

Master's Degree

Musical Instrumentation and Orchestration



## Master's Degree Musical Instrumentation and Orchestration

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitude.com/us/humanities/master-degree/master-musical-instrumentation-orchestration](http://www.techtitude.com/us/humanities/master-degree/master-musical-instrumentation-orchestration)

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# 01

# Introduction

Practically all who love classical music composition have dreamed at one time or another of conducting an orchestra, of taking the baton, getting up on the platform and, with a slight movement of the arms, giving the signal that makes the instruments start to emit their particular sounds to form a melody. However, to make it happen, the specialist must not only have musical knowledge, but must also know how to interpret the textures and sound atmospheres, the characteristics of the wind, percussion and woodwind and the details to carry out a good arrangement. In all these aspects you will be able to work with the course of this program that TECH has designed for it. This is a 100% online academic experience with which you can start and specialize in orchestral conducting, delving into the keys of harmony, vocal repertoire, instrumentation and musical notation over the course of 12 months.



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*Simon Rattle, Leonard Bernstein, Pierre Boulez, etc. This Master's Degree will give you the keys to place yourself at the height of all of them through a comprehensive academic experience and 100% online"*

Thinking about orchestration as a compositional process has become a recurring theme in the musical field, especially in the more classical aspects. Thanks to the specialized knowledge in this field, as well as the advances that have been made in terms of the possibility of making increasingly creative and specialized arrangements, musical ensembles have been able to cover a wider range of works, giving the public the possibility of enjoying symphonies that awaken the senses and transport them to numerous scenarios: forests, battles, cities, etc. In this context, the role of the professional who is in charge of the musical ensemble is fundamental, since they are not only in charge, on many occasions, of making the adaptations, but it is also their responsibility to set the tempos, pauses and, in general, the course of the work.

And to enable all those interested in this area to specialize in it, TECH has decided to launch a Master's Degree based on Musical Instrumentation and Orchestration. This is an avant-garde and dynamic program through which graduates will be able to delve into aspects such as harmony, notation, vocal repertoire and tuning. Furthermore, they will acquire a broad and specialized knowledge of the piano and the organ as key elements in the creation of pieces, focusing on their history, their characteristics and their employability in today's classical-cultural sector.

For this purpose, the student will have 1,500 hours of diverse content: the syllabus, elaborated by experts in musical direction, practical cases based on real situations and additional high-quality material presented in various multimedia formats. Everything will be available in a state-of-the-art Virtual Campus, which can be accessed through any device with Internet connection, whether it is a PC, *Tablet* or cell phone and without schedules or on-site classes. In this way, you will be able to combine the program with any other activity, investing your time in mastering your professional skills to become the next Simon Rattle.

This **Master's Degree in Musical Instrumentation and Orchestration** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ The development of case studies presented by experts in musical conducting
- ♦ The graphic, schematic and practical contents of the book provide technical and practical information on those 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



*You will delve into the different instrument families, as well as the characteristics of each one of them, so that you can carry out standard and complex formations"*

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*A program with which you will focus your efforts on the knowledge of the basic fundamentals of instrumentation and orchestration through 1,500 hours of theory, practical and additional content”*

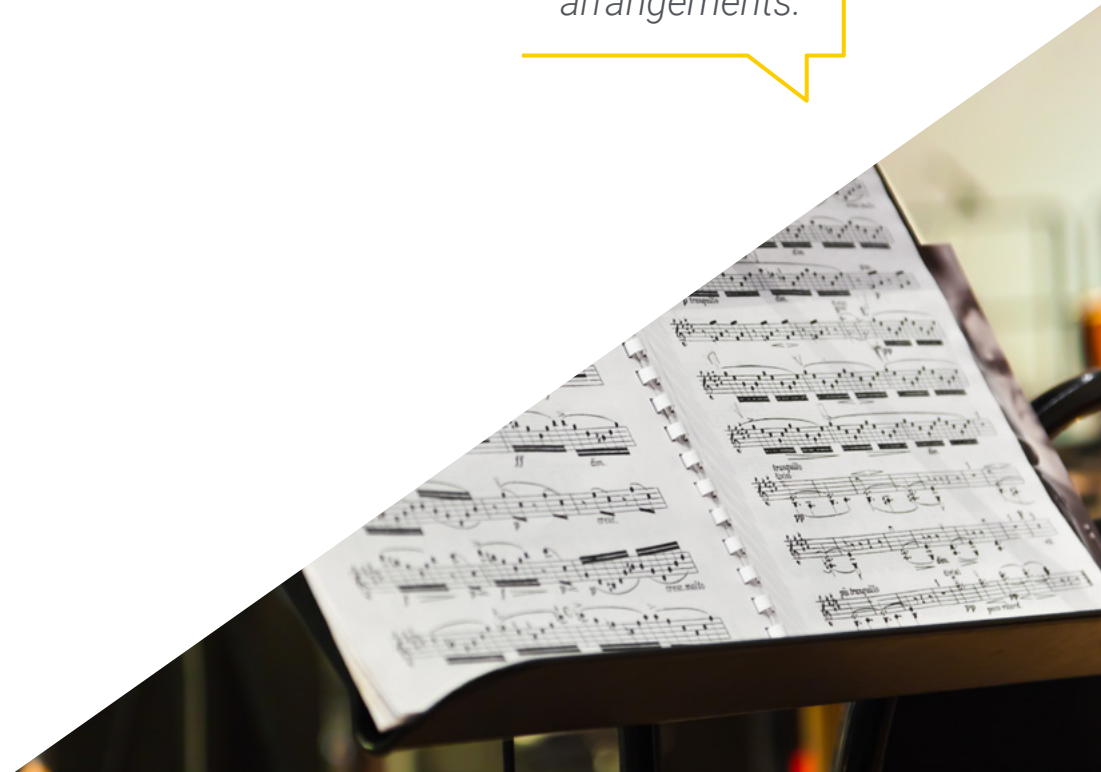
The program's teaching team includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Specializing in Musical Orchestration had never been so simple and dynamic until TECH decided to launch this academic experience.*

*Thanks to this Master's Degree, you will reach the highest level of coherence and solidity with your compositions and musical arrangements.*



# 02 Objectives

Orchestral conducting requires a specialized practice based on the concept of music, its fields and instrumentation. And it is this figure which is in charge of setting the rhythm and on which depends the course of the theme that is being interpreted. For this reason, the objective of this Master's Degree is to gather in a single degree the most complete information through which the graduate can study this field, obtaining an exhaustive knowledge of harmony, vocal repertoire and musical notation.



