Postgraduate Diploma
Railroad Safety and Risk Control

tech global university

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Postgraduate Diploma
Railroad Safety and Risk Control

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Credits: **24 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-railroad-safety-risk-control**

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01

Introduction

The advances that have been made in the railroad field in recent years make it necessary to analyze and integrate them into the current context. It is also important to mention all the technical aspects and components that these systems have and that allow us to implement a set of security measures to guarantee their correct operation in case of emergency. We must not forget that this also allows us to have control at the moment of making changes to a track in use. This makes it essential to have specialized professionals in this area. That's why the program in Railroad Safety and Risk Control is designed so that the student is able to start specializing in the new technologies that have an impact on this growing field.

This Postgraduate Diploma has all the academic and practical information that you need to be an innovative member of a sector with great international potential"

This Postgraduate Diploma has all the academic and practical information you need to be innovative in a sector with great international impact" This is in addition to the new trends set in motion by the various players in the sector, which form the basis of the new sector strategies to be followed by the world's railroads.

In this way, this Postgraduate Diploma includes an in-depth analysis of the main technical and operational areas of the system, both at the level of the infrastructure, the rail vehicle and the interaction between the two, while at the same time updating knowledge from a more general approach. It will also cover the situation in relation to other modes of transport in order to identify their competitive advantages and the factors to be improved.

On the other hand, it will aim to provide, in detail, knowledge on all aspects and components of the railway control, command and signaling technology (CCS), with an up-to-date view of all of them. Of special relevance is the in-depth study of the ERTMS and CBTC systems as the main references of modern signaling worldwide, which have become true standards in all metropolitan, urban and interurban rail networks. All the technical components that make up these systems and that ensure the maximum safety of train traffic are analyzed beforehand.

By the end of the program, students will have a clear idea of the new safety standards by establishing, in general terms, that whenever a railroad system in use is modified, whether by a technical, operational or organizational change, the importance of the change must be evaluated to assess whether or not it is relevant in terms of safety. In these cases, it is now standard practice to apply a risk management process in accordance with increasingly standardized and regulated methodologies.

The experience of the teaching staff in the field of railroads, in different areas and approaches such as administration, industry and the engineering company, has made it possible to develop this practical and complete content oriented to the new challenges and needs of the sector. Unlike other programs in the market, the approach is international and not only oriented to one type of country and/or system.

A 100% online Postgraduate Diploma that provides the student with the ease of being able to study it comfortably, wherever and whenever they want. All you need is a device with internet access to take your career one step further. A modality according to the current times with all the guarantees to position the engineer in a highly demanded sector.

The **Postgraduate Diploma in Railroad Safety and Risk Control** contains the most complete and up-to-date educational program on the market. The most important features of the program include:

- Improve professional skills in the field of railroad systems.
- Update and focus the student's company's strategies in these terms.
- Demand new requirements in the technology acquisition processes.
- Add value to the technical projects to be developed by student's companies and organizations.
- The graphic, schematic, and eminently 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.
- 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.

Apply new perspectives to modern railroad systems by developing new technological trends"

Become a professional specializing in the Security and Risk Control sector by fulfilling the technical competencies demanded in this sector"

It has a program that goes in depth into the key aspects of safety in a railroad system.

In addition, as it is a online program, you can study wherever and whenever you want. All you need is a computer or mobile device with an internet connection.

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

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 training programmed to train 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 professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

The design of this Postgraduate Diploma allows the student to update their knowledge in a highly demanded sector in the field of engineering. In this way, the key aspects have been developed in a curriculum that will boost the career of engineers from a global perspective, analyzing the current status of this means of transport and reflecting on the importance of the regulations governing the application of railroad processes.
As a result, students will develop their skills while aiming to achieve this eminently technological objective, gaining up-to-date knowledge of current trends in railroad systems. In view of the above, TECH establishes the following general and specific objectives to guarantee the satisfaction of the future graduate.

