

Postgraduate Certificate Mathematics Syllabus Design in High School Education



Postgraduate Certificate Mathematics Syllabus Design in High School Education

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

Website: www.techtitude.com/in/education/postgraduate-certificate/mathematics-syllabus-design-high-school-education

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01

Introduction

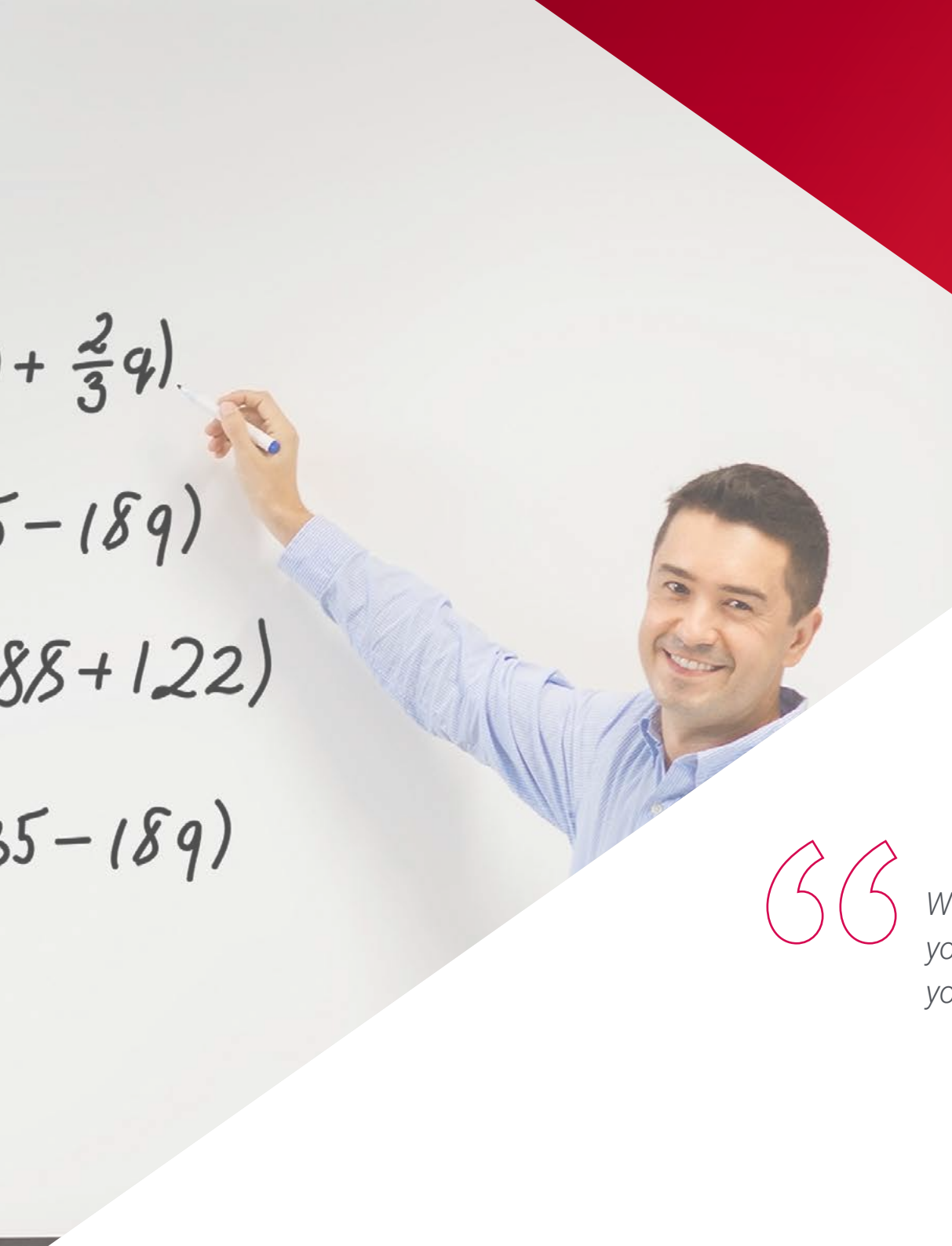
Mathematics is found in any human activity, in scientific development, in cultural or artistic expressions. Conveying this information in an attractive and exhaustive way to High School Education students is part of the functions of the teacher of this area. In this sense, the key is the teaching program with a methodology in accordance with the current times and with the requirements demanded by the existing regulations. A set of subjects that TECH brings together in this program with the aim of providing the teaching professional with the information needed to understand and carry out the syllabus design of this subject. All in a 100% online mode and with innovative multimedia resources, developed by a specialized faculty in the sector.

