

Postgraduate Certificate Chemical Analysis of Grape and Wine Compounds





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
- » Exams: online

Website: www.techtitute.com/us/engineering/postgraduate-certificate/chemical-analysis-grape-wine-compounds

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01

Introduction

The summer season brings with it a rise in temperatures that does not benefit the agri-food industry. The plantations are not only directly affected, as they are also victims of the fires that commonly occur during these periods. The grapevine is one of the most affected, since grapes can absorb volatile compounds from the smoke of forest fires and acquire a variant in the flavor of the final product. This is why chemical analysis of wine compounds is so important. To broaden the knowledge of engineers and other professionals interested in this area, TECH offers a program that explores analytical techniques in the field of viticulture. This program adapts perfectly to the personal and professional needs of students, as it is 100% online and offers downloadable materials with which they can study at any time.



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With this Postgraduate Certificate you will acquire theoretical and practical knowledge about the components of grapes and wine in just 6 weeks"

Given the importance of the organoleptic properties of wine, experts in this area must pay close attention to the chemical compositions of its fruit. In this task, not only the first phase of winemaking is attended to, but it is mastered up to the bottling of the product, thanks to new scientific techniques that have shown the greatest efficiency in recent years.

The chemical composition of must and wine will define their final characteristics, and being aware that they offer a succulent product, companies must analyze their protocols and reinvent themselves to reduce costs and maximize profits without losing quality in the result. However, organizations are faced with a shortage of personnel in the market and, given the continuous changes in the wine industry, many specialists are lacking an update that integrates technological processes. In order to respond to the great demand of the sustainable agri-food sector, TECH offers this Postgraduate Certificate in Chemical Analysis of Grape and Wine Compounds.

Graduates in Engineering and other interested professionals who enroll in the program, will be taught through *Relearning* methodology that will avoid long hours of study and will allow them to assimilate the concepts in a simple and gradual way. In addition, TECH is supported by a team of professionals, who have extensive experience in the vine sector and with whom students can contact through a direct communication channel to resolve their doubts. These facilities, added to TECH's 100% digital mode, will help users to study flexibly and progressively at any time and place.

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

The most important features include:

- ◆ Case studies presented by experts in Enological Engineering and Viticulture.
- ◆ 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 learn about the volatile compounds involved in winemaking and distinguish yourself as a professional in the wine market"

“

Do you want to learn more about the chemical characterization of wines? Learn how important it is to intervene with precision, thanks to this Postgraduate certificate"

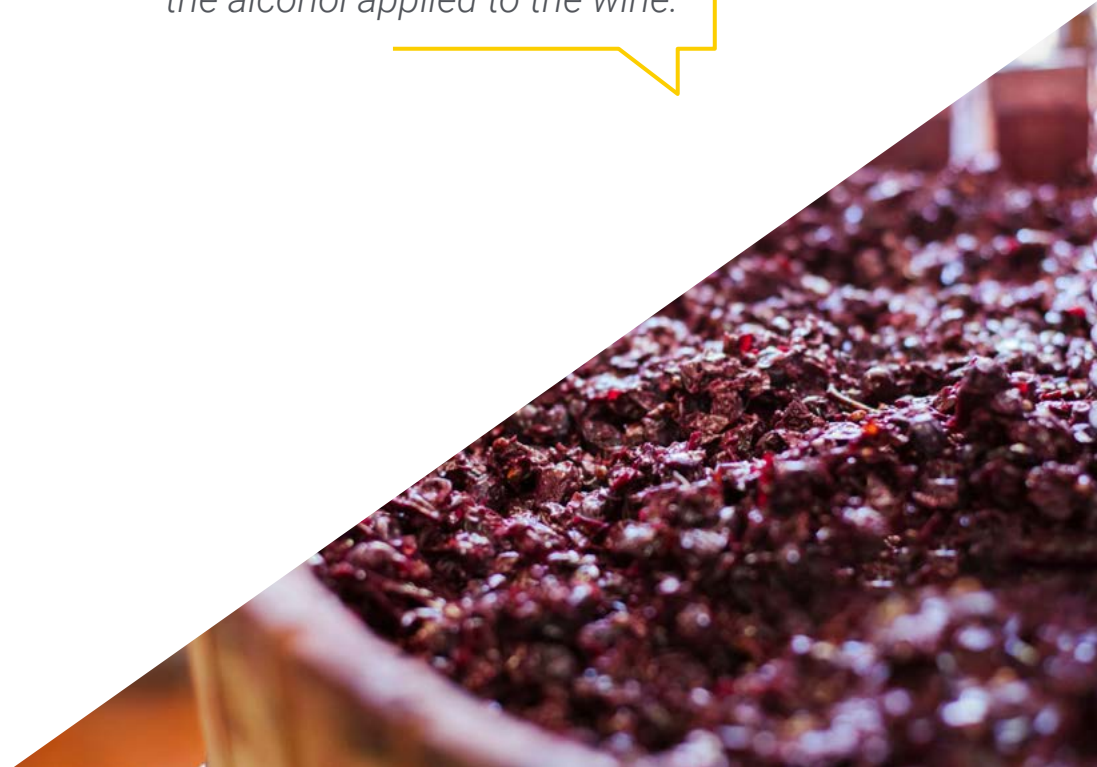
Understand those offered by the aromatic components of the product of the vine that help dissolve the fat in food.