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*If one of your goals is to become the conductor of an international symphony orchestra, choosing this Master's Degree is a good step towards achieving it"*



## General Objectives

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- ♦ Know the characteristics and sound possibilities of the instrument
- ♦ Adopt an adequate position of the body with respect to the instrument, which makes possible and favors the action of the arm-forearm-hand set on the keyboard
- ♦ Enable the student to combine the different orchestral instruments in a reduced format
- ♦ Know the organization and functioning of all the chords used during the period of tonal harmony practice
- ♦ Apply tuning procedures and techniques for one of the three strings of the central A of the piano based on intervention plans with quality and safety criteria



*A qualification through which you will delve into the intricacies of the piano and the organ, the keys to tuning and the guidelines for practicing fingering”*



## Specific Objectives

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### Module 1. Introduction to the Piano

- ♦ Develop a correct fingering, exercising the mobility, independence and strength of the fingers
- ♦ Achieve rhythmic-melodic independence between the two hands
- ♦ Know and play scales
- ♦ Know and apply different articulations
- ♦ Reach a basic level of reading with two hands
- ♦ Relate and apply the knowledge of musical language to the instrument

### Module 2. Instrumentation and Orchestration

- ♦ Know the technical and idiomatic characteristics of the instruments integrate a symphony orchestra
- ♦ Distinguish aurally the different musical instruments, both individually and collectively
- ♦ Analyze the instrumentation of specific passages
- ♦ Acquire identification skills in terms of musical period and genre

### Module 3. Harmony I

- ♦ Know the way in which any type of chord is built
- ♦ Know and learn the proper movement of the voices that integrate the chord
- ♦ Perform basic progressions respecting the basic rules of harmony
- ♦ Exercise in a continuous way the harmonic exercise as the conduction of voices and construction of progressions

**Module 4. Vocal-Orchestral Repertoire**

- ♦ Know the technical and idiomatic characteristics of the types of choir integrated with a symphony orchestra
- ♦ Distinguish aurally the types of voices in conjunction with the orchestra
- ♦ Distinguish the musical genre and period aurally
- ♦ Analyze the vocal part of particular passages

**Module 5. Harmony II**

- ♦ Develop the creative capacity by making small compositions in which all the elements that are being studied are included
- ♦ Interpret basic harmonic schemes on the piano
- ♦ Identify chords and basic procedures of tonal harmony through listening
- ♦ Analyze tonal works and identify common chords and procedures
- ♦ Interrelate harmonic processes with musical form

**Module 6. Organ**

- ♦ Know the sound fundamentals of the organ and acquire the ability to use its possibilities
- ♦ Demonstrate the level of motor coordination between hands and feet necessary to cope with the demands of the repertoire
- ♦ Control and manage the sound flow of the organ and the different playing modalities, depending on the acoustics of the room where it is located
- ♦ Know and use, in the different types of organ, the registration, according to the period and style of the music intended for them

**Module 7. Piano Tuning**

- ♦ Apply procedures and techniques to obtain the piano temperament from the central "A 4" with quality and safety criteria
- ♦ Apply procedures and techniques to obtain the piano tuned central reference scale from the temperament with quality and safety criteria
- ♦ Apply procedures and techniques to extend the temperament to the complete tessitura of the piano, starting from the tuned central reference scale with quality and safety criteria

**Module 8. Musical Notation**

- ♦ Know the basic principles of vocal musical notation from the Middle Ages to the Baroque according to the criteria of scientific transcription
- ♦ Apply correctly the criteria and methods of critical edition in the musicological field and the paleographic techniques of transcription of instrumental music, from the Middle Ages to the present day
- ♦ Know the manuscripts and sources of music through the historical course

**Module 9. Organology**

- ♦ Express themselves musically with their instrument/voice in a way that is based on knowledge and mastery of instrumental and body technique
  - ♦ Carry out practical work on the classification of musical instruments
  - ♦ Know the sources and related disciplines for the study of musical instruments
- Evaluate current methodological trends

**Module 10. Orchestra Conducting**

- ♦ Delving into the knowledge of the different styles and the interpretative resources of each one of them
- ♦ Develop criteria on aesthetic issues through work
- ♦ Master the tuning criteria of each instrument
- ♦ Apply polyphonic listening and listen simultaneously to all the parts that integrate the orchestra

# 03

## Skills

The graduate who passes all the requirements of this Master's Degree will not only have acquired a series of specialized knowledge on Musical Instrumentation and Orchestration, but will also have acquired a series of professional skills that will help them stand out among other specialists due to their very high level. You will have mastered music reading and composition, the keys to harmony and melody, orchestral structuring and notation. Therefore, you will be able to work in a specialized way in this field in order to reach even your most ambitious career expectations.