$$12 - q = (1A + \frac{4}{8}) + (10)$$

$$\frac{3}{4} = p(48 + 13C)(35)$$

$$q \frac{65}{p} = \frac{3}{4} \left(\frac{p}{65} - \frac{c}{13} \right) (1)$$

$$3 = p(48 + 13C)(3)$$

A man in a light blue button-down shirt is smiling and writing on a whiteboard. He is holding a white marker in his right hand. The whiteboard has several mathematical expressions written on it in black marker. The background of the slide is split diagonally from the bottom-left to the top-right, with a white area on the left and a red area on the right.
$$+ \frac{2}{3}q)$$

$$5 - (89)$$

$$88 + 122)$$

$$5 - (89)$$

“

*With this 100% online Postgraduate Certificate
you will be able to progress in the design of
your teaching programs in just 6 weeks”*

The High School stage is vital for the academic development of the students, since it is in this period where they will acquire the necessary competences and skills to develop in their personal and professional daily life.

In this context, mathematics becomes a key subject, allowing reasoning, argumentation, knowledge of space and time or problem solving. As such, in order to provide effective learning, the teacher requires an adequate programming that takes into account the most attractive methodologies and didactics. In this sense, TECH has developed this university program that provides the teaching professional with the most advanced syllabus on Mathematics Syllabus Design in High School Education.

A program taught in 100% online mode, which provides the teaching professional with the knowledge required to create a program from start to finish, applying the requirements demanded by law. For this purpose, it also offers multimedia resources (video summaries of each topic, detailed videos), specialized readings and case studies. In this way, the teacher will obtain a theoretical-practical vision, which can be integrated into their daily work in the classroom.

In addition, thanks to the Relearning method, developed by TECH, the professional will not have to invest long hours of study and memorization. The repetition of key concepts throughout the program will allow you to consolidate them in a much simpler way.

In this way, this institution offers an excellent opportunity to advance in the educational field through a flexible university program. Students only need an electronic device with an Internet connection to access the content hosted on the virtual platform. All this will allow them to balance the most demanding responsibilities with a university program that is at the forefront of the academic scene.

This **Postgraduate Certificate in Mathematics Syllabus Design in High School Education** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- ♦ The development of case studies presented by experts in teaching in High School Education
- ♦ 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 self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodology
- ♦ 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



Grow professionally in the educational field thanks to TECH"

“

The Relearning method used by TECH gives you the opportunity to consolidate new concepts without investing long hours of study. Enroll now”

You will avoid reproducing the most common mistakes in the programs and teaching units of your mathematics subject.

This Postgraduate Certificate will guide you in the syllabus design and key competencies of the mathematics discipline in High School Education.

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 course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.



02 Objectives

Upon completion of this university program, students will have obtained advanced learning about Mathematics Syllabus Design in High School Education. In this way, they will be able to create programs and teaching units that respond to the administrative requirements and at the same time to the knowledge needed by their students. All this, in addition, based on a syllabus elaborated by a highly qualified and experienced teaching team in the teaching field.



