

Postgraduate Diploma Applied Tennis Technology

Endorsed by the NBA



tech technological
university



Postgraduate Diploma Applied Tennis Technology

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitute.com/us/sports-science/postgraduate-diploma/postgraduate-diploma-applied-tennis-technology

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01

Introduction

New technologies have burst into the tennis world, significantly modifying the athlete's training techniques. Therefore, video analysis mechanisms have emerged that make it possible to observe the tennis player's technical and tactical faults in order to correct them efficiently and optimize their performance on the court. Given its impact on the success of the athlete, coaches who aspire to train high-level professionals must know these advances in depth, which is why TECH has designed this program. Throughout the program, the student will delve into the use of video to improve the tennis player's tactical strategies or identify modern racquets with sensors to measure the quality of the stroke. In a 100% online format, the student will acquire this learning without depending on fixed schedules.





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The Postgraduate Diploma in Applied Tennis Technology will provide you with the necessary knowledge to extract the maximum benefit from video analysis, in order to correct the mistakes made by the athlete and optimize their performance”

Technological advances have brought about an enormous revolution in the tennis scene over the last few decades. Their progressive incursion has made it a reality to measure the efficiency of the tennis player's stroke by means of sensors, as well as the analysis of technical and tactical movements through the video. These tools are excellent allies for the coach, since they enable the accurate analysis of the athlete's attributes and the design of more rigorous training, aimed at improving their faults with greater accuracy. Therefore, coaches whose vocation is to help elite tennis players achieve their competitive goals are required to use these innovations to improve their results.

This is why TECH has promoted the creation of this Postgraduate Diploma, through which students will significantly increase and update their knowledge in the use of Applied Tennis Technology. During 450 intensive hours of teaching, students will identify the benefits offered by video analysis to adapt match strategies based on the game characteristics of each opponent. They will also analyze its utility to work on the improvement of the depth and volley technique of the tennis player or delve into the main biomechanical aspects that have a direct impact on the adequacy of their stroke.

All this, following a 100% online methodology, which will allow the sports professional to achieve effective learning with the development of their own study schedules. In addition, this Postgraduate Diploma has been designed by leading tennis coaches with extensive experience in the preparation of players of different ages. Because of this, all the knowledge that they will assimilate will be completely applicable in their work life.

This **Postgraduate Diploma in Applied Tennis Technology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Practical case studies are presented by experts in tennis of elite
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the 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



Through this program, you will identify the sensors present in some types of racquets to detect the quality of the tennis player's stroke and work in a sophisticated way to improve it"

“

The 100% online format of this program will allow you to master the intricacies of Applied Tennis Technology at any time and from anywhere”

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

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

Achieve an enjoyable and completely effective learning experience through teaching through formats such as video or interactive summary.

Over the course of this academic experience, you will analyze the biomechanical principles that allow you to optimize the tennis player's stroke and achieve perfection in the service and return.



02 Objectives

This program has been designed with the premise of providing the sports professional with the most advanced and avant-garde knowledge regarding the use of technology in the world of tennis. In just 6 months of teaching, you will be able to identify the innovations present in the racquets in recent years or detect the latest developments in video arbitration systems. All this learning will be guaranteed through the achievement of the general and specific objectives of this program.





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Significantly increase your chances of training tennis players like Carlos Alcaraz or Daniil Medvedev through this Postgraduate Diploma”



General Objectives

- ♦ Distinguish the different stages of tennis training and know how to work in each of them
- ♦ Know the tennis regulations and how to apply them
- ♦ Understand the figure of the tennis coach from an ethical and moral point of view, and understand the crucial role played by the mental aspect in tennis players
- ♦ Delve into the physical preparation necessary for a tennis player and injury prevention
- ♦ Raising awareness of the importance of technology in today's tennis and analyzing its evolution



Take this TECH program and get a set of skills that will put you at the forefront of the use of technology in the world of tennis"





Specific Objectives

Module 1. History and Standards

- ◆ Comprehend the rules that make up singles tennis
- ◆ Understand the rules that make up doubles tennis
- ◆ Learn the code of conduct

Module 2. Biomechanics and Motion

- ◆ Understanding biomechanics
- ◆ Comprehend, through theoretical and practical examples, the biomechanical functioning of strokes
- ◆ Analyze what is efficient in each stroke from a biomechanical point of view
- ◆ Make the student aware of the importance of footwork
- ◆ Learn how to move correctly on the tennis court

Module 3. Tennis and Video Analysis Technology

- ◆ Delve into the use of technology in tennis, its importance and its evolution
- ◆ Understand how the use of technology and artificial intelligence influences the tennis player
- ◆ Identify the possible use of technology during training
- ◆ Learn what video analysis is and the role it plays in the tennis player
- ◆ Become familiar with the implements that can be used by the tennis player during training

03

Course Management

In order to preserve intact the excellent educational level of all TECH programs, this Postgraduate Diploma has a teaching staff made up of top level tennis coaches and trainers, who work actively with players of different ages. These professionals are the ones in charge of the elaboration of the didactic contents available throughout this program. Therefore, the knowledge that the student will assimilate will be completely up-to-date.