Apply the knowledge acquired in this Postgraduate Diploma by following the practical cases that the teaching team will show in each module"

General Objectives

- Gain in-depth knowledge of the different technical concepts of the railroad in its different fields
- Know the technological advances that the railroad sector is experiencing mainly due to the new digital revolution, but without forgetting the traditional approaches on which this mode of transport is based
- Understand the changes in the industry that have triggered the demand for new technical requirements
- Implement strategies based on the technological changes that have arisen in the sector
- Gain up-to-date knowledge in all aspects and trends of railroads

Apply the concepts and examples presented in this Postgraduate Diploma to your working day and you will catapult your career to an international level"

Specific Objectives

Module 1. The Railroad and Its Engineering in the Current Context

- Analyze the position of the railroad with respect to other modes of transportation, identifying its main advantages and areas for improvement
- Gain in-depth knowledge of the current structures and organizations on which the railroad sector is based (regulators, railroad managers, industry, institutions, groups, etc.)
- Analyze the different regulations and norms on which the railroad sector is currently based
- Discuss in detail the main technological trends that the sector is currently experiencing
- Gain in-depth knowledge of the characteristics of the different railroad operating systems, the main technical areas in the infrastructure and rolling stock
- Establish the technical interactions between infrastructure and rolling stock, as well as the existing technical criteria and conditions for the design of railroad systems
- Explain different worldwide references in terms of railroad networks, infrastructures and technical projects with high impact on the sector

Module 2. Control, Command and Signaling (CCS)

- Explain in a clear and structured way the main technical aspects of the installations associated with railroad control, command and signaling
- Specify the technical characteristics of the different components that make up the CCS system
- Provide an in-depth breakdown of the specific characteristics of ERTMS and CBTC signaling systems, as the newest standardized systems in the current context
- Specify in detail the technical characteristics of the CCS installations according to the different railroad systems
- Analyze the characteristics that the engineering project associated with CCS installations must have
- Direct the student in the practical application of the content presented

Module 3. Rolling Stock

- Perform an in-depth study of the main technical aspects of rail vehicles
- Explain in a clear and structured way the technical characteristics of the different components that make up the railroad rolling stock
- Specify the technical characteristics of railroad dynamics from a rolling stock point of view
- Analyze the aspects governing the maintenance of railroad vehicles
- Direct the student in the practical application of the content presented

Module 4. Risks and Safety

- Make the student reflect on the current importance of this aspect in engineering and railroad operation.
- Master the various regulations governing the application of this type of process on the different railroad systems and subsystems undergoing a change that may have safety implications
- Specify the different agents involved in the risk and safety management process
- Gain in-depth knowledge of the different steps to be followed and how to apply this process to the design of a system or to make a modification when the system is already in service.
- Apply the concepts learned in a practical way in real cases

03

Course Management

In our commitment to offer elite education for all, TECH works with renowned professionals so that the student acquires solid knowledge in the speciality of Railroad Safety and Risk Control. For this reason, this Postgraduate Diploma has a highly qualified team with extensive experience in the sector, who will offer students the best possible resources in the development of their skills during the course. In this way, students have the guarantees they need to specialise at an international level in a booming sector that will catapult them to professional success.

Boost your professional career by gaining specialist training with a program endorsed by an excellent teaching team"

Management

Mr. Martínez Acevedo, José Conrado

- Experience in the public railroad sector, occupying various positions in construction, operation and technological development of the Spanish high-speed and conventional railroad networks.
- Head of Research, Development and Innovation projects at Administrador de Infraestructuras Ferroviarias (Adif), a state-owned company attached to the Spanish Ministry of Transport, Mobility and Urban Agenda (MITMA).
- Coordinator of more than 90 technology projects and initiatives in all areas of the railroad
- Industrial Engineer and Master's Degree in Specialization in Railroad Technologies and in Construction and Maintenance of Railroad Infrastructures.
- Professor in the Master's Degree courses on railroads at the Pontificia de Comillas University (ICAI) and the University of Cantabria.
- Member of the IEEE (Institute of Electrical and Electronics Engineers) and member of the Editorial Committee of Electrification Magazine at the same institution (magazine specialized in transportation electrification).
- Member of the AENOR group CTN 166 "Research, Technological Development and Innovation Activities (R&D&I)"
- Adif representative in the MITMA R&D&I and EGNSS (Galileo) working groups.
- Speaker at more than 40 congresses and seminars

