatric neuro-ophthalmology, covering topics such as nystagmus, supranuclear motility disorders, congenital optic nerve anomalies and hereditary optic neuropathies





Specific Objectives

- Understand basic optical principles and their relationship to ocular refraction
- Identify accommodative disorders, such as accommodative insufficiency, and its diagnosis in children
- Recognize amblyopia as a common visual problem in childhood and its causes
- Evaluate visual function in pediatric patients with amblyopia
- Identify leukocoria as a warning sign of severe ocular disease in children
- Understand the characteristics and causes of congenital cataract in children
- Deepen the surgical treatment options for congenital cataract in the pediatric population
- Address complications and follow-up of children with congenital cataract
- Study more complex cases of congenital cataract and its surgical solutions
- Know the strategies to rehabilitate vision in children with congenital cataract



Upon completion of the program, the graduate will have enhanced his or her knowledge of hyperopia in children"

03

Course Management

TECH has the best experts for the graduate to strengthen their knowledge in the area of refraction, amblyopia and congenital cataract. Therefore, this program has a highly qualified teaching staff with extensive experience in Ophthalmology and Vision Sciences, integration and resolution of clinical cases. In this sense, the professional has the guarantees required to be updated in a sector that is booming. This will also allow students to solve any difficulties that may arise during the course of the academic program.





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TECH has incorporated to this Postgraduate Certificate a teaching team with a wide background and great experience in objective and subjective refraction"

Management



Dr. Sánchez Monroy, Jorge

- ♦ Corresponsable for Pediatric Ophthalmology at Quirónsalud Hospital in Zaragoza
- ♦ Specialist in the Ophthalmology Miguel Servet University Hospital in Zaragoza
- ♦ Master'in in Clinical Ophthalmology from UCJC
- ♦ Degree in Medicine from the University of Zaragoza
- ♦ Expert in Pediatric Neurophthalmology and Strabismus
- ♦ Postgraduate Diploma in Ophthalmology and Vision Sciences

Professors

Dr. Narváez Palazón, Carlos

- ♦ Attending Physician in Pediatric Ophthalmology
- ♦ Specialist in Ophthalmology in San Carlos Clinical Hospital
- ♦ Doctor in Ophthalmology
- ♦ Master's Degree in Integration and Clinical Cases Solving from the University of Alcalá, Spain
- ♦ Master's Degree in Clinical Management, Medical and Healthcare Management from the CEU San Pablo University

Dr. Pueyo Royo, Victoria

- ♦ Specialist in the Pediatric Ophthalmology Miguel Servet University Hospital in Zaragoza
- ♦ Member of the Maternal, Child and Developmental Health Network
- ♦ Professor, Grade of Optics and Optometry, University of Zaragoza
- ♦ Grade in Pediatric Ophthalmology



Dr. Romero Sanz, María

- ◆ Specialist in the Ophthalmology Miguel Servet University Hospital in Zaragoza
- ◆ Master' in in Clinical Ophthalmology at CEU Cardenal Herrera University
- ◆ Master's Degree in Clinical Medicine at the Camilo José Cela University
- ◆ Grade in Medicine and Surgery from the Faculty of Medicine of the Zaragoza University
- ◆ Expert in Ophthalmic Surgery at the University CEU Cardenal Herrera
- ◆ Expert in Pathologies and Eye Treatment CEU Cardenal Herrera University
- ◆ Expert in Uveitis and the Retina CEU Cardenal Herrera University

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Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice”

04

Structure and Content

This qualification integrates the most current material on the multidisciplinary approach in cases of leukocoria, carrying out a study plan oriented to refraction, amblyopia and congenital cataract. All this, through an exclusive and innovative content, which guarantees the specialist the success of the program, supported by a variety of audiovisual tools that provide dynamism through didactic resources and the innovative *Relearning*. methodology.