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Acquire, with the help of the best professional tennis coaches and trainers, the knowledge to manage the new technologies used in this discipline”

Management



Mr. Ramos Camacho, Alejandro

- ♦ Tennis coach at the Rafa Nadal Academy
- ♦ Coach at the JMO Tennis Academy
- ♦ Coach at Valle de Aridane Tennis Club
- ♦ Graduate in Primary Education
- ♦ National Monitor by the Royal Spanish Federation
- ♦ RPT Level 2

Professors

Mr. Manco, Antonio

- ♦ Tennis coach at the Rafa Nadal Academy
- ♦ Coach at the Academy Global Tennis Team
- ♦ Graduate in Sport Science from the Tor Vergata University of Rome
- ♦ Master's Degree in Sport Science and Techniques from the Tor Vergata University of Rome
- ♦ Italian Tennis Federation Level II Coach
- ♦ Physical Trainer by the Italian Tennis Federation

Mr. Zapata, Óscar

- ♦ Dietician and Tennis Coach
- ♦ Tennis coach at the Rafa Nadal Academy
- ♦ Tennis instructor at Cet Alcalá
- ♦ Degree in Dietetics
- ♦ Master's Degree in Sports Nutrition
- ♦ Master's Degree in Personal Trainer



Mr. Gazivoda, Petar

- ◆ Technology Manager at the Rafa Nadal Academy
- ◆ Tennis Coach at the Catalunya Tennis Academy
- ◆ Tennis coach at the Sanchez-Casal Club
- ◆ Bachelor's Degree in Business Administration and Technology

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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

The syllabus of this Postgraduate Diploma has been designed to offer the student, through 3 very complete modules, the most advanced knowledge regarding Applied Tennis Technology. In addition, the didactic contents that will be available throughout this program are present in a large number of textual and multimedia formats that are differentiated from each other. Thanks to this and to its 100% online methodology, the sports professional will obtain a completely enjoyable and personalized learning experience.





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Thanks to the avant-garde Relearning methodology of this program, you will obtain a tailored learning process without external teaching constraints”

Module 1. History and Standards

- 1.1. Historical Evolution of Tennis and its Regulations
 - 1.1.1. What is Tennis, Where was it Invented and its Evolution Throughout History
 - 1.1.2. Tennis Chronology
 - 1.1.3. The Way of Counting, Origin and Evolution and Other Normative Aspects
 - 1.1.4. Tennis Tournaments, History and Tennis at the Olympic Level
- 1.2. The Tennis Court, Different Surfaces and their Classification
 - 1.2.1. Tennis Court Evolution
 - 1.2.2. Track Measurements and General and Specific Aspects
 - 1.2.3. The Different Existing Surfaces, General and Specific Concepts
 - 1.2.4. Division of Tennis Courts According to Surface Speed
- 1.3. Racket, Ball and Permanent Fixtures
 - 1.3.1. The Tennis Racket, the Ball and its Historical Chronology
 - 1.3.2. Regulatory Aspects Regarding Tennis Rackets and Balls
 - 1.3.3. What is a Permanent Fixture and its Regulatory Aspects
 - 1.3.4. The Ball Touches the Line or the Ball Touches the Permanent Fixture
- 1.4. Service and Return
 - 1.4.1. Server and Subtract or Selection
 - 1.4.2. Side and Serve Selection
 - 1.4.3. Side Changes, Regulations and Peculiarities
 - 1.4.4. Service Failures. Let and Repetition of Serve
 - 1.4.5. A Return is Good
- 1.5. Side Changes, Punctuation and their Alternative Systems
 - 1.5.1. Track Side Changes and its Regulations
 - 1.5.2. Scoring System in the Game, Set and Matches
 - 1.5.3. Alternative Scoring Systems
 - 1.5.4. A Player Loses the Point
- 1.6. Code of Conduct
 - 1.6.1. What is the Code of Conduct and What is its Purpose?
 - 1.6.2. Benefits of the Code of Conduct and its Evolution
 - 1.6.3. General Aspects of the Code of Conduct
 - 1.6.4. Specific Aspects of the Code of Conduct
- 1.7. Competition Systems and their Alternatives and Regulations
 - 1.7.1. What Competition Systems Exist
 - 1.7.2. Regulations of the Different Existing Competitions
 - 1.7.3. Modern Types of Competition and their Benefits
 - 1.7.4. Competition in Training Stages and its Regulations
- 1.8. Referees on the Court, Importance and their Function
 - 1.8.1. Referee's Role on the Court
 - 1.8.2. Player Instructions
 - 1.8.3. Arbitration Systems. Hawk Eye and its Peculiarities
 - 1.8.4. Principle of Continuous Play
 - 1.8.5. Player Discomfort
 - 1.8.6. Correction of Errors
- 1.9. Doubles Game and its Regulations
 - 1.9.1. General Aspects of Doubles Play
 - 1.9.2. Scoring in the Doubles Game and Existing Options
 - 1.9.3. Service and Rest in Doubles Play
 - 1.9.4. Doubles Competitions
- 1.10. Professional Tennis Tournaments, Circuits and Regulations
 - 1.10.1. Evolution of Professional Tournaments, Circuits and their Regulations up to the Present Time
 - 1.10.2. Existing Tennis Tournaments and their Regulations
 - 1.10.3. ATP and WTA Circuit and Aspects Regulated by Regulations
 - 1.10.4. Different Prizes in Tennis Tournaments and Aspects Governed by the Regulations