Thanks to TECH, you will learn about the acids that contribute to the freshness and contrast with the alcohol applied to the wine.

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, through which 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 experts.



02

Objectives

This 6-week university program is intended for engineering graduates and other interested professionals to boost their professional careers in the chemical analysis of grapevines. This will be possible thanks to a teaching with which the student will deepen in the benefits of incorporating nitrogen compounds, aromas and enzymes to the product, among other proteins. This knowledge will be acquired through 100% online learning and downloadable audiovisual content in different formats. In this way, it will be the student who chooses the pace of study, accommodating it to their personal and work possibilities.





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Fulfill your objectives, contribute as an engineer specialized in classical enological chemical analysis in the final product of your company"



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
- ◆ Deepen in 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

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Enroll now in this Postgraduate Diploma, which will allow you to master the necessary analysis for the control of raw materials, enological products, intermediate products of the elaboration process and final products”

03

Course Management

TECH has called upon experts in Enological Engineering to share their theoretical and practical knowledge through this Postgraduate Diploma. The teaching team has a great deal of experience that guarantees their tutoring in this subject. This makes the program a fast and efficient opportunity to acquire all the knowledge on the chemical composition of wine, with the support of a teaching team with whom the professional will be able to communicate directly.



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Have you not yet mastered advanced enological analysis? Find out about the advantages of liquid chromatography, thanks to an experienced teaching team in the wine industry”.

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. 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 Enology 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.

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.

04

Structure and Content

The content of this Postgraduate Certificate in Chemical Analysis of Grape and Wine Compounds has been developed jointly with professionals working in the Microbiological and Chemical Analysis sectors. Thanks to their contribution and the incorporation of theoretical and practical tools, the student will be able to take the program with all the facilities and guarantees to acquire all the knowledge in a simple way. Also, the *Relearning* methodology applied by TECH, exempts the students from cumbersome hours of memorization, so that the teaching motivates them to give the best of themselves and bring them closer to their professional goals.





