Postgraduate Certificate

Chemical Analysis of Grape and Wine Compounds

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Postgraduate Certificate

Chemical Analysis of Grape and Wine Compounds

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Technological University**
- Dedication: **16h week**
- Schedule: **at your own pace**
- Tests: **online**

Website: **www.techtitute.com/pk/nutrition/postgraduate-certificate/chemical-analysis-grape-wine-compounds**

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01

Introduction

The volatile compounds in the grapes during the planting process are key to the composition of the wine. Environmental conditions, chemical products applied on the fruit and irrigation methods are just some of the issues that intervene in the final chemical composition of the product. For this reason, it is essential that specialists in this area have a perfect knowledge of the healthy parameters of each type of wine and that they also have a complete mastery of the new techniques and specific tools for the analysis of components such as acids, sugars, polyphenols and aromas, among others. In this line, TECH has developed a complete and rigorous qualification on the analysis of the vegetative cycle and the following stages in the elaboration of the wine product. A learning process that, being 100% online, allows students to combine their studies with other areas of their lives.

With this Postgraduate Certificate you will delve deeper into the components of grapes and wine to become a much more competent professional in this area in just 6 weeks"

Farms have always been conditioned by the environment and today, global warming is changing the compounds in the vineyards. Given the importance of the chemical composition of must and wine, companies are calling for nutritional specialists focused on the value of the nutrients that bring quality to the product and also on the most advanced techniques to preserve its properties, even under adverse production conditions.

The effectiveness demonstrated in traditional viticulture and its reflection in wine, makes industries focus on grape compounds to obtain a product of greater satisfaction for consumers. For this reason, TECH has developed a rigorous program that investigates the elements involved in winemaking, such as organic acids, enzymes, nitrogenous compounds and other volatile compounds. All of this is aimed at increasing the professional skills of specialists and bringing them closer to the most effective analytical methods.

In this way, graduates in Nutrition and other interested professionals who enroll in the program, will have a 100% online education with which they can continue to develop the other areas of their lives. To achieve this, TECH applies the innovative Relearning methodology, which will avoid long hours of study and with which they will assimilate the concepts in a simple and gradual way. In addition, this program is supported by a team of professionals who have extensive experience in the vineyard sector and with whom students can contact through a direct communication channel to resolve their doubts. A flexible study that students will be able to adapt according to their personal and professional circumstances.

This **Postgraduate Certificate in Chemical Analysis of Grape and Wine Compounds** contains the most complete and up-to-date scientific program in the market. Its most notable features are:

- The development of case studies presented by experts in nutrition, gastronomy and chemistry
- The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential 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

Sign up now to be part of the group of leading specialists who are at the forefront of nutritional control of wines in different countries"

Still don't have all the knowledge on the chemical composition of grapes? Get into the technical issues in a dynamic way thanks to TECH"

With this Postgraduate Certificate, you will have a perfect knowledge of the volatile compounds involved in winemaking.

Thanks to TECH, you will master the application of non-flavonoid compounds and distinguish yourself from other professionals in the sector.

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

Its multimedia content, developed with the latest educational technology, will provide the professionals 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 professionals must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned experts.