Professors

Mr. Martínez Lledó, Mariano

- Experience in the public railroad sector, occupying various positions in construction, operation and technological development of the Spanish high-speed and conventional railroad networks.
- Head of Research, Development and Innovation projects at Administrador de Infraestructuras Ferroviarias (Adif), a state-owned company attached to the Spanish Ministry of Transport, Mobility and Urban Agenda (MITMA).
- PhD in Spanish Philology, specialized in applied linguistics (Doctoral thesis: The specialized language of railroads) and a Master's Degree Degree in International Strategic Management. Several specialization courses in technological surveillance and competitive intelligence
- Internal trainer in the area of railroad R&D&i (Integral Training Program for Technicians)
- International trainer in the area of operation, traffic control and railroad innovation (Morocco, Mexico, France)
- Professor in the Master's Degree in International Strategic Management offered by Adif, Indra and the Polytechnic University of Madrid.
- Speaker at several congresses and seminars with papers on terminology and linguistics applied to railroads.

Mr. Fernández Sánchez, Angel

- Control, Command and Signaling Technician at Administrador de Infraestructuras Ferroviarias (Adif), a state-owned company attached to the Spanish Ministry of Transport, Mobility and Urban Agenda (MITMA).
- Director of Control, Command and Signaling Projects, including: suppression of telephone blockades, installation of automatic banalized blockades, standardization and modernization of blockades and modernization of interlocks and interlockings, and effects on the CCS subsystem derived from infrastructure projects.
- Responsible for the analysis and study of blocking systems based on alternative technologies in Adif's Conventional Network. Case Study, Caceres-Valencia de Alcántara
- Industrial Engineer and Master's Degree in Engineering and Land Transportation Management

Mr. Morales Arquero, Ramón

- MBA in Business Administration from the National Distance Education University
- Industrial Engineer from the Polytechnic University of Madrid
- Expert in Railway Technology, National Distance Education University

Mr. de Bustos , Ferrero David

- Experience in the private railroad sector His professional career has been spent with leading rail manufacturers and technologists, as well as safety assessment and certification companies.
- Focused on the execution and management of critical safety projects, mainly rolling stock and signaling systems, during his last phase he has focused on the development of new propulsion technologies such as LNG and H2 (Liquefied Natural Gas and Hydrogen).
- Industrial Engineer and a Master's MBA General Management Training Program GMTP

04

Structure and Content

The following syllabus has been designed following the indispensable requirements in the area of Railroad Safety and Risk Control. In addition, it has the support of an experienced teaching team, resulting in a curriculum with all the necessary information to provide a broad overview of this area in engineering. All this, from a global perspective for the sake of its application at an international level, incorporating all the fields of work involved in professional development in this type of work environment. From module 1, students will see their knowledge broadened, which will enable them to develop professionally, knowing that they can count on the support of a team of experts.

Follow a program backed by the extensive experience of a teaching team and created to give you the opportunity to overcome any work challenge"

Module 1. The Railroad and Its Engineering in the Current Context

1.1. The Railroad in Transport
- 1.1.1. Its Position and Competency With Other Modes of Transport
- 1.1.2. Sectorial Analysis
- 1.1.3. Financing
- 1.1.4. Specialty Railroad Language and Terminology

1.2. Organization
- 1.2.1. Regulatory Organizations and Supervisors
- 1.2.2. Industry
- 1.2.3. Administrators of Infrastructure
- 1.2.4. Railroad Transport Companies
- 1.2.5. Institutions and Associations

1.3. Regulation, Legislation and Guidelines
- 1.3.1. Legal Framework and Regulation
- 1.3.2. The Liberalization of Rail Transport
- 1.3.3. Technical Regulations

1.4. New Trends and Strategies
- 1.4.1. Interoperability of Different Technological Systems
- 1.4.2. Towards Digitalization: Railroad 4.0
- 1.4.3. A New Service Model for Society

1.5. Description of Railroad Services
- 1.5.1. Urban Services
- 1.5.2. Mid- and Long-Distance Services
- 1.5.3. High-Speed Services
- 1.5.4. Freight Services

1.6. Classification and Main Infrastructure Systems
- 1.6.1. Electric Traction Energy
- 1.6.2. Control, Command and Signaling
- 1.6.3. Telecommunications
- 1.6.4. Civil Infrastructure

1.7. Classification and Main Rolling Stock Systems
- 1.7.1. Main Types
- 1.7.2. Traction
- 1.7.3. Braking
- 1.7.4. Control, Command and Signaling
- 1.7.5. Rolling