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*Would you like to stand out for your exhaustive handling of Gregorian Chant notation? In that case, opt for a program that will provide you with everything you need to achieve it"*



## General Skills

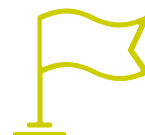
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- Perform small pieces
- Awaken interest in music and love for the study of the piano
- Understand the interrelation of harmonic processes with the formal scheme of a piece or fragment
- Train the musical ear to identify the chords and harmonic procedures that make up a harmonic structure
- Enhance criticism of one's own or other people's pieces, developing personal criteria



*A Master's Degree with which you will make a difference for your comprehensive and specialized knowledge of organology and its intricacies"*





## Specific Skills

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- ♦ Employ learning techniques and acquire study habits that favor the development of analytical skills and a progressive degree of autonomy
- ♦ Perform a repertoire made up of pieces from different periods and styles, of a difficulty in accordance with the basic level
- ♦ Acquire the resources to be fluent in any repertoire of historical music in its original writing
- ♦ Know the contents of organology as a scientific subject
- ♦ Recognize the acoustic and organological characteristics and stylistic variants
- ♦ Identify the structure of small pieces

# 04

## Structure and Content

Both the structure and the content of this Master's Degree have been designed by TECH and a team of experts in music management, who have invested a long period of time to shape a state-of-the-art curricula in the sector. This degree, in addition to the best theory and practical material, includes research articles, complementary readings, dynamic summaries, self-knowledge exercises and much more, so that the student can delve in a personalized way in the different sections of the syllabus, as well as contextualize the information of the same.



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*In the Virtual Campus, you will find detailed videos, research articles, complementary readings and much more additional material to contextualize the information and delve deeper into the sections you consider necessary”*

## Module 1. Introduction to the Piano

- 1.1. The Piano
  - 1.1.1. Organological Description of the Piano Musical Instrument
  - 1.1.2. Main Parts of the Piano
  - 1.1.3. Evolution of the Piano as a Musical Instrument
  - 1.1.4. Most Important Composers
- 1.2. The Musical Notes
  - 1.2.1. Location of the Notes
  - 1.2.2. G Clef and F Clef
  - 1.2.3. Association of Right Hand and Left Hand
  - 1.2.4. Ascending and Descending Musical Notes
  - 1.2.5. Fingering
- 1.3. Figures, Dynamics and Musical Nuances
  - 1.3.1. Musical Figures and their Practical Applications
  - 1.3.2. Dynamics and their Practical Application
  - 1.3.3. Musical Nuances and their Practical Applications
  - 1.3.4. Figures, Dynamics and Musical Nuances Together on the Piano
- 1.4. Introduction to Musical Reading
  - 1.4.1. Reading Sheet Music in G Clef
  - 1.4.2. Reading Sheet Music in F Clef
  - 1.4.3. Combination of the Two Musical Clefs
  - 1.4.4. Internalization of the Concepts Acquired in the Piano
- 1.5. Improvisation
  - 1.5.1. Main Musical Scales
  - 1.5.2. Main Musical Chords
  - 1.5.3. The Main Tones
  - 1.5.4. Techniques of Musical Improvisation
- 1.6. Aural Application
  - 1.6.1. Aural Recognition of Melodic Intervals
  - 1.6.2. Aural Recognition of Major and Minor Chords
  - 1.6.3. Aural Recognition of Augmented and Diminished Chords
  - 1.6.4. Playing Intervals
  - 1.6.5. Playing Major and Minor Chords
- 1.7. Composition
  - 1.7.1. Written Composition of a Short Musical Piece in G Clef
  - 1.7.2. Written Composition of a Short Musical Piece in F Clef
  - 1.7.3. Composition of a Passage of a Musical Piece Using Both Musical Clefs
  - 1.7.4. Improvised Composition of a Short Musical Piece
- 1.8. Sight-Reading
  - 1.8.1. Sight-Reading Intonation
  - 1.8.2. Rhythm at First Sight
  - 1.8.3. Sight-Reading of a Short Musical Piece in G Clef
  - 1.8.4. Sight-Reading of a Short Musical Piece in F Clef
  - 1.8.5. Sight-Reading of a Passage in G and F Clef
- 1.9. The Pedal
  - 1.9.1. Introduction to the Pedal
  - 1.9.2. Recognition of the Three Piano Pedals
  - 1.9.3. Recognition of the Pedal Symbols
  - 1.9.4. Coordination and Internalization of the Pedal with Both Hands
- 1.10. Four-Hand Technique
  - 1.10.1. What is Four-Hand Playing?
  - 1.10.2. Main Repertoire Composed to be Played by Four Hands
  - 1.10.3. Performance of a Four-Hand Piece in its Melodic Part
  - 1.10.4. Performance of a Four-Hand Piece in its Harmonic Part