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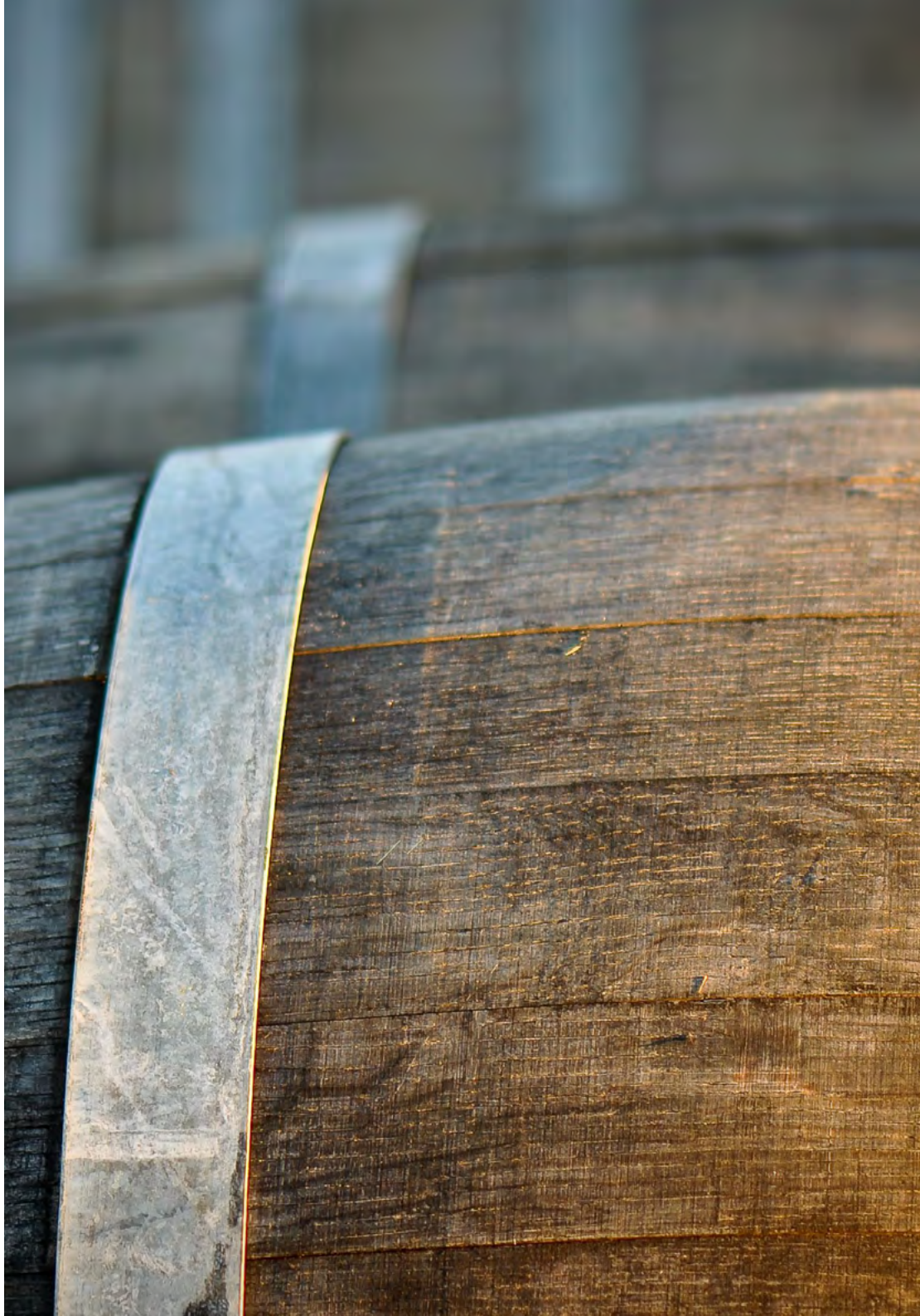
Objectives

This Postgraduate Certificate in Chemical Analysis of Grape and Wine Compounds is developed over 6 weeks in order to educate Nutrition graduates and other interested professionals through an agile and rigorous qualification. TECH focuses on the perfection of the wine product with the increase of the competences of those nutritionists who work in this sector. To achieve this, it will bring students closer to this reality, through downloadable audiovisual content, which will be available whenever they need it. In this way, knowledge will be transmitted in a flexible way, so that the user can choose when and how to study.