1.8. Interaction Between Vehicle and Infrastructure
- 1.8.1. Different Interactions
- 1.8.2. Technical Compatibility of the Vehicle With the Infrastructure
- 1.8.3. The Problem of the Width of the Track and Its Main Solutions

1.9. Criteris and Technical Conditions of the Railroad
- 1.9.1. Maximum Speed
- 1.9.2. Typology of the Rolling Stock
- 1.9.3. The Capacity of the Transport
- 1.9.4. Interrelation Between the Different Subsystems

1.10. Cases of Global References
- 1.10.1. Rail Networks and Services
- 1.10.2. Infrastructures in Construction and in Service
- 1.10.3. Technological Projects

Module 2. Control, Command and Signaling (CCS)

2.1. CCS and the Railroad
- 2.1.1. Evolution
- 2.1.2. Railroad Safety
- 2.1.3. The Importance of RAMS
- 2.1.4. Railroad Interoperability
- 2.1.5. Components of the CCS Subsystem

2.2. The Interlocking
- 2.2.1. Evolution
- 2.2.2. Principles of Use
- 2.2.3. Types
- 2.2.4. Other Elements
- 2.2.5. Program of Use
- 2.2.6. Future Developments

2.3. The Blockade
- 2.3.1. Evolution
- 2.3.2. Types
- 2.3.3. The Capacity of the Transport and the Blockade
- 2.3.4. Design Criteria
- 2.3.5. Communication of the Blockade
- 2.3.6. Specific Applications

2.4. Detection of the Train
- 2.4.1. Track Circuits
- 2.4.2. Axle Counters
- 2.4.3. Design Criteria
- 2.4.4. Other Technology

2.5. Elements of the Field
- 2.5.1. Track Apparatus
- 2.5.2. Signals
- 2.5.3. Level Crossing Protection Systems
- 2.5.4. Detectors to Support the Operation

2.6. Train Protection Systems
- 2.6.1. Evolution
- 2.6.2. Types
- 2.6.3. Onboard Systems
- 2.6.4. ATP
- 2.6.5. ATO
- 2.6.6. Design Criteria
- 2.6.7. Future Developments

2.7. The ERTMS System
- 2.7.1. Evolution
- 2.7.2. Regulations
- 2.7.3. Architecture and Components
- 2.7.4. Levels
- 2.7.5. Modes of Operation
- 2.7.6. Design Criteria

2.8. The CBTC System
- 2.8.1. Evolution
- 2.8.2. Regulations
- 2.8.3. Architecture and Components
- 2.8.4. Modes of Operation
- 2.8.5. Design Criteria

2.9. Relationship Between Rail Services and CCS
- 2.9.1. Urban Services
- 2.9.2. Interurban Services
- 2.9.3. High-Speed Services

2.10. Engineering Project
- 2.10.1. Regulations
- 2.10.2. Index of the Project
- 2.10.3. Planning, Executing and Putting It Into Practice

Module 3. Rolling Stock

3.1. Railroad Vehicles
- 3.1.1. Evolution
- 3.1.2. Classification
- 3.1.3. Functional Parts
- 3.1.4. Regulations and Approval Processes

3.2. Wheel-Track Interaction
- 3.2.1. Mounted Wheels and Axles
- 3.2.2. Bogies and Stands
- 3.2.3. Wheel Guidance
- 3.2.4. Tilting
- 3.2.5. Variable Width Systems

3.3. Dynamic Railroad
- 3.3.1. Movement Equations
- 3.3.2. Traction Curves
- 3.3.3. Adherence
- 3.3.4. Suspension
- 3.3.5. Aerodynamics in High Speed Trains

3.4. Body, Cabin, Doors, WC and Interior Design
- 3.4.1. Body
- 3.4.2. Driver's Cab
- 3.4.3. Doors, WC and Interior Design

3.5. HV and LV electrical circuits
- 3.5.1. Pantograph
- 3.5.2. HV Switchgear and Transformer
- 3.5.3. HV Circuits Architecture
- 3.5.4. Auxiliary Services Converter and Batteries
- 3.5.5. LV Circuits Architecture

3.6. Electrical Traction
- 3.6.1. Traction Chain
- 3.6.2. Electric Traction Motors
- 3.6.3. Static Converters
- 3.6.4. HV Filter