Module 2. Biomechanics and Motion

- 2.1. What is Biomechanics and its Evolution
 - 2.1.1. Definition and Introduction to Biomechanics
 - 2.1.2. Evolution Concept of Biomechanics Throughout History
 - 2.1.3. What is Biomechanics for and What are its Objectives
 - 2.1.4. Benefits of Biomechanics and Main Components
 - 2.1.5. Traditional Vision of Teaching Tennis Strokes and Modern Vision
- 2.2. The Correct Performance of the Technique and its Benefits
 - 2.2.1. Definition of Optimal Technique
 - 2.2.2. Components of the Technique
 - 2.2.3. Benefits of the Optimal Technique
 - 2.2.4. Execution of the Optimal Technique
- 2.3. Variability as a Fundamental Part of the Performance of the Strokes
 - 2.3.1. Variability Concept
 - 2.3.2. Mechanical Variability in Stroke Performance
 - 2.3.3. Mechanical Variability in Stroke Development
 - 2.3.4. Mechanical Variability in Tissue Loading
- 2.4. Principles of Biomechanics in Tennis. BIOMECH
 - 2.4.1. Balance
 - 2.4.2. Inertia
 - 2.4.3. Opposition of Forces
 - 2.4.4. Momentum
 - 2.4.5. Elastic Energy
 - 2.4.6. Coordination Chain
- 2.5. Coordination Chain
 - 2.5.1. Definition
 - 2.5.2. Coordination and Movement Chains
 - 2.5.3. How to Generate Power in Strokes
 - 2.5.4. Problems in the Coordination Chains
- 2.6. The Phases of the Stroke in Tennis
 - 2.6.1. Preparation and Backward Movement of the Racket
 - 2.6.2. Forward Movement of the Racket
 - 2.6.3. Impact
 - 2.6.4. Accompaniment and Termination
- 2.7. General Biomechanical Aspects of Groundstrokes
 - 2.7.1. Biomechanics of the Forehand Stroke. Part I
 - 2.7.2. Biomechanics of the Forehand Stroke. Part II
 - 2.7.3. Biomechanics of the Two-handed Backhand Stroke
 - 2.7.4. Biomechanics of the One-handed Backhand Stroke
- 2.8. General Biomechanical Aspects in Service and Return
 - 2.8.1. Biomechanics of the Service in Tennis. Part I
 - 2.8.2. Biomechanics of the Service in Tennis. Part II
 - 2.8.3. Biomechanics of the Return in Tennis
 - 2.8.4. Biomechanics of the Backhand in Tennis
- 2.9. General Biomechanical Aspects of Groundstrokes
 - 2.9.1. Biomechanics of the Forehand Volley
 - 2.9.2. Biomechanics of the Backhand Volley
 - 2.9.3. Approach Biomechanics
 - 2.9.4. Biomechanics of Backtacking
- 2.10. Movement, Displacements and Footwork
 - 2.10.1. What are Displacements in Tennis
 - 2.10.2. Phases of Movement in Tennis
 - 2.10.3. Importance of Footwork
 - 2.10.4. How to Work on Footwork in Tennis