Meet your objectives, contribute as a nutritionist to the winemaking process and comply with food regulations at all stages"

General Objectives

- Provide the widest possible range of viticultural knowledge
- Show the student the importance of viticulture for the production of great wines
- Inculcate the need for environmental protection based on sustainability
- Substantiate the enological importance of these compounds both in the winemaking stages and in the final product
- Examine the microorganisms associated with the winemaking process, their nutritional requirements, and the beneficial or detrimental properties they can contribute to the wine
- Provide knowledge for the production of white wines
- Determine the wide range of existing possibilities in order to choose the most appropriate processes for a given terroir, grape variety and wine style
- Develop to the maximum the most advanced enology so that the student can produce top quality white wines
- Turn the student into an expert in red winemaking
- Determine the varieties used or with potential in the vinification of sparkling wines
- Examine the viticultural elements that affect winemaking
- Generate specialized knowledge about the expedition Preparation of wines for consumption
- Establish the importance of winemaking for this group of great wines
- Substantiate the need to protect these heritage treasures as part of our culture
- Broaden knowledge of fining and elimination of the various components that can depreciate the wine
- Broaden the knowledge of barrel construction
- Present the importance of barrel toasting
- Delve into the sensory analysis of wine Aspects to evaluate and how to carry it out
- Identify the organoleptic alterations of the wine



Specific Objectives

- Examine the basics of general, inorganic and organic chemistry and their applications in the winemaking process
- Be able to organize and control the transformation of grapes into wine according to the type of product to be elaborated
- Be able to use the knowledge acquired on the composition of grapes and wine and their evolution in making decisions on enological practices and treatments
- Be able to choose and carry out the necessary analyses for the control of raw materials, enological products, intermediate products of the winemaking process and final products
- Discover new analytical possibilities to know in depth the chemical composition of grapes and wine

Enroll now in this Postgraduate Certificate to understand the advantages offered by the aromatic components of wine, helping to dissolve the fat in food"

03

Course Management

TECH has called upon experts in Enology to share their theoretical and practical knowledge with students through this Postgraduate Certificate. In addition, the specialists will have a Virtual Campus, where they will be able to discuss with the experts and follow up on the subject. In this way, students will be able to contact the teachers who teach this program through a direct communication channel through which they will be able to solve all their questions about the subject. The study of this program is designed so that, once completed, students will be able to master the analytical techniques that study the compounds of grapes and wine.

Become a specialist up to the demands of the wine industry, thanks to the academic support of experts with years of experience"

Management

Ms. Clavero Arranz, Ana

- General Manager of Bodegas Cepa 21
- Chief Executive Officer of Grupo Bodegas Emilio Moro
- Chief Financial Officer of Grupo Bodegas Emilio Moro
- Head of Administration at Bodegas Cepa 21
- Administration Technician at Bodegas Convento San Francisco
- Professional Master's Degree in Business Administration and Management from the University of Valladolid
- Professional Master's Degree in Financial Management from ESIC
- Executive Coach by ICF
- Digital Immersion Program for CEOS (ICEX)
- Executive Development Program by IESE

Professors

Ms. Masa Guerra, Rocío

- Winemaker at Bodegas Protos
- Assistant winemaker at Matarromera Winery
- Responsible for incoming grapes at Bodega Emilio Moro
- Responsible for quality at BRC and winemaker at Viñedos Real Rubio
- Winemaking Assistant at Bodega Solar Viejo
- Winery and vineyard manager at Ébano Viñedos y Bodegas.
- Assistant winemaker and laboratory technician at Bodega El Soto
- Degree in Enology from the Escuela Técnica Superior de Ingenierías Agrarias de Palencia (Palencia School of Agricultural Engineering)
- MBA in Wine Business Management from the Business School of the Chamber of Commerce of Valladolid.

Ms. Molina González, Silvia

- Operations Manager of Cepa 21 Winery
- Technical Manager at Bodegas Cepa 21
- Winemaker at Emilio Moro Winery
- Hostess for events and commercial promotions for New Line Events
- Event hostess and commercial promotions for Prodereg Agency
- Graduate in Oenology and Agricultural and Food Industries Engineering from the University of Valladolid
- Specialization in Leadership and Teamwork by the Technical School of Agricultural Engineering of Palencia

04

Structure and Content

The content of this Postgraduate Certificate in Chemical Analysis of Grape and Wine Compounds has been developed by professionals who have worked in the wine industry for years. In addition, TECH offers audiovisual contents in different formats that dynamize the program, so that specialists can get the most out of their studies by actively participating. In order to achieve its correct instruction in an agile way, this program incorporates the *Relearning*methodology. This system will facilitate the assimilation of content in a progressive and simple way, making students forget about memory exercises that require long hours of study.