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You have at your disposal the most advanced teaching tools with which you will be able to dynamically enter into the design of the Mathematics syllabus"



General Objectives

- Introduce students to the world of teaching, from a broad perspective that provides them with the necessary skills for the performance of their work
- Know the new tools and technologies applied to teaching
- Show the different options and ways the teacher can work in their post
- Promote the acquisition of communication and knowledge transmission skills and abilities
- Encourage continuing education for students





Specific Objectives

- ♦ Define the concept of curriculum
- ♦ Detail the elements that make up the curriculum
- ♦ Explain the concept of curriculum design
- ♦ Describe the levels of concreteness of the curriculum
- ♦ Explain the different models of the curriculum
- ♦ Determine the aspects that should be taken into account in the elaboration of a teaching program



After 150 teaching hours, you will be able to create a first level teaching program in the discipline of Mathematics thanks to this university program"

03

Course Management

This educational institution has brought together a management and teaching team with extensive professional experience in the education sector and an extensive knowledge of mathematics. In this way, students who take this university program will have access to an advanced program of 150 teaching hours of high quality. In addition, thanks to the proximity and human quality of the teaching staff, students will be able to resolve any doubts they may have about the content of this program.



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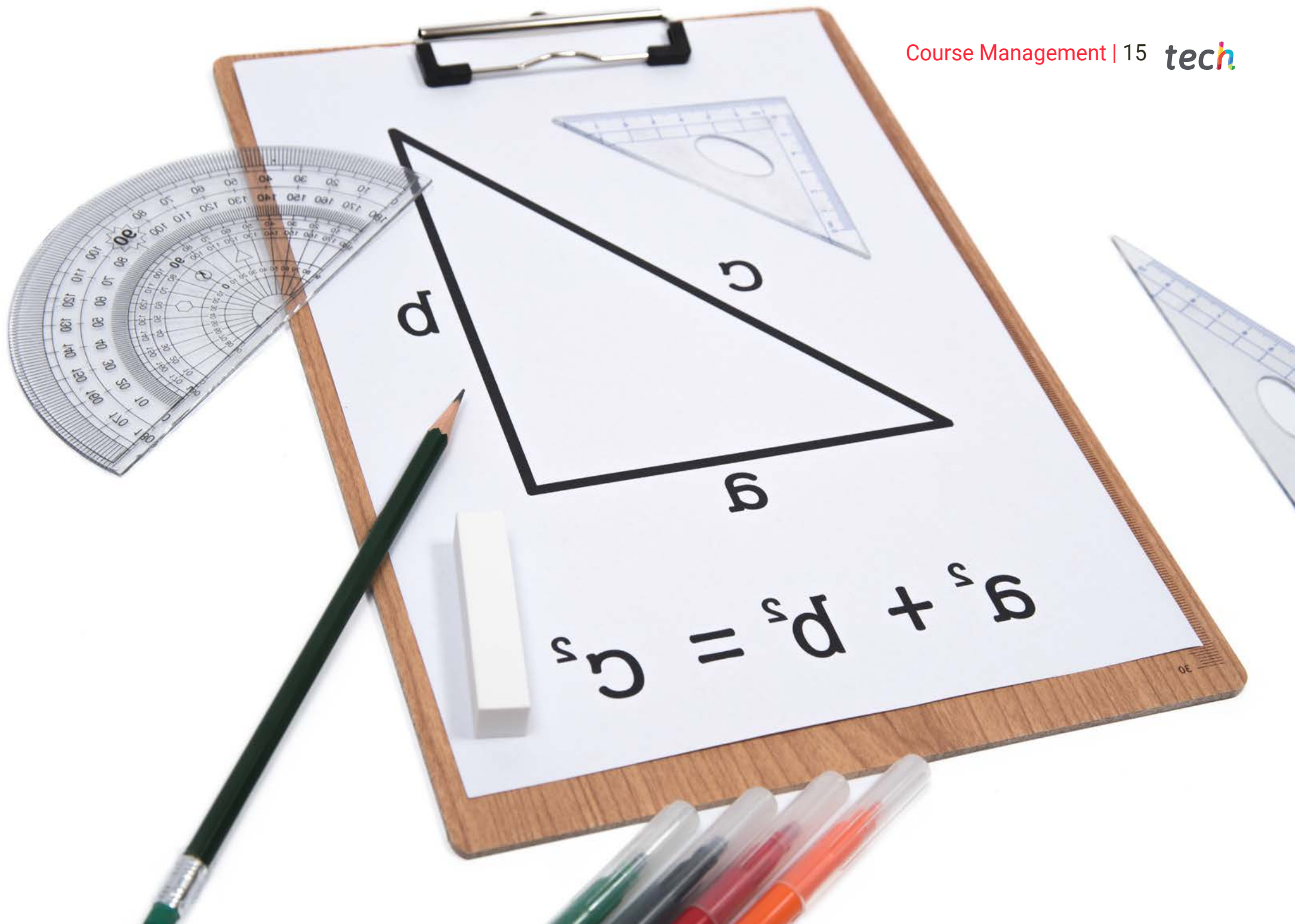
You are before a Postgraduate Certificate designed and created by teaching professionals with extensive experience in the education sector"