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Find out the chemical composition of the fruit, which will also be recognizable in the final product, so that you can offer an optimal service to your organization”

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

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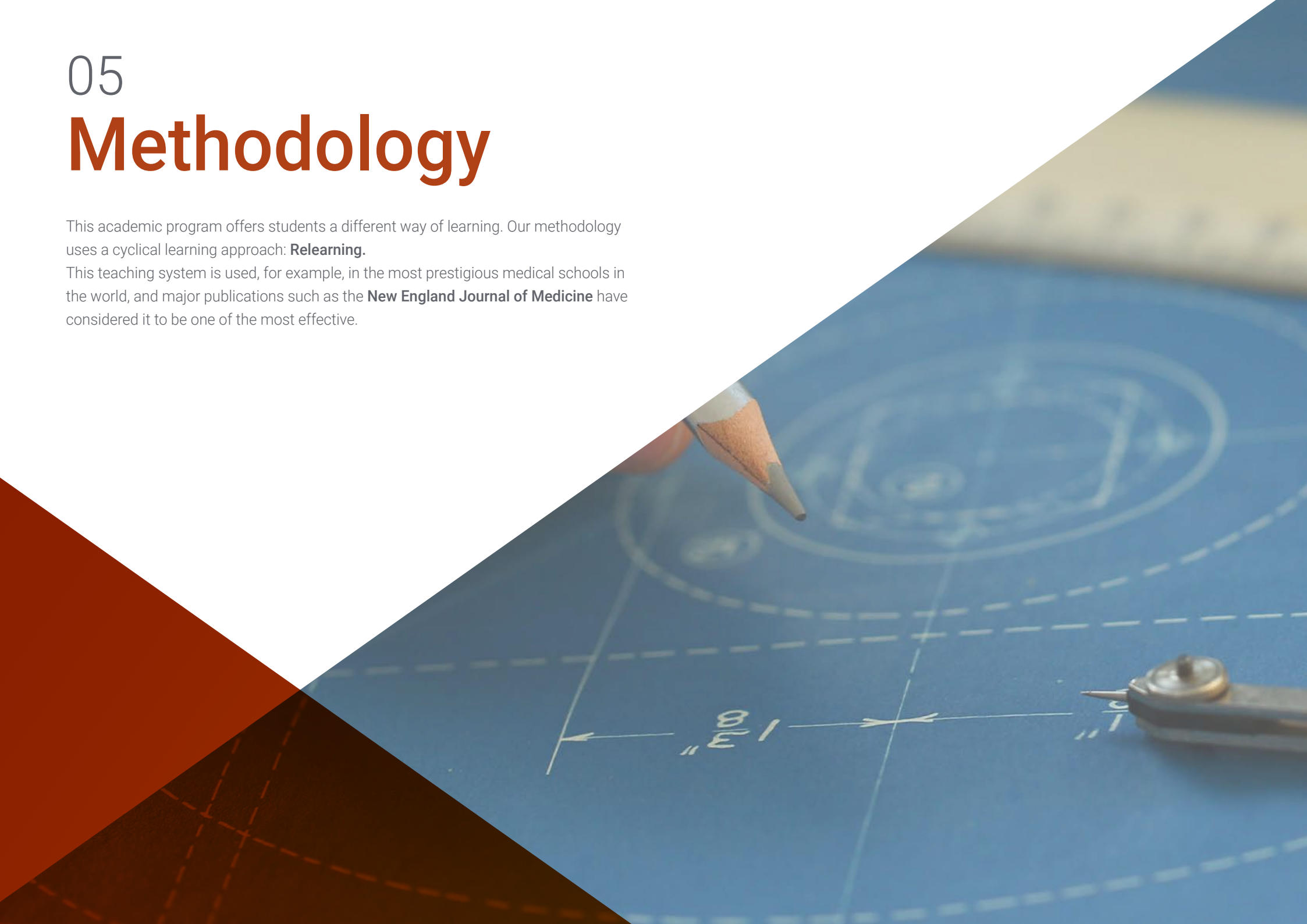
A program designed for professionals like you, who want to improve their skills in an ever-changing agricultural sector”

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.

“

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.



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

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 that you are presented with 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.

This methodology has 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, and financial markets and 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 skills and abilities in each subject 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 program. 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 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.



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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 program on the market.

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

The diploma 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 N° of Hours: **150 h.**



*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



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Postgraduate Certificate

Chemical Analysis of Grape and Wine Compounds