## Module 2. Instrumentation and Orchestration

- 2.1. The Orchestra
  - 2.1.1. What is an Orchestra?
  - 2.1.2. What Instruments Make Up an Orchestra?
  - 2.1.3. Beginnings of the Orchestra
  - 2.1.4. The Baroque Orchestra
  - 2.1.5. The Classical Orchestra
  - 2.1.6. Beethoven's Orchestra
  - 2.1.7. The Post-Beethoven Orchestra
  - 2.1.8. The Contemporary Orchestra
- 2.2. Stringed Instruments
  - 2.2.1. What Are the Stringed Instruments?
  - 2.2.2. Tessitura
  - 2.2.3. Special Mention of the Piano
  - 2.2.4. The String Quartet
  - 2.2.5. Roles of the Stringed Instruments in the Orchestra
- 2.3. Woodwind Instruments
  - 2.3.1. Which Are the Woodwind Instruments?
  - 2.3.2. Woodwind Quintet
  - 2.3.3. Tessitura
  - 2.3.4. Roles of the Woodwind Instruments in the Orchestra
- 2.4. Brass Instruments
  - 2.4.1. Which Are the Brass Instruments?
  - 2.4.2. Tessitura
  - 2.4.3. Roles of the Brass Instruments in the Orchestra
  - 2.4.4. Types of Brass Instruments: Conical Bore and Cylindrical Bore
- 2.5. Chamber Ensembles
  - 2.5.1. What are Chamber Formations?
  - 2.5.2. What is Chamber Music?
  - 2.5.3. Origins of Chamber Ensembles
  - 2.5.4. Most Common Chamber Ensembles
- 2.6. Percussion
  - 2.6.1. Which are the Percussion Instruments?
  - 2.6.2. Classification of Percussion Instruments
  - 2.6.3. Types of Percussion
    - 2.6.3.1. Percussion of Drumhead
    - 2.6.3.2. Percussion of Blades
    - 2.6.3.3. Minor Percussion
  - 2.6.4. Role of Percussion
- 2.7. Harp and Guitar
  - 2.7.1. Brief Description of the Harp
  - 2.7.2. Origins of the Harp
  - 2.7.3. Brief Description of the Guitar
  - 2.7.4. Origins of the Guitar
  - 2.7.5. Role of the Harp in the Orchestra
  - 2.7.6. Role of the Guitar in the Orchestra
- 2.8. Keyboard Instruments
  - 2.8.1. Which are the Keyboard Instruments?
  - 2.8.2. Characteristics of Keyboard Instruments
  - 2.8.3. The Piano in the Orchestra
  - 2.8.4. Historical Evolution of the Piano
- 2.9. Solo Instruments in the Orchestra
  - 2.9.1. What is a Solo Instrument and What is its Role?
  - 2.9.2. Which are the Soloist Instruments?
  - 2.9.3. The Most Important Solo Instruments in the 15th-16th Centuries
  - 2.9.4. Today's Most Important Solo Instruments

2.10. The Arrangement in the Orchestra

2.10.1. Stringed Instruments

2.10.2. Woodwind Instruments

2.10.3. Brass Instruments

2.10.4. Percussion

### Module 3. Harmony I

3.1. Harmony

3.1.1. What is Harmony in Music?

3.1.2. Evolution of the Harmonic Concept

3.1.3. Functional Harmony

3.1.4. Harmony in Schools

3.2. Figured Bass

3.2.1. What is a Figured Bass?

3.2.2. History of the Figured Bass

3.2.3. Performance and Execution of a Figured Bass

3.2.4. Basic Figures

3.3. Conduction of Voices

3.3.1. What is Conduction of Voices?

3.3.2. Rules for Arrangement of Voices

3.3.3. Rules of the Melodic Movement of Each Voice

3.3.4. Rules of the Harmonic Movement Between Two Voices

3.3.5. Rules for Notes of Compulsory Resolution

3.4. The Chords of the Scale

3.4.1. Triad Chord Links

3.4.2. Chord Sequences

3.4.3. Chords Derived From the Major Scale

3.4.4. Seventh Chords Derived From the Major Scale

3.4.5. Chords Derived From the Minor Scale

3.5. The Seventh and Ninth Chords

3.5.1. What are Seventh Chords?

3.5.2. Types of Seventh Chords

3.5.3. What are Ninth Chords?

3.5.4. Types of Ninth Chords

3.6. The Cadences

3.6.1. Perfect Cadence

3.6.2. Plagal Cadence

3.6.3. Broken Cadence

3.6.4. Semi-Cadence

3.6.5. Andalusian Cadence

3.6.6. Imperfect Cadence

3.7. The Dissonance

3.7.1. Concept

3.7.2. Role of the Dissonance

3.7.3. Harmonic Resolution of Dissonance

3.7.4. Melodic Resolution of Dissonance

3.8. Chord Inversions

3.8.1. What is an Inversion?

3.8.2. Inversions of Triad Chords

3.8.3. Seventh Chord Inversions

3.8.4. Ninth Chord Inversions

3.9. Ornamental Notes

3.9.1. What is an Ornamental Note?

3.9.2. Passing Note

3.9.3. Fioritura

3.9.4. Ritardando

3.9.5. Anticipation

3.9.6. Appoggiatura

3.9.7. Échappée

3.9.8. Cambiata

3.9.9. Pedal Point

- 3.10. Modulation
  - 3.10.1. Concept and Operation
  - 3.10.2. Modulation by Pivot Chord
  - 3.10.3. Chromatic Modulation
  - 3.10.4. The Enharmonic Modulation

## Module 4. Vocal-Orchestral Repertoire

- 4.1. Classification of Voices
  - 4.1.1. Introduction to Voice Types
  - 4.1.2. Soprano
  - 4.1.3. Mezzo Soprano
  - 4.1.4. Contralto
  - 4.1.5. Countertenor
  - 4.1.6. Tenor
  - 4.1.7. Baritone
  - 4.1.8. Bass
- 4.2. Opera
  - 4.2.1. The Beginnings of Opera
  - 4.2.2. The Italian Opera
    - 4.2.2.1. Baroque
    - 4.2.2.2. Reforms of Gluck and Mozart
    - 4.2.2.3. The *Bel Canto*
  - 4.2.3. German Opera
  - 4.2.4. Composers and Opera to Highlight
- 4.3. Structure of the Opera
  - 4.3.1. Acts and Scenes
  - 4.3.2. The Recitative
  - 4.3.3. Duets, Tercets
  - 4.3.4. Choral Part