Management



Dr. Barboyón Combey, Laura

- ♦ Teacher of Primary Education and Postgraduate Studies
- ♦ Teacher in Postgraduate University Studies of High School Teacher Formation
- ♦ Teacher of Primary Education in several schools
- ♦ Doctor in Education from the University of Valencia
- ♦ Master's Degree in Psychopedagogy from the University of Valencia
- ♦ Degree in Primary School Education with a major in English Teaching from the Catholic University of Valencia San Vicente Mártir



04

Structure and Content

Students taking this university program will have access to the most relevant information to be able to develop the design of the mathematics subject in accordance with the new methodologies, objectives, contents and competencies that the teaching units must have. An advanced syllabus with a theoretical-practical approach, complemented by multimedia content accessible 24 hours a day, 7 days a week.



“

A study plan that provides you with the latest information on methodology, resources, evaluation and attention to diversity in Mathematics”

Module 1. Mathematics Syllabus Design

- 1.1. Curriculum and its Structure
 - 1.1.1. School Curriculum: Concept and Components
 - 1.1.2. Curriculum Design: Concept, Structure and Functioning
 - 1.1.3. Levels of Curriculum Specification
 - 1.1.4. Models of Syllabus
 - 1.1.5. Educational Programming as a Working Tool in the Classroom
- 1.2. Legislation as a Guide to Syllabus Design and Key Competencies
 - 1.2.1. Review of Current National Educational Legislation
 - 1.2.2. What are Competencies?
 - 1.2.3. Types of Skills
 - 1.2.4. Key Competencies
 - 1.2.5. Description and Components of Key Competencies
- 1.3. The Spanish Education System. Teaching Levels and Modalities
 - 1.3.1. Education System: Interaction between Society, Education and the School System
 - 1.3.2. The Educational System: Factors and Elements
 - 1.3.3. General Characteristics of the Spanish Educational System
 - 1.3.4. Configuration of the Spanish Educational System
 - 1.3.5. High School Education
 - 1.3.6. Baccalaureate
 - 1.3.7. Career Training
 - 1.3.8. Artistic Education
 - 1.3.9. Language Teaching
 - 1.3.10. Sports Education
 - 1.3.11. Adult Education
- 1.4. The Teaching Programming I: Curricular Elements
 - 1.4.1. Subjects Taught in the Specialty
 - 1.4.2. What Is a Teaching Plan? Characteristics and Functions
 - 1.4.3. Basic Elements of a Teaching Plan
 - 1.4.4. Description of the Elements of a Teaching Plan
 - 1.4.5. Cross-cutting Elements
- 1.5. Teaching Plan II: Methodology, Resources, Evaluation and Attention to Diversity
 - 1.5.1. General Considerations on the Methodology
 - 1.5.2. Learning Models
 - 1.5.3. Active Learning Methodologies
 - 1.5.4. Methodology as a Section of the Teaching Plan
 - 1.5.5. Didactic Resources
 - 1.5.6. Complementary and Extracurricular Activities
 - 1.5.7. General Considerations for Scheduling the Evaluation Process
 - 1.5.8. Procedures and Instruments for the Evaluation of Student Learning
 - 1.5.9. Qualification Criteria
 - 1.5.10. Recovery of Subjects Pending from Previous Courses
 - 1.5.11. Attention to Diversity Measures
 - 1.5.12. Evaluation of the Program and Teaching Practice
- 1.6. Design of a Teaching Unit I: Objectives, Contents and Competences
 - 1.6.1. Introduction to the Teaching Unit
 - 1.6.2. Contextualization
 - 1.6.3. Teaching Objectives
 - 1.6.4. Skills
 - 1.6.5. Contents
 - 1.6.6. Relation of Objectives, Contents, Competencies, Evaluation Criteria and Evaluable Learning Standards
- 1.7. Creation of the Mathematics Teaching Unit
- 1.8. Recommendations and Common Syllabus Design Errors. The Teaching Plan in Career Training
 - 1.8.1. Layout of the Elements of a Teaching Plan
 - 1.8.2. Layout of the Elements of a Teaching Unit
 - 1.8.3. Most Common Errors in the Teaching Plans and Teaching Units
 - 1.8.4. Planning in Career Training