A study plan designed for you to learn with all the flexibility thanks to its 100% online modality and that will allow you to develop in other areas of your life in parallel"

Module 1. Grape and Wine Compounds. Analytical Techniques

1.1. Components of the Grape and their Distribution in the Grape Bunch
- 1.1.1. Vegetative and Reproductive Cycle of the Grapevine
- 1.1.2. Morphological Description and Composition of the Bunch
- 1.1.3. Chemical Composition of the Fruit

1.2. Chemical Composition of Must and Wine
- 1.2.1. Sugars
- 1.2.2. Organic acids
- 1.2.3. Nitrogen Compounds
- 1.2.4. Minerals
- 1.2.5. Polyphenols
- 1.2.6. Vitamins
- 1.2.7. Volatile Compounds

1.3. Organic Acids
- 1.3.1. Organic Acids
- 1.3.2. Main Acids in Grapes
- 1.3.3. Main Acids in Fermentation

1.4. Polyphenols
- 1.4.1. Non-Flavonoid Compounds
- 1.4.2. Flavonoids
- 1.4.3. Modifications of Phenolic Compounds During Ripening

1.5. Sugars
- 1.5.1. Structure and Classification
- 1.5.2. Glucose and Fructose
- 1.5.3. Other Sugars
- 1.5.4. Chemical Properties
- 1.5.5. Pectins

1.6. Nitrogen Compounds
- 1.6.1. Total Nitrogen and Assimilable Nitrogen
- 1.6.2. Amino Acids
- 1.6.3. Proteins
- 1.6.4. Other Forms of Nitrogen

1.7. Aromas and Other Volatile Compounds
- 1.7.1. Varietal Aroma
- 1.7.2. Volatile Components of the Pre-Fermentative Stage
- 1.7.3. Volatile Components of the Fermentative Stage
- 1.7.4. Volatile Constituents of Wine During Storage

1.8. Enzymes
- 1.8.1. Polyphenoloxidases
- 1.8.2. Aldehyde and C6 Alcohol Forming Enzymes
- 1.8.3. Glycohydrolase Enzymes
- 1.8.4. Proteolytic Enzymes