3.7. Diesel Traction, Diesel-Electric Traction and Hybrid Traction
- 3.7.1. Diesel Traction
- 3.7.2. Diesel-Electric Traction
- 3.7.3. Hybrid Traction

3.8. Braking System
- 3.8.1. Automatic Braking Service
- 3.8.2. Electric Brake
- 3.8.3. Parking Brake
- 3.8.4. Auxiliary Brake

3.9. Signaling Systems, Communications Systems and Command and Diagnostics Systems
- 3.9.1. ATP- ERTMS/ ETCS System
- 3.9.2. Train-Ground Communication Systems - GSM-R
- 3.9.3. Command And Diagnosis Systems - TCN Network

3.10. Maintenance of Railroad Vehicles
- 3.10.1. Installations for the Maintenance of Railroad Vehicles
- 3.10.2. Maintenance Interventions
- 3.10.3. Entities in Charge of Maintenance

Module 4. Risks and Safety

4.1. Legislative Framework
- 4.1.1. Security and Interoperability Directives
- 4.1.2. Common Risk Assessment Method
- 4.1.3. Authorization Process and Entry into Commercial Service

4.2. Life Cycle of Railroad Projects
- 4.2.1. Phases of the Life Cycle
- 4.2.2. Safety Activities
- 4.2.3. RAM Operations - Reliability, Availability and Maintainability

4.3. Safety Management - RAMS
- 4.3.1. Safety Management
- 4.3.2. Functional Safety
- 4.3.3. Quality Management

4.4. Threat Management
- 4.4.1. Threat Identification and Analysis
- 4.4.2. Classification of Threat and Level of Risk
- 4.4.3. Risk Acceptance Criteria

4.5. Functional Safety
- 4.5.1. Safety Functions
- 4.5.2. Security Requirements
- 4.5.3. Security Integrity Level - SIL

4.6. RAM Indicators
- 4.6.1. Reliability
- 4.6.2. Availability
- 4.6.3. Maintainability

4.7. Process of Verification and Validation
- 4.7.1. Methodology V&V
- 4.7.2. Design Verification
- 4.7.3. Inspection and Proof

4.8. *Safety Case*
- 4.8.1. Structure of the *Safety Case*
- 4.8.2. Evidence of Safety
- 4.8.3. Related *Safety Case* and Conditions of Application

4.9. RAMS Management - Operation and Maintenance
- 4.9.1. RAMS Operational Indicators
- 4.9.2. Modifications Management
- 4.9.3. Modification File

4.10. Process of Certification and Independent Assessment
- 4.10.1. Independent Safety Assessment - ISA & AsBO
- 4.10.2. Conformity Assessment - NoBO & DeBO
- 4.10.3. Authorization to Put Into Practice