- 1.9. Example of a Teaching Plan for the 1st Year of High School Education
 - 1.9.1. Context
 - 1.9.2. General Stage Objectives and Competencies
 - 1.9.3. Contents, Evaluation Criteria and Evaluable Learning Standards
 - 1.9.4. Specification of the Cross-Cutting Elements
 - 1.9.5. Methodology and Activities
 - 1.9.6. Materials and Resources
 - 1.9.7. Evaluation Procedures and Instruments and Grading Criteria
 - 1.9.8. Attention to Diversity
- 1.10. Example of a Teaching Unit for the 1st year of High School Education
 - 1.10.1. Context
 - 1.10.2. Teaching Objectives, Contents, Evaluation Criteria, Evaluable Learning Standards and Competencies
 - 1.10.3. Methodology, Activities and Resources
 - 1.10.4. Evaluation
 - 1.10.5. Attention to Diversity Measures



The practical case studies of this Postgraduate Certificate will allow you to integrate in your teaching the most dynamic and appropriate methodologies to attract adolescent students"

05

Methodology

This training program offers 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 Education School we use the Case Method

In a given situation, what should a professional do? Throughout the program students will be presented with multiple simulated cases based on real situations, where they will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method.

With TECH, educators can experience a learning methodology that is shaking the foundations of traditional universities around the world.



It is a technique that develops critical skills and prepares educators to make decisions, defend their arguments, and contrast opinions.

“

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. Educators who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process is solidly focused on practical skills that allow educators to better integrate the knowledge into daily practice.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life teaching.
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.

Our University is the first in the world to combine case studies with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.

Educators 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 we have trained more than 85,000 educators with unprecedented success in all specialties. 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 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 our 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 specialist educators who teach the course, specifically for the course, so that the teaching content is really 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.



Educational Techniques and Procedures on Video

TECH introduces students to the latest techniques, with the latest educational advances, and to the forefront of Education. All this, first-hand, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