Module 3. Tennis and Video Analysis Technology

- 3.1. The Evolution of Technology, General Considerations Applicable to Tennis
 - 3.1.1. The Importance of Technology in Sports Today
 - 3.1.2. The Evolution of Technology in Tennis Throughout History
 - 3.1.3. Types of Technologies Applicable in Tennis
 - 3.1.4. Technological Methodology
- 3.2. The Importance of Technology and Innovation in Tennis and its Benefits
 - 3.2.1. Technology, its Applicability to Tennis and its Importance
 - 3.2.2. Objectives of the Implementation of New Technologies in Tennis
 - 3.2.3. Benefits of Using Technology in Tennis
 - 3.2.4. R+D+I in the Tennis Industry
- 3.3. Technology on the Tennis Court
 - 3.3.1. The Evolution of Tennis Court Throughout History
 - 3.3.2. Current Tennis Courts and Their Technology
 - 3.3.3. Tennis Court Advertising
 - 3.3.4. Technology in Tennis Materials
- 3.4. Hawk Eye and Other Arbitration Systems
 - 3.4.1. What is the Hawk Eye?
 - 3.4.2. How is the Hawk Eye Used?
 - 3.4.3. Benefits of the Use of the Hawk Eye in Competition
 - 3.4.4. When Do I Have the Right to Use the Hawk Eye?
 - 3.4.5. Other Arbitration Systems
- 3.5. The Tennis Racket, its Evolution and the Implementation of Technology in It
 - 3.5.1. Existing Racket Types
 - 3.5.2. Evolution of the Tennis Racket Throughout History
 - 3.5.3. Tennis Racket Depending on the Player's Style
 - 3.5.4. New Technologies in Tennis Rackets
- 3.6. Strings, Evolution and Types Depending on Playing Style
 - 3.6.1. Importance of Strings for Tennis Players
 - 3.6.2. The Evolution of Stringing Throughout History
 - 3.6.3. Types of Strings and Classification
 - 3.6.4. Tension and Types of Strings Depending on the Tennis Player's Playing Style



- 3.7. What is Video Analysis and its Benefits for Tennis Players?
 - 3.7.1. Video Analysis Concept
 - 3.7.2. Objectives of Video Analysis in Tennis Players
 - 3.7.3. Benefits for Players and Coaches in the Use of Video Analysis
 - 3.7.4. Video Analysis and Tactics
- 3.8. Clothing, the Tennis Ball and its Evolution and Implementation of Technology
 - 3.8.1. Evolution of Tennis Apparel Throughout History
 - 3.8.2. Types of Shoes Depending on the Tennis Court Surface
 - 3.8.3. Evolution of the Tennis Ball Throughout History
 - 3.8.4. Types of Tennis Ball and their Classification Depending on Speed
- 3.9. Practical Examples in the Use of Technology and Video Analysis in Technical Work
 - 3.9.1. Analysis and Improvement of the Bottom Blows by Means of Video Analysis
 - 3.9.2. Analysis and Service Improvement Through Video Analysis
 - 3.9.3. Analysis and Improvement of Volleys Through Video Analysis
 - 3.9.4. Other Technical Aspects Through Video Analysis
- 3.10. Practical Examples in the Use of Technology and Video Analysis in Tactical Work
 - 3.10.1. Video Analysis and Ball Height Improvement. Exercises to Correct it
 - 3.10.2. Video Analysis and Depth Enhancement. Exercises to Correct it
 - 3.10.3. Video Analysis and Ball Directions. Exercises to Improve it
 - 3.10.4. Video Analysis and Improvement of Service Areas. Exercises to Improve it

“Enroll in this Postgraduate Diploma and enjoy educational content available in a wide range of multimedia and textual formats that will allow you to optimize your learning”



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"

Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

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At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"



You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.



The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

“ *Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

In 2019, we obtained the best learning results of all online universities in the world.

At TECH, you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



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.

With this methodology, we have trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, markets, and financial instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



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.



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 in future difficult decisions.



Practising Skills and Abilities

They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



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.





Case Studies

Students will complete a selection of the best case studies chosen specifically for this situation. Cases that are presented, analyzed, and supervised by the best specialists in the world.



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".



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.



06 Certificate

The Postgraduate Diploma in Applied Tennis Technology guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This **Postgraduate Diploma in Applied Tennis Technology** contains the most complete and up-to-date program on the market.

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

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Applied Tennis Technology**

Official N° of Hours: **450h.**

Endorsed by the NBA



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present

development language

virtual classroom

tech technological
university

Postgraduate Diploma
Applied Tennis Technology

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Postgraduate Diploma Applied Tennis Technology

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