- 4.4. The Operetta
  - 4.4.1. What is the Operetta?
  - 4.4.2. The French Operetta
  - 4.4.3. The Viennese Operetta
  - 4.4.4. Influence of the Operetta in the Beginnings of the Musical
- 4.5. The Opera Bufo
  - 4.5.1. What is the Opera Bufo?
  - 4.5.2. Beginnings of the Opera Bufo
  - 4.5.3. The Cilla. Michelangelo Faggioli
  - 4.5.4. Most Important Bufo Operas
- 4.6. The French Comic Opera
  - 4.6.1. What is the French Comic Opera?
  - 4.6.2. When did French Comic Opera Emerge?
  - 4.6.3. Evolution of the French Comic Opera at the End of the 18th Century
  - 4.6.4. Main Composers of French Comic Opera
- 4.7. The English *Ballad* Opera and the German *Singspiel*
  - 4.7.1. Introduction to the *Ballad* Opera
  - 4.7.2. Introduction to the *Singspiel*
  - 4.7.3. Origins of the *Singspiel*
  - 4.7.4. The *Singspiel* in the Rococo Period
  - 4.7.5. Main *Singspiel* and its Composers
- 4.8. Zarzuela
  - 4.8.1. What is the Zarzuela?
  - 4.8.2. Beginnings of Zarzuela
  - 4.8.3. Main Zarzuelas
  - 4.8.4. Main Composers
- 4.9. The Mass
  - 4.9.1. Description of the Mass Genre
  - 4.9.2. Parts of the Mass
  - 4.9.3. The Requiem
  - 4.9.4. Most Outstanding Requiems
    - 4.9.4.1. Mozart's Requiem

- 4.10. The Symphony and the Chorus
  - 4.10.1. The Choral Symphony
  - 4.10.2. Birth and Evolution
  - 4.10.3. Main Symphonies and Composers
  - 4.10.4. Unaccompanied Choral Symphonies

## Module 5. Harmony II

- 5.1. The Scales
  - 5.1.1. The Seven Modal Scales
  - 5.1.2. The Minor Scales
  - 5.1.3. Scale Degrees
  - 5.1.4. The Tonal and Modal Degrees
- 5.2. The Movements of the Voices
  - 5.2.1. The Direct Movement
  - 5.2.2. The Contrary Movement
  - 5.2.3. The Oblique Movement
  - 5.2.4. The Arrangement of the Voices
- 5.3. Extension and Duplication of Voices
  - 5.3.1. Bass Extension
  - 5.3.2. Tenor Extension
  - 5.3.3. Contralto Extension
  - 5.3.4. Soprano/Treble Extension
  - 5.3.5. Voice Duplication Rules
- 5.4. Harmonization
  - 5.4.1. Harmonization of Figured and Non-Figured Basses
  - 5.4.2. Harmonization of Trebles
  - 5.4.3. Harmonization of Mixed Works (Bass-Treble or Treble-Bass)
  - 5.4.4. Creation and Harmonization of Self-Works



- 5.5. Tonal and Modal Ligatures
  - 5.5.1. Tonal Ligatures: (V-I) (I-IV)
  - 5.5.2. Tonal Ligatures: (V-I) (I-IV)
  - 5.5.3. Tonal Ligatures: (I-VI) (IV-II)
  - 5.5.4. Modal Ligatures: (V-II) (IV-I)
  - 5.5.5. Modal Ligatures: (V-IV) (II-I)
  - 5.5.6. Modal Ligatures: (I-III) (II-IV)
- 5.6. Modulation
  - 5.6.1. Modulation by Pivot Chord
  - 5.6.2. Chromatic Modulation
  - 5.6.3. The Enharmonic Modulation
  - 5.6.4. Modulation to the Third Ascending Circle of Fifths
- 5.7. Sixth Chords
  - 5.7.1. Origin
  - 5.7.2. The Italian Sixth
  - 5.7.3. The French Sixth
  - 5.7.4. The German Sixth
- 5.8. The Dominant Ninth
  - 5.8.1. The Major Dominant Ninth
  - 5.8.2. The Minor Dominant Ninth
  - 5.8.3. Notes of Compulsory Resolution
  - 5.8.4. The Ligature
- 5.9. Harmonic Rhythm/Subdivisions
  - 5.9.1. What is Harmonic Rhythm?
  - 5.9.2. History of Harmonic Rhythm
  - 5.9.3. What is Rhythmic Subdivision?
  - 5.9.4. Subdivision of Harmonic Rhythm
- 5.10. Harmonization of a Chorale
  - 5.10.1. Harmonic Sequencing
  - 5.10.2. Prioritization of Cadences
  - 5.10.3. Modulation Points
  - 5.10.4. The Use of the V with Seventh in Inversions

## Module 6. Organ

- 6.1. The Organ
  - 6.1.1. Introduction to the Organ
  - 6.1.2. The Organ in Ancient and Middle Ages
  - 6.1.3. The Organ in Classicism and Romanticism
  - 6.1.4. The Organ in the Baroque
- 6.2. How the Organ Works
  - 6.2.1. How is the Sound Made?
  - 6.2.2. The Change of Pitch and Timbre
  - 6.2.3. The Valves and Windchests
  - 6.2.4. Positive Organ
- 6.3. Structural Composition of the Organ
  - 6.3.1. The Box
  - 6.3.2. The Console
  - 6.3.3. Manual
  - 6.3.4. Pedalboard
- 6.4. Parts of the Organ
  - 6.4.1. Records
  - 6.4.2. Pipes
  - 6.4.3. Secret
  - 6.4.4. Mechanisms
  - 6.4.5. Bellows
- 6.5. The German Music of the 17th-18th Centuries
  - 6.5.1. Bach
  - 6.5.2. Pachelbel
  - 6.5.3. Walter
  - 6.5.4. Boehm
- 6.6. Most Relevant Organ Pieces
  - 6.6.1. Baroque Period
  - 6.6.2. Classicism
  - 6.6.3. Romanticism
  - 6.6.4. 20th Century