Interactive Summaries

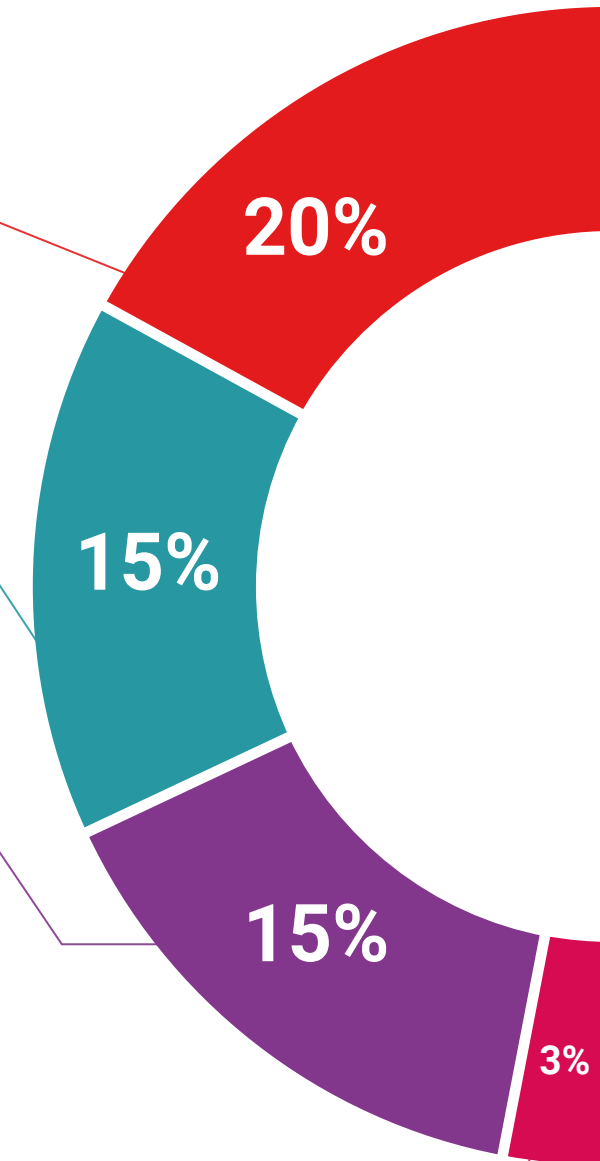
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

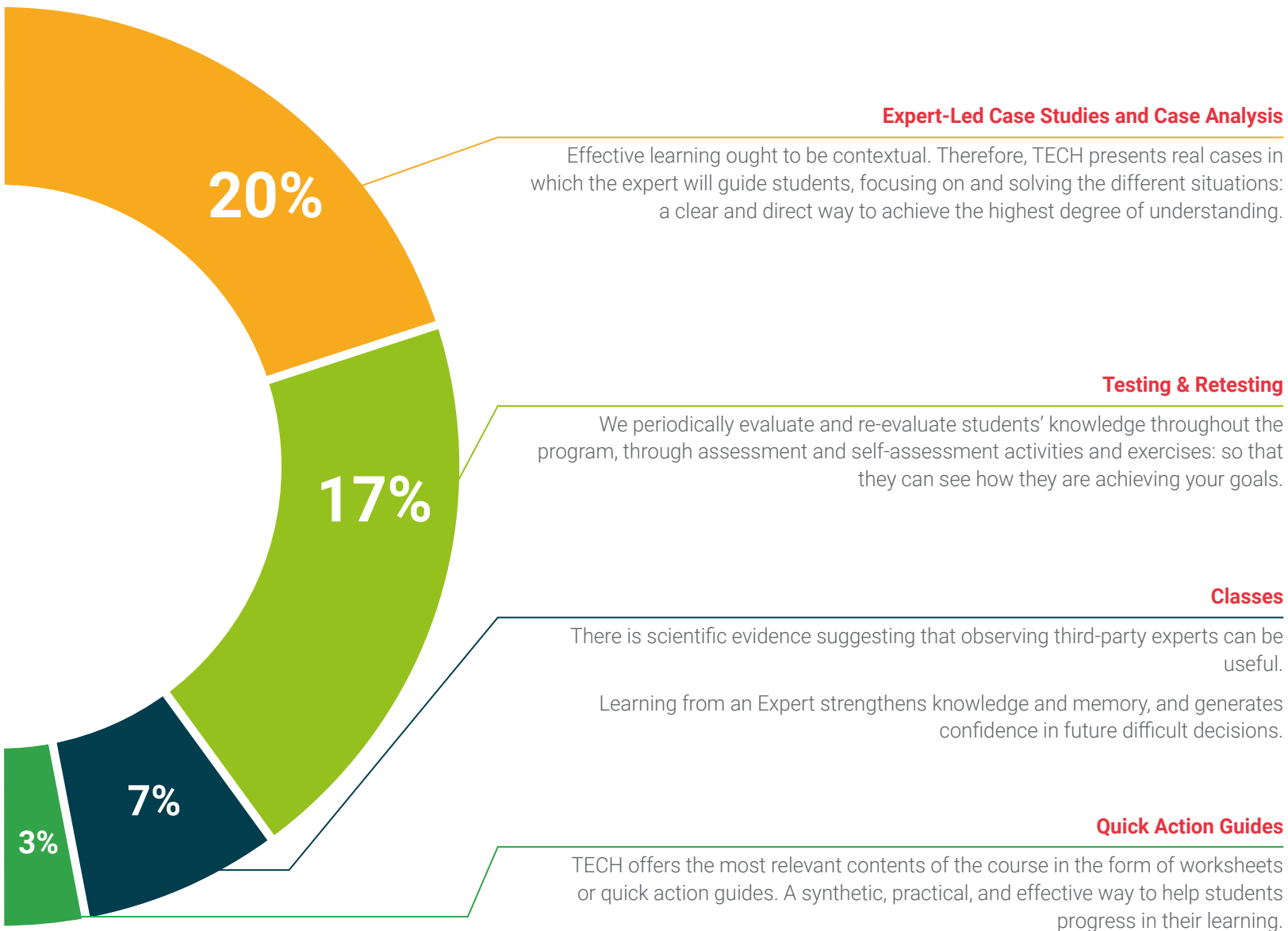
This exclusive multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".