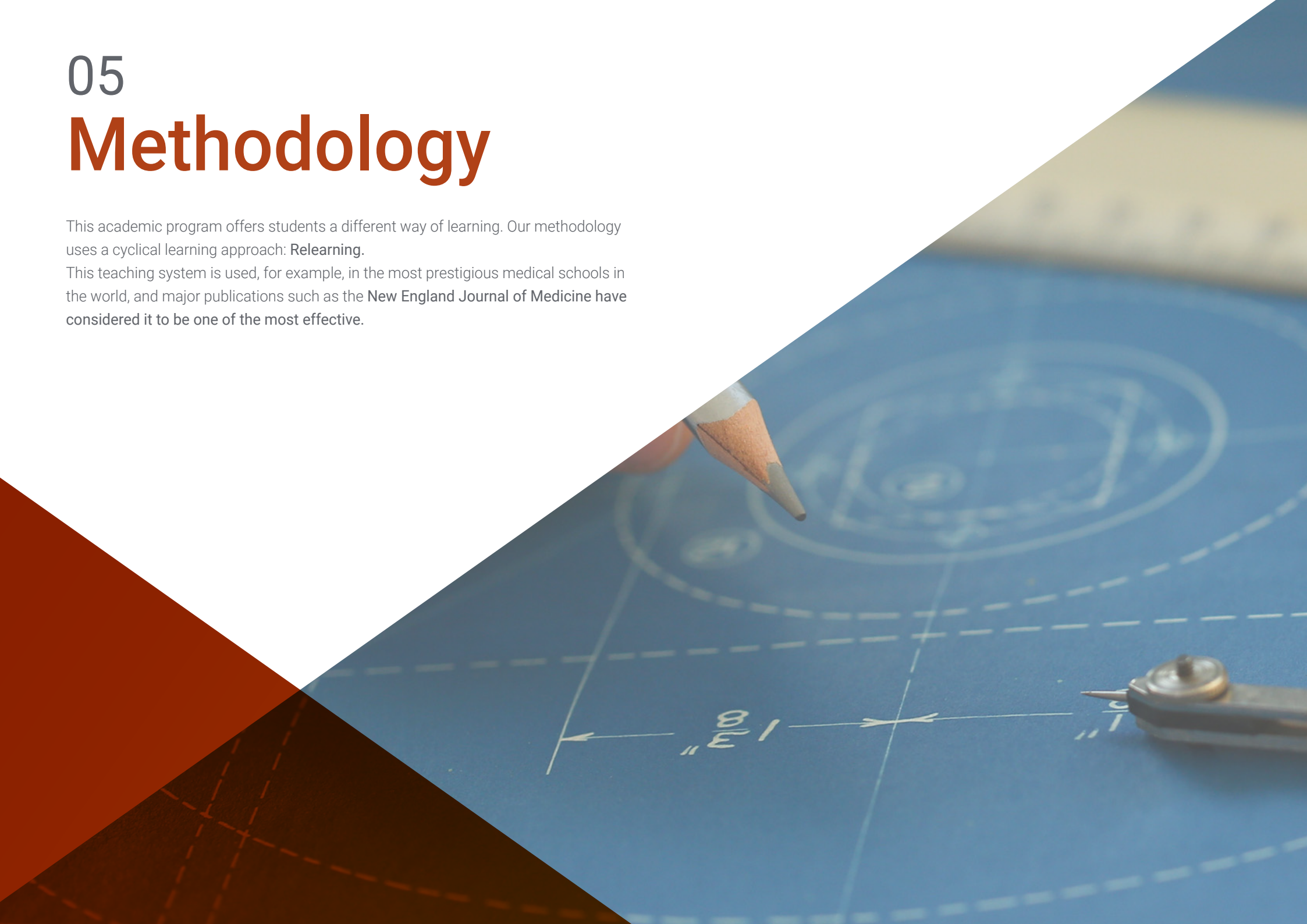
Completing the Postgraduate Diploma in Railway Safety and Risk Control program will help you become a better professional"

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"

At TECH we use the Case Method

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

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

We are the first online university to combine Harvard Business School case studies with a 100% online learning system based on repetition.

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

A learning method that is different and innovative.

This intensive Engineering program at TECH Global University prepares you to face all the challenges in this field, both nationally and internationally. We are committed to promoting your personal and professional growth, the best way to strive for success, that is why at TECH Global University you will use Harvard *case studies*, with which we have a strategic agreement that allows us, to offer you material from the best university in the world.

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

The case method is the most widely used learning system by 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