- 6.7. The Portable Organ, Realejo and Positive
  - 6.7.1. Introduction
  - 6.7.2. The Portable Organ
  - 6.7.3. The Realejo
  - 6.7.4. Positive Organ
- 6.8. The Wanamaker Organ
  - 6.8.1. Introduction
  - 6.8.2. History
  - 6.8.3. The Architectural Layout of the Organ
  - 6.8.4. Music Composed Specifically for the Wanamaker Organ
- 6.9. The Organ in Cinema and Videogames
  - 6.9.1. Pirates of the Caribbean
  - 6.9.2. Interstellar
  - 6.9.3. The Legend Of Zelda
  - 6.9.4. Final Fantasy IV
- 6.10. The Most Famous Organs in the World
  - 6.10.1. The Organ of the Cathedral of Notre Dame (Paris)
  - 6.10.2. The Organ of St. Stephen's Cathedral (Passau)
  - 6.10.3. The Organ of the Basilica of Notre-Dame (Alençon)
  - 6.10.4. The Organ of the Oliwa Cathedral (Gdańsk)

## Module 7. Piano Tuning

- 7.1. The Invention of the Piano
  - 7.1.1. What is a Piano?
  - 7.1.2. Predecessors and Origins of the Piano
  - 7.1.3. Bartolomeo Cristofori
  - 7.1.4. The Transformations Undergone by the Piano
- 7.2. Types of Piano
  - 7.2.1. The Upright Piano
  - 7.2.2. The One-Quarter and Half-Tail Piano
  - 7.2.3. The Grand Piano
  - 7.2.4. The Electric Piano
- 7.3. Tuning Tools
  - 7.3.1. The Tuning Key
  - 7.3.2. Tuning Fork
  - 7.3.3. *Mutes*, Tweezers and Felt Strips
  - 7.3.4. Rubber Wedges
- 7.4. Beat
  - 7.4.1. What is the Beat?
  - 7.4.2. Slow Beat
  - 7.4.3. Fast Beat
  - 7.4.4. Beat Frequencies
  - 7.4.5. Beat Tones
- 7.5. Temperament
  - 7.5.1. What is the Temperament?
  - 7.5.2. Acoustic Physics and Temperament
  - 7.5.3. Mesotonic Temperament
  - 7.5.4. Equal Temperament
- 7.6. Piano Strings
  - 7.6.1. What is the Piano String?
  - 7.6.2. Steel or Flat Strings
  - 7.6.3. The Bordone Strings
  - 7.6.4. Main Manufacturers of Strings
- 7.7. The Condition of the Piano
  - 7.7.1. Evaluation of the Condition of the Piano Cabinet
  - 7.7.2. Evaluation of the Condition of the Piano Pedals
  - 7.7.3. Evaluation of the Condition of the Piano Tuning
  - 7.7.4. Evaluation of the Condition of the Piano Harmonization
- 7.8. Replacement of the Parts and Elements of the Piano Mechanics
  - 7.8.1. Preparation of the Piano for its Accessibility
  - 7.8.2. Applying Corrections to Elements of the Piano Harmonic Set
  - 7.8.3. Assembly and Disassembly of Piano Parts to be Repaired
  - 7.8.4. Selection and Preparation of Strings and/or Bass Strings

- 7.9. The Octaves
  - 7.9.1. Ora Railsback and the Octave Stretching
  - 7.9.2. Inharmonicity
  - 7.9.3. The Central Piano with its First Four Theory Harmonics
  - 7.9.4. Tuning of a Piano's Theory Octave
  - 7.9.5. Tuning of a Piano's Real Octave
- 7.10. Piano Manufacture
  - 7.10.1. Piano Manufacturing Materials
  - 7.10.2. Creation of the Basic Structure
  - 7.10.3. The Tension Resonator and Harmonic Table
  - 7.10.4. The Pegbox
  - 7.10.5. Key and Hammers

## Module 8. Musical Notation

- 8.1. Gregorian Chant Notations
  - 8.1.1. The Neumes, Breathing, Custos
  - 8.1.2. Adiasmatic Notations
  - 8.1.3. Diasthematic Notations
  - 8.1.4. Modern Editions of Gregorian Chant
- 8.2. First Polyphonies
  - 8.2.1. The Parallel *Organum* Musica Enchiriadis
  - 8.2.2. The Dasian Notation (First Polyphonies)
  - 8.2.3. Alphabetic Notation
  - 8.2.4. The Notation of St. Martial of Limoges
- 8.3. The Codex Calixtinus
  - 8.3.1. The Diasthematic Notation of the Codex
  - 8.3.2. The Authorship of the Codex Calixtinus
  - 8.3.3. Type of Music Found in the Codex
  - 8.3.4. The Polyphonic Music of the Codex Book V
- 8.4. The Notation at the School of Notre Dame
  - 8.4.1. The Repertoire and its Sources
  - 8.4.2. Modal Notation and Rhythmic Modes
  - 8.4.3. The Notation in the Different Genres: *Organa*, *Conducti* and Motets
  - 8.4.4. Main Manuscripts
- 8.5. The Notation of the *Ars Antiqua*
  - 8.5.1. *Ars Antiqua* and *Ars Nova* Terminology
  - 8.5.2. The Pre-Franconian Notation
  - 8.5.3. The Franconian Notation
  - 8.5.4. The Petronian Notation
- 8.6. Notation in the 14th Century
  - 8.6.1. The Notation of the French *Ars Nova*
  - 8.6.2. The Notation of the Italian *Trecento*
  - 8.6.3. The Division of Longa, Breve and Semibreve
  - 8.6.4. The *Ars Subtilior*
- 8.7. The Copyists
  - 8.7.1. Introduction
  - 8.7.2. The Origins of the Calligraphy
  - 8.7.3. History of Copyists
  - 8.7.4. Music Copyists
- 8.8. The Printing Press
  - 8.8.1. Bi Sheng and the First Chinese Printing Press
  - 8.8.2. Introduction to Printing Press
  - 8.8.3. The Gutenberg Printing Press
  - 8.8.4. The First Printings
  - 8.8.5. The Printing Press Today
- 8.9. Music Printing Press
  - 8.9.1. Babylon. First Forms of Musical Notation
  - 8.9.2. Ottaviano Petrucci. Printing with Movable Type
  - 8.9.3. John Rastell's Printing Model
  - 8.9.4. Intaglio Printing
- 8.10. The Current Musical Notation
  - 8.10.1. The Representation of Durations
  - 8.10.2. The Representation of Pitches
  - 8.10.3. Musical Expression
  - 8.10.4. Tablature