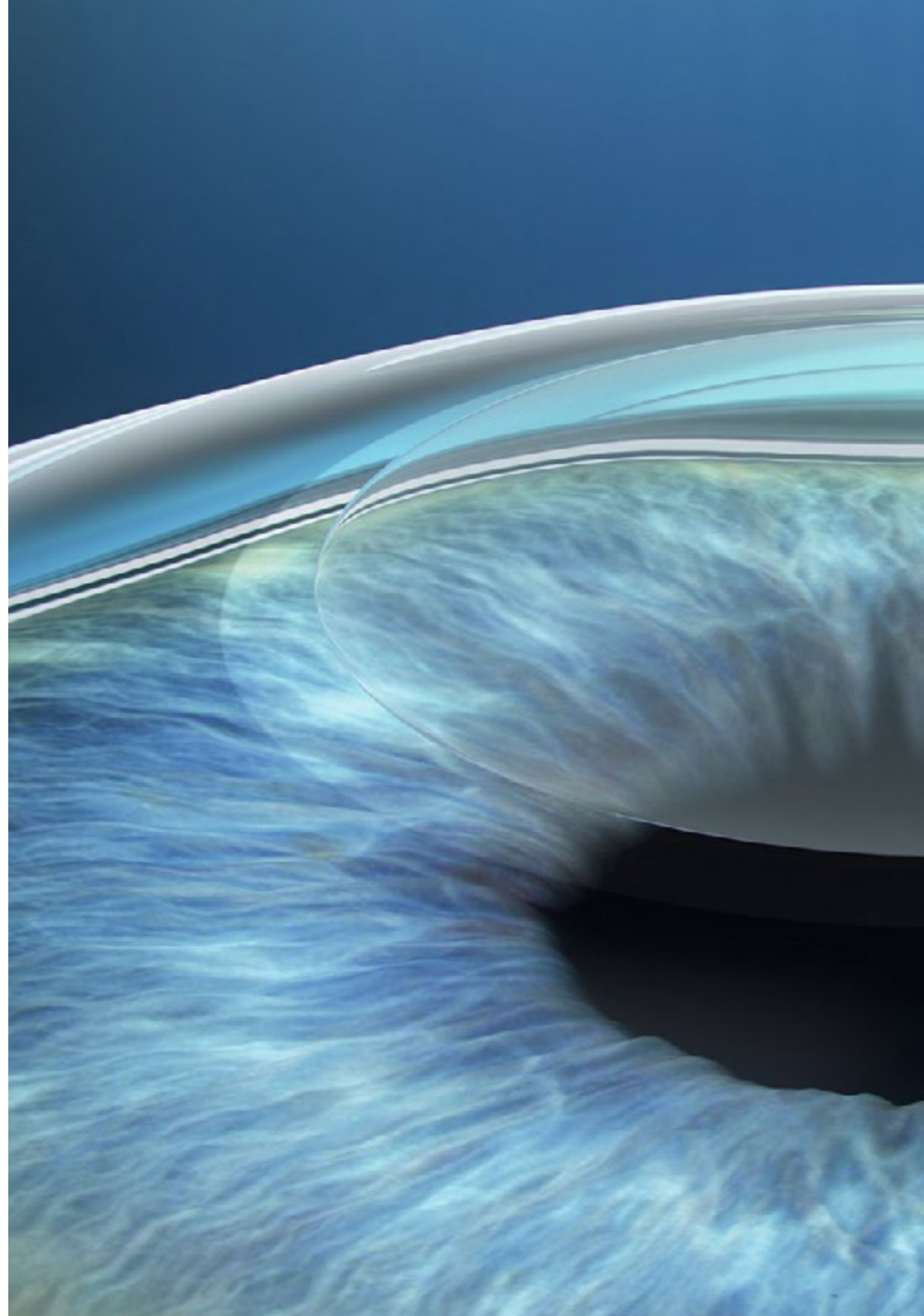


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A study plan carried out by experts, providing you with the best support with the multiple audiovisual tools that only TECH offers"

Module 1. Refraction, Amblyopia and Congenital Cataract

- 1.1. Fundamentals of Optics and Refraction I
 - 1.1.1. Light and refraction laws
 - 1.1.2. Optical elements of the eye
 - 1.1.3. Basic Concepts of Accommodation
 - 1.1.4. Optical aberrations, dispersion and diffraction. Polarization
 - 1.1.5. Basic concepts of ametropia
- 1.2. Fundamentals of Optics and Refraction II
 - 1.2.1. Objective and subjective refraction
 - 1.2.2. Visual therapy: general lines
 - 1.2.3. Pediatric contact lens therapy: aphakia, myopia control and ortho-K
 - 1.2.4. New technologies and advances in pediatric refractive correction
- 1.3. Specimen Handling
 - 1.3.1. Childhood Education
 - 1.3.2. Hyperopia in children
 - 1.3.3. Astigmatism in Pediatric La Population
 - 1.3.4. Contemporary approaches in the management of refractive errors
- 1.4. Accommodation Disorders
 - 1.4.1. Role of accommodation in infant vision
 - 1.4.2. Assessment and diagnosis of accommodation insufficiency
 - 1.4.3. Excess convergence and its impact on vision
 - 1.4.4. Clinical cases and challenges in the treatment of accommodation disorders
- 1.5. Amblyopia
 - 1.5.1. Definition and Diagnoses of the Amblyopia
 - 1.5.2. Risk factors and causes of amblyopia in children
 - 1.5.3. Assessment of Stereoscopic Visual Acuity
 - 1.5.4. Vision Amblyopia and Diseases
- 1.6. Amblyopia: treatment
 - 1.6.1. Occlusive therapy and penalization
 - 1.6.2. Reverse occlusion and atropine therapy
 - 1.6.3. Therapy of amblyopia in adults
 - 1.6.4. Follow-up and long-term results in amblyopia therapy



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- 1.7. Leukocoria
 - 1.7.1. Definition and Characteristics of a Leukocoria
 - 1.7.2. Causes of Leukocoria in the Childhood
 - 1.7.3. Ophthalmologic diagnosis and evaluation
 - 1.7.4. Retinoblastoma: Diagnosis and Treatment
 - 1.7.5. Multidisciplinary approach to leukocoria cases
 - 1.7.6. Other conditions associated with leukocoria
 - 1.8. Congenital Cataracts I
 - 1.8.1. Diagnosis and Classification of Lymphedema
 - 1.8.2. Medical and Surgical Treatment of Toxocariasis
 - 1.8.3. Complications and follow-up in congenital cataracts
 - 1.8.4. Clinical cases and special considerations
 - 1.9. Congenital Cataracts II
 - 1.9.1. Congenital cataract-associated anomalies
 - 1.9.2. Management of cataracts in premature infants
 - 1.9.3. Traumatic cataracts in children
 - 1.9.4. Innovations in pediatric cataract surgery
 - 1.10. Congenital Cataract III
 - 1.10.1. Visual development in children with congenital cataracts
 - 1.10.2. Visual rehabilitation in cataract patients
 - 1.10.3. Research and advances in the treatment of pediatric cataracts
 - 1.10.4. Success and prognosis in the management of congenital cataracts.



This Postgraduate Certificate contains the latest material related to anomalies associated with congenital cataracts"

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. Gérvas, 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 Refraction, Amblyopia and Congenital Cataract 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 program will allow you to obtain your **Postgraduate Certificate in Refraction, Amblyopia and Congenital Cataract** 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** title 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

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Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**





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