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.





06

Certificate

The Postgraduate Certificate in Mathematics Syllabus Design in High School Education 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”

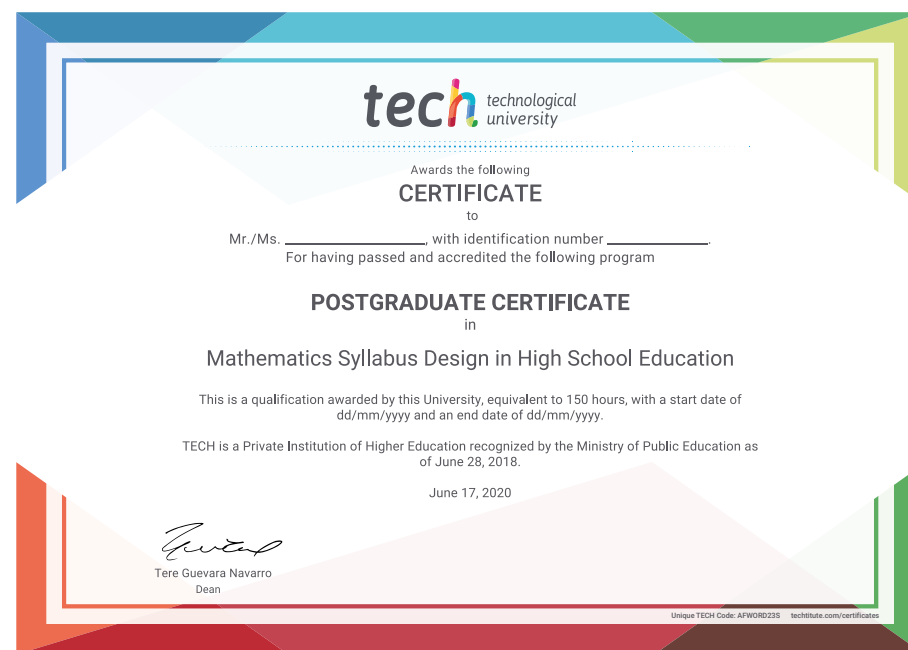
This **Postgraduate Certificate in Mathematics Syllabus Design in High School Education** contains the most complete and up-to-date scientific program on the market.

After the student has 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 Mathematics Syllabus Design in High School Education**

Official N° of hours: **150 h.**



*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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