## Module 9. Organology

- 9.1. The Organology
  - 9.1.1. What is Organology?
  - 9.1.2. Concept of Musical Instrument
  - 9.1.3. Concept and Purpose of Musical Instrument Classifications
  - 9.1.4. Musical Instruments Classification. Hornbostel-Sachs
- 9.2. Historical Process of Musical Instruments
  - 9.2.1. The First Musical Instruments. Prehistoric Instruments
  - 9.2.2. Ancient Instruments
  - 9.2.3. Instruments in the Middle Ages
  - 9.2.4. Instruments in the Modern Age
  - 9.2.5. The Instruments in the Renaissance and Baroque
  - 9.2.6. Instruments in Classicism and Romanticism
- 9.3. Idiophones
  - 9.3.1. What is an Idiophone?
  - 9.3.2. Percussive Idiophones
  - 9.3.3. Shaken Idiophones
  - 9.3.4. Plucked Idiophones
  - 9.3.5. Friction Idiophones
  - 9.3.6. With the Hand
- 9.4. Membranophones
  - 9.4.1. What is a Membranophone?
  - 9.4.2. Percussed Membranophones
  - 9.4.3. Fretted Membranophones
  - 9.4.4. Singing Membranophone
- 9.5. Aerophone
  - 9.5.1. What is an Aerophone?
  - 9.5.2. Classification According to Manufacturing Materials
    - 9.5.2.1. Brass Aerophones
    - 9.5.2.2. Woodwind Aerophones
    - 9.5.2.3. Wind-Mechanical Aerophones
  - 9.5.3. Single Reed Aerophones
  - 9.5.4. Double Reed Aerophones
  - 9.5.5. Embouchure Aerophones
  - 9.5.6. Mouthpiece Aerophones
  - 9.5.7. Aerophones with Air Reservoir
- 9.6. Chordophones
  - 9.6.1. What is a Chordophone?
  - 9.6.2. Plucked String Chordophones
  - 9.6.3. Fretted Stringed Chordophones
  - 9.6.4. Plucked String Chordophones
- 9.7. Electrophones
  - 9.7.1. What is an Electrophone?
  - 9.7.2. Sachs and Galpin
  - 9.7.3. Electromechanical Electrophones
  - 9.7.4. Electronic Electrophones
- 9.8. The Musical Iconography
  - 9.8.1. Definition of Musical Iconography
  - 9.8.2. The Musical Iconography in the Prehistory and Ancient Times
  - 9.8.3. The Medieval Musical Iconography
  - 9.8.4. Main Pictorial Art Pieces
- 9.9. The Portico of Glory
  - 9.9.1. Introduction
  - 9.9.2. Master Mateo
  - 9.9.3. The Architectural Structure of the Portico of Glory
  - 9.9.4. Musical Instruments
- 9.10. The Codex Calixtinus
  - 9.10.1. What is the Codex Calixtinus?
  - 9.10.2. The History of the Codex Calixtinus
  - 9.10.3. The Structure of the Codex Calixtinus
  - 9.10.4. Music of the Codex Calixtinus

**Module 10. Orchestra Conducting**

- 10.1. Orchestra Conductors
  - 10.1.1. Introduction
  - 10.1.2. Role of the Orchestra Conductor
  - 10.1.3. Composer-Conductor Relationship
  - 10.1.4. Most Renowned Conductors
- 10.2. The Gesture
  - 10.2.1. The *Levare*
  - 10.2.2. The Vertical Gesture
  - 10.2.3. The Cross
  - 10.2.4. Triangle
- 10.3. The Free Pulse
  - 10.3.1. The Free Pulse in the Fundamental Figures
  - 10.3.2. Regular Time Signatures
  - 10.3.3. Irregular Time Signatures
  - 10.3.4. Irregular Cross Time Signatures
- 10.4. The Anacrusic Beginning
  - 10.4.1. What is an Anacrusis?
  - 10.4.2. Anacrusic Beginning on Fundamental Figures
  - 10.4.3. The Normal *Levare*
  - 10.4.4. The Metric *Levare*
- 10.5. The Tempo
  - 10.5.1. Tempo Alterations as Part of Musical Speech
  - 10.5.2. Tempo Changes after a Pause
  - 10.5.3. Progressive Changes
  - 10.5.4. The Change of Tempo, Pulse and Time Signature
- 10.6. The Baton
  - 10.6.1. Introduction. Origin and Creator of the Baton
  - 10.6.2. The Handle
  - 10.6.3. Rod
  - 10.6.4. Length

- 10.7. The Piano
  - 10.7.1. Sight-Reading of Sheet Music for Two Hands
  - 10.7.2. Musical Transport
  - 10.7.3. Harmonic Connections
  - 10.7.4. Composition
- 10.8. Vocal Groups
  - 10.8.1. The Human Voice and its Classification
  - 10.8.2. Technical Rudiments of Conducting Applied to Vocal Music
  - 10.8.3. The Vocal Repertoire
  - 10.8.4. The Rehearsal, the Planning and the Concert
- 10.9. Instrumental Groups
  - 10.9.1. Organology
  - 10.9.2. Technical Rudiments of Conducting Applied to Instrumental Music
  - 10.9.3. The Instrumental Repertoire
  - 10.9.4. The Rehearsal, the Planning and the Concert
- 10.10. Tuning
  - 10.10.1. Steps in Orchestral Tuning
  - 10.10.2. The Oboe and the Tuning of the Orchestra
  - 10.10.3. The Concertmaster
  - 10.10.4. Historical Evolution of the Tuning



*Do not hesitate and bet on a program that will take you to the top of the music industry in just 12 months of the best qualification"*

# 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.



“

*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.*



*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 has been the most widely used learning system among the world's leading Humanities schools for as long as they have existed. 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.