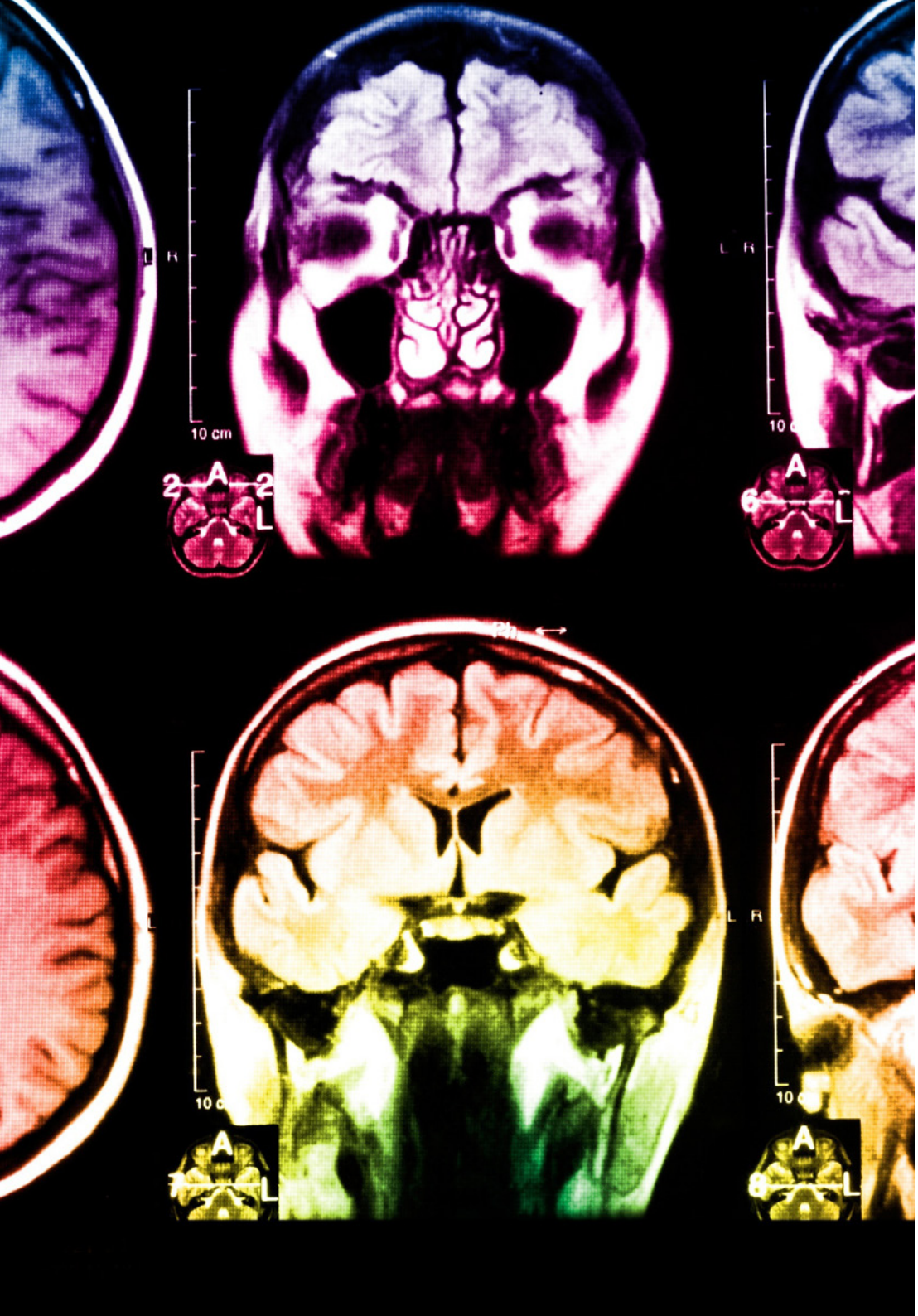
TECH is the first university in the world to combine Harvard University *case studies*with a 100% online learning system based on repetition, which combines 8 different didactic elements in each lesson.

We enhance Harvard *case studies* with the best 100% online teaching method: Re-learning.

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 Re-learning.

Our university is the only university 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.

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

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

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

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

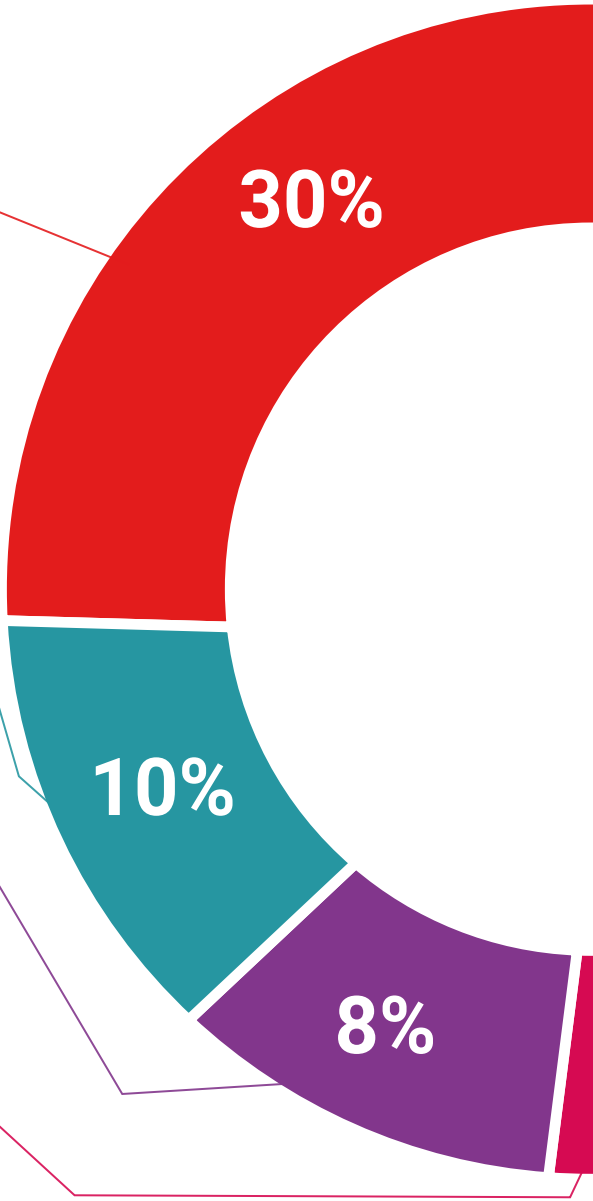
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