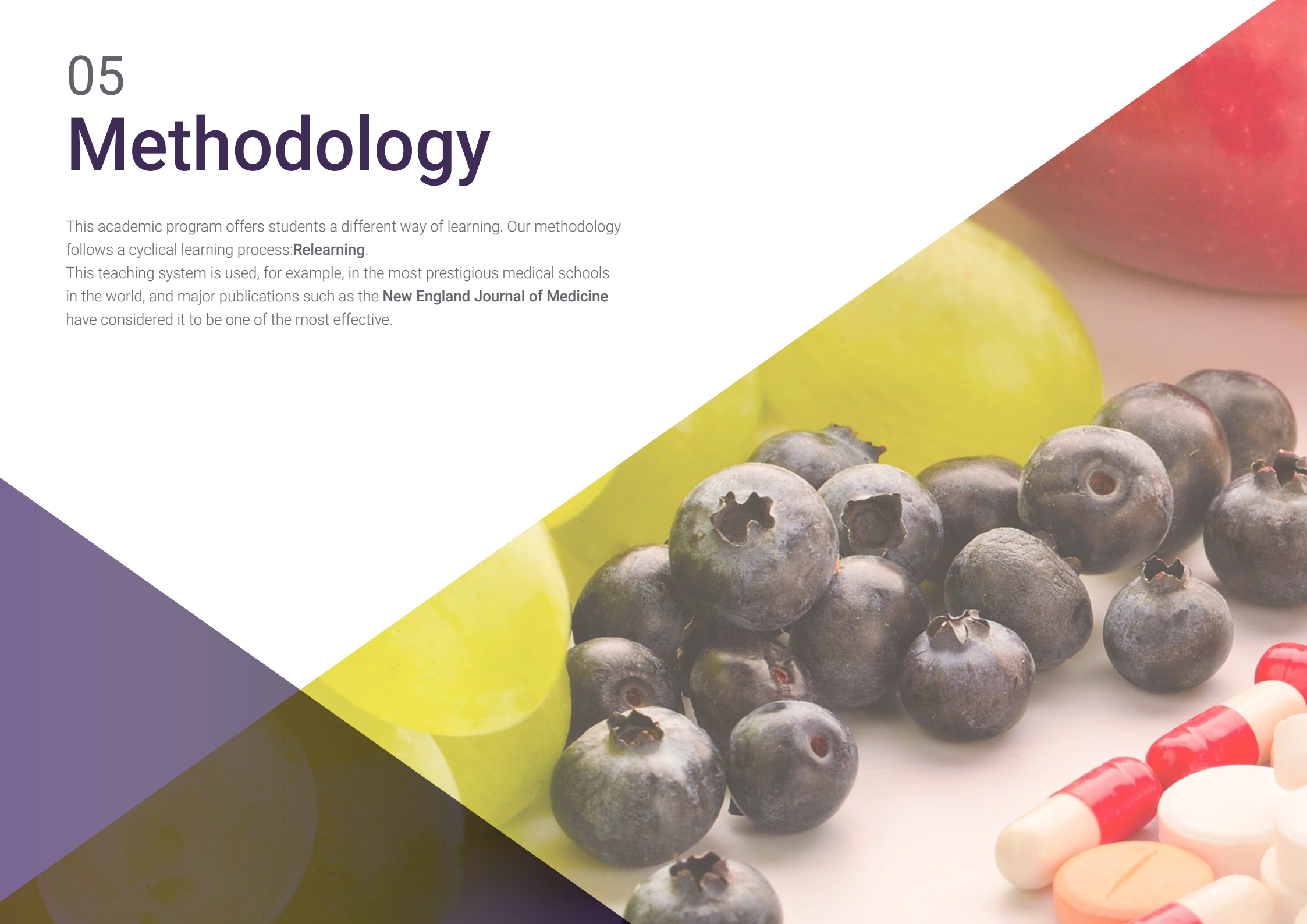
1.9. Classical Enological Analysis
- 1.9.1. Acid Analysis Methods
- 1.9.2. Sugar Analysis Methods
- 1.9.3. Methods of Alcohol Analysis
- 1.9.4. Methods of Polyphenol Analysis
- 1.9.5. Methods of Wine Additive Analysis

1.10. Advanced Enological Analysis
- 1.10.1. Liquid Chromatography: Enological Applications
- 1.10.2. Gas Chromatography: Enological Applications
- 1.10.3. Electronic Organoleptic Analysis

05

Methodology

This academic program offers students a different way of learning. Our methodology follows a cyclical learning process:**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.



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

In a given situation, what should a professional do? 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 sustainable over time.

With TECH, nutritionists can 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 of professional nutritional practice.

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:

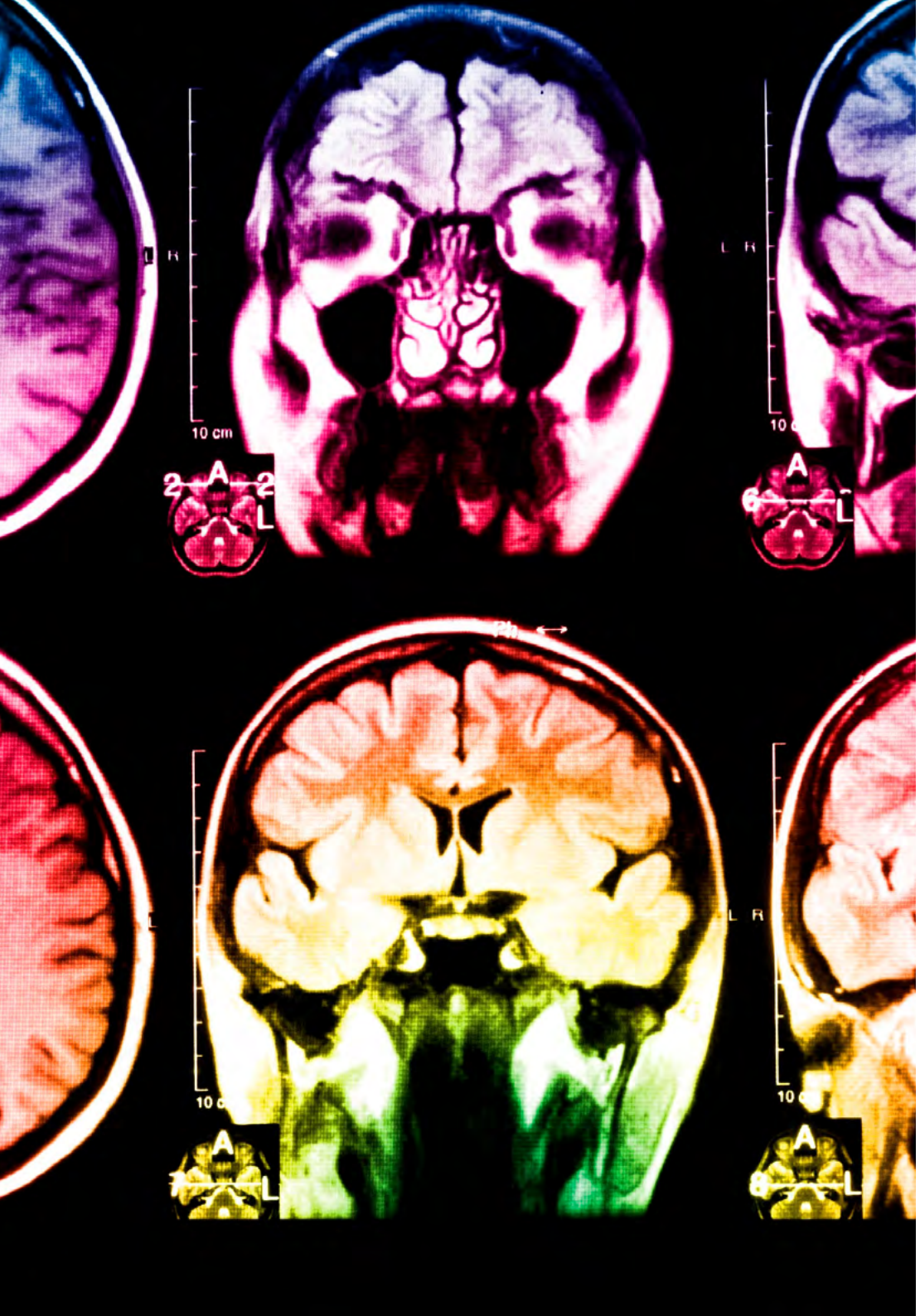
1. Nutritionists who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity through exercises to assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the nutritionist to better integrate knowledge into clinical practice.
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

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.

The nutritionists will learn through real cases and by solving 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 45,000 nutritionists have been prepared with unprecedented success in all clinical specialties regardless of the surgical load. 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 education, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we balance 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 adapted in 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.

Nutrition Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current nutritional counseling techniques and procedures. 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.