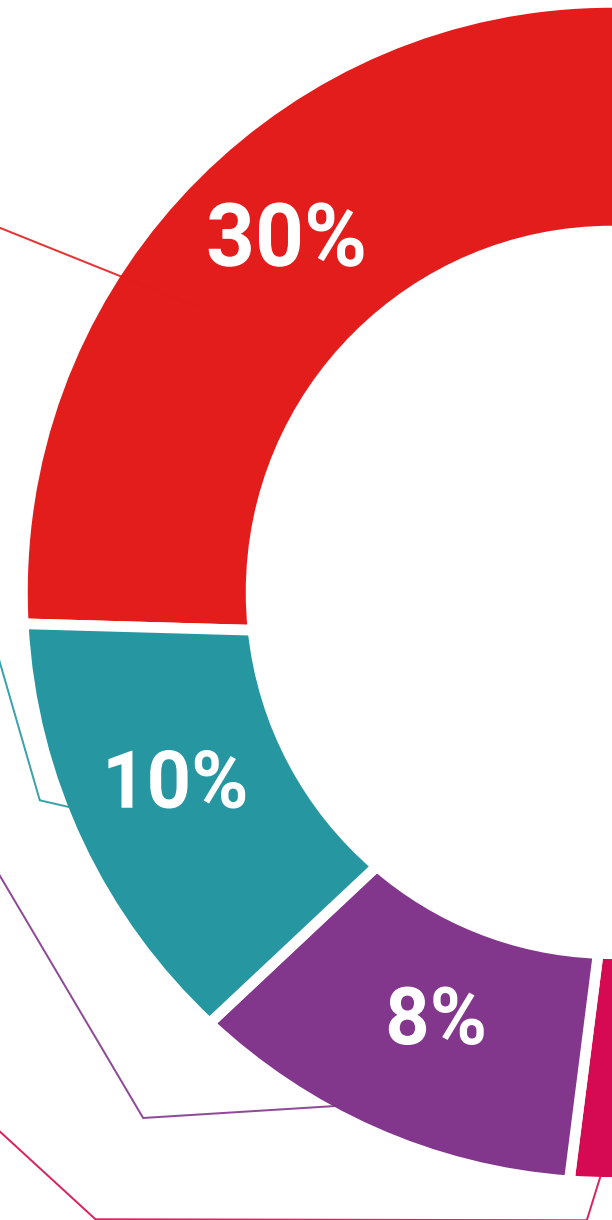
#### Practising Skills and Abilities

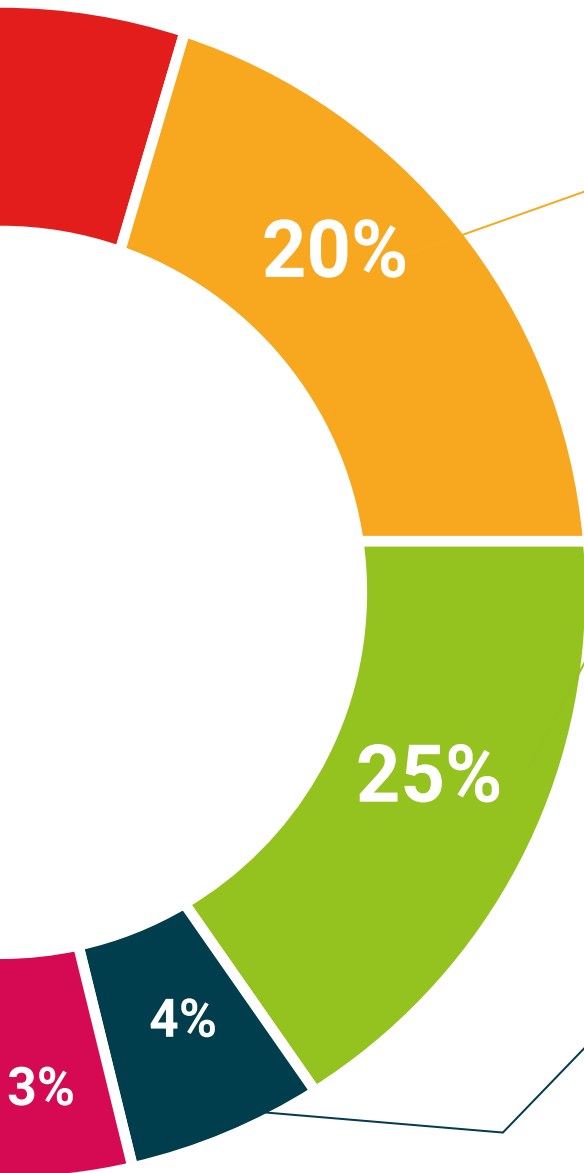
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



#### 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 Master's Degree in Musical Instrumentation and Orchestration guarantees students, in addition to the most rigorous and up-to-date education, access to a Master's Degree diploma issued by TECH Global University.



“

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

This program will allow you to obtain your **Master's Degree diploma in Instrumentation and Orchestration** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Instrumentation and Orchestration**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**



future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present quality

online training

development

language

virtual classroom

**tech** global  
university

## Master's Degree Musical Instrumentation and Orchestration

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

# Master's Degree

## Musical Instrumentation and Orchestration