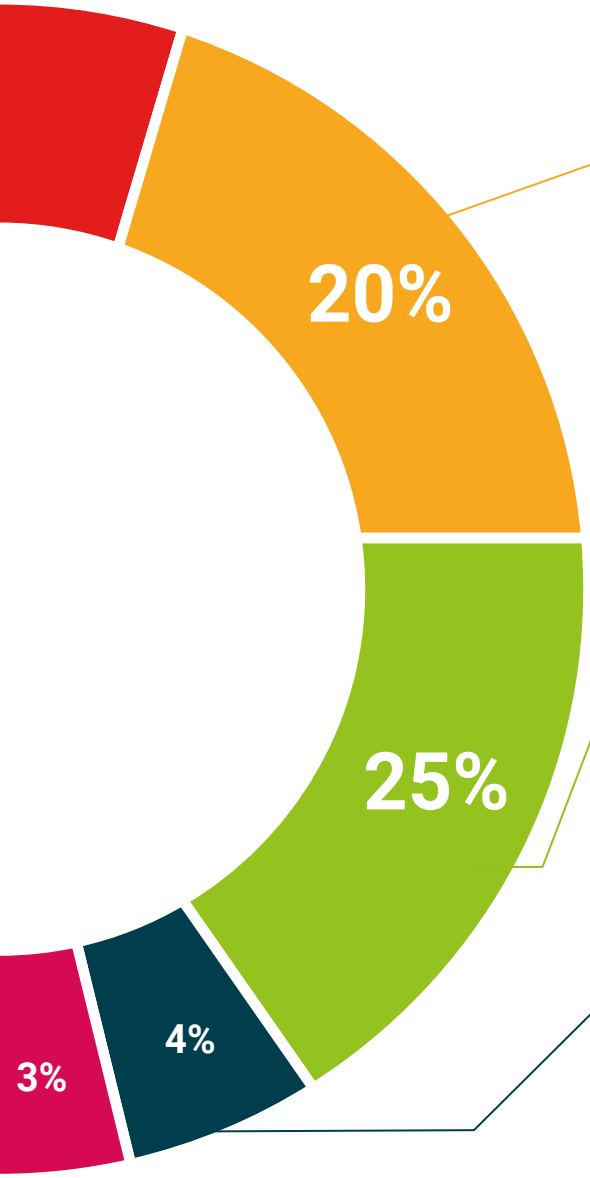
Practising Skills and Abilities

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

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

They will complete a selection of the best case studies in the field used at Harvard. Cases that are presented, analyzed, and supervised by the best senior management 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 multimedia content presentation training Exclusive system 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 your goals.

06

Certificate

The Professional Diploma in Railroad Safety and Risk Control guarantees, in addition to the most rigorous and up-to-date training, access to a Professional Diploma issued by TECH Global University.

Successfully complete this training program and receive your university certificate without travel or laborious paperwork"

This program will allow you to obtain your **Postgraduate Diploma in Railroad Safety and Risk Control** 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: **Postgraduate Diploma in Railroad Safety and Risk Control**

Modality: **online**

Duration: **6 months**

Accreditation: **24 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Diploma in Railroad Safety and Risk Control

This is a program of 600 hours of duration equivalent to 24 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

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 diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Diploma
Railroad Safety and Risk Control

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Credits: **24 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

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