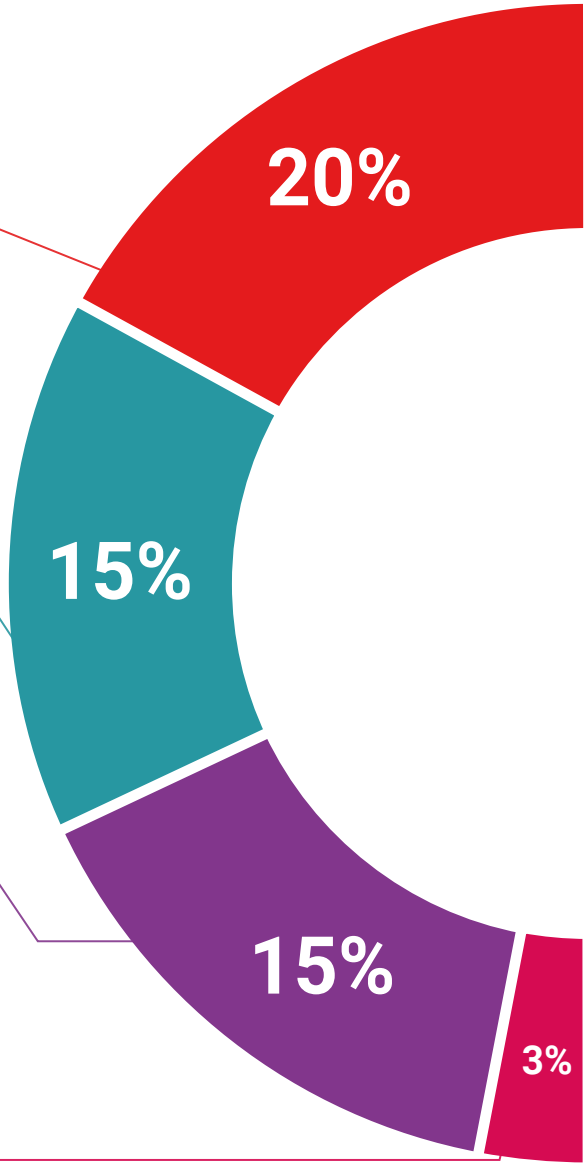
Interactive Summaries

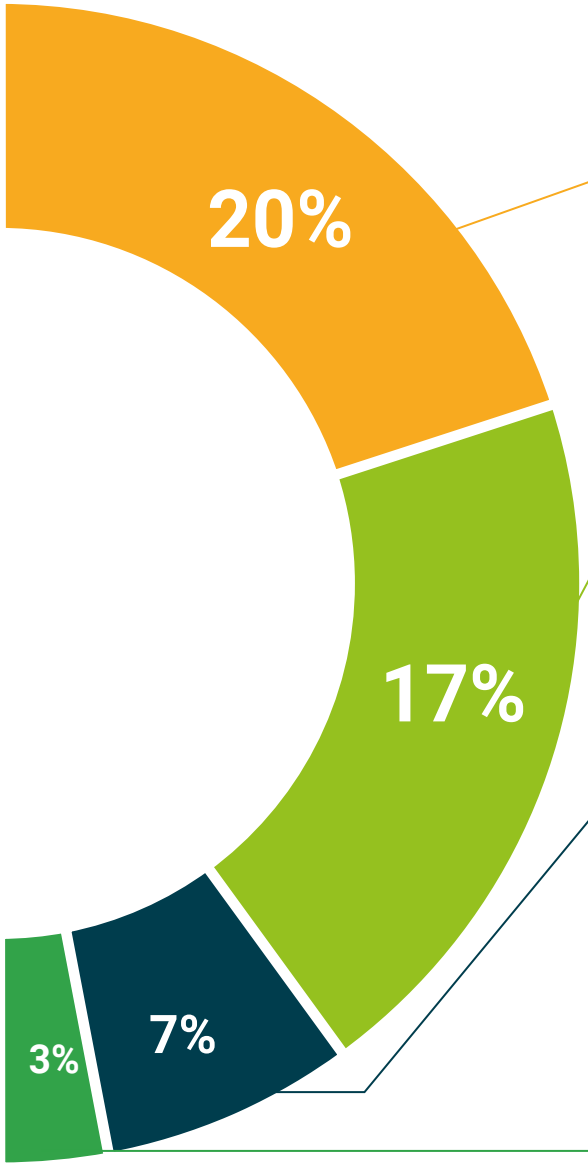
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 assess and re-assess 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 suggesting that observing third-party experts can be useful.

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 Chemical Analysis of Grape and Wine Compounds guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Chemical Analysis of Grape and Wine Compounds** contains the most complete and up-to-date scientific program in the market.

After the students have passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

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

Title: **Postgraduate Certificate in Chemical Analysis of Grape and Wine Compounds**

Official No. of Hours: **150 h.**


tech technological university

Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Chemical Analysis of Grape and Wine Compounds

This is a qualification awarded by this University, equivalent to 150 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

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

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