



## Postgraduate Certificate Solid Urban Waste Management

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

We b site: www.techtitute.com/us/engineering/postgraduate-certificate/solid-urban-waste-management

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## tech 06 | Introduction

Inadequate waste management produces significant impacts on the receiving environments, generating adverse effects on water, soil and air, contributing to climate change, affecting ecosystems and human health.

This course provides the student with a sound knowledge of municipal waste management, its sources and level of production, the importance of its minimization and its effects on the environment. Aspects related to landfill management and its significant environmental, social, visual and land degeneration impacts are included.

Therefore, the professional is equipped with the skills to work as a professional in the management and control of urban waste, being able to identify the impact of waste on the environment and public health. At the end of the course, the student will have the ability to carry out his or her work in an effective and efficient manner, following current regulations and with the highest quality standards.

It should be noted that as this is a 100% online course, the student is not conditioned by fixed schedules or the need to move to another physical location, but can access the contents at any time of the day, balancing their work or personal life with their academic life.

This **Course on Urban Solid Waste Management** contains the most complete and up to date educational program in the market. The most important features of the program include:

- » The development of case studies presented by experts in Solid Urban Waste Management.
- » 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 in Solid Urban Waste Management
- » 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



This course is the best investment you can make in selecting a refresher program to update your knowledge in Solid Urban Waste Management."



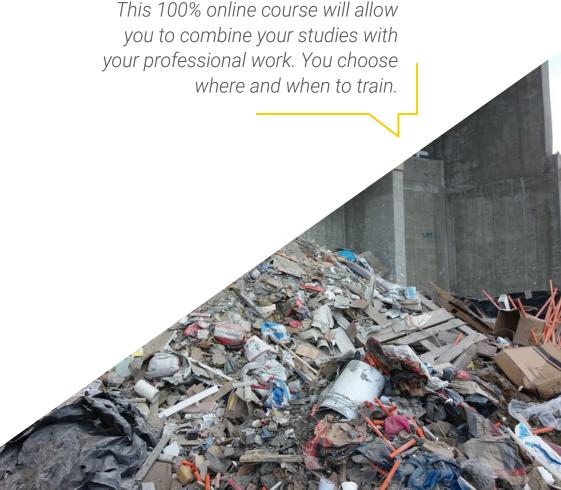
This course is the best investment you can make in selecting a refresher program to update your knowledge in Solid Urban Waste Management."

Its teaching staff includes professionals from the field of waste management, who contribute their work experience to this training program, in addition to renowned specialists from leading companies 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 developed by renowned and experienced Solid Urban Waste Management experts.

This training comes with the best didactic material, providing you with a contextual approach that will facilitate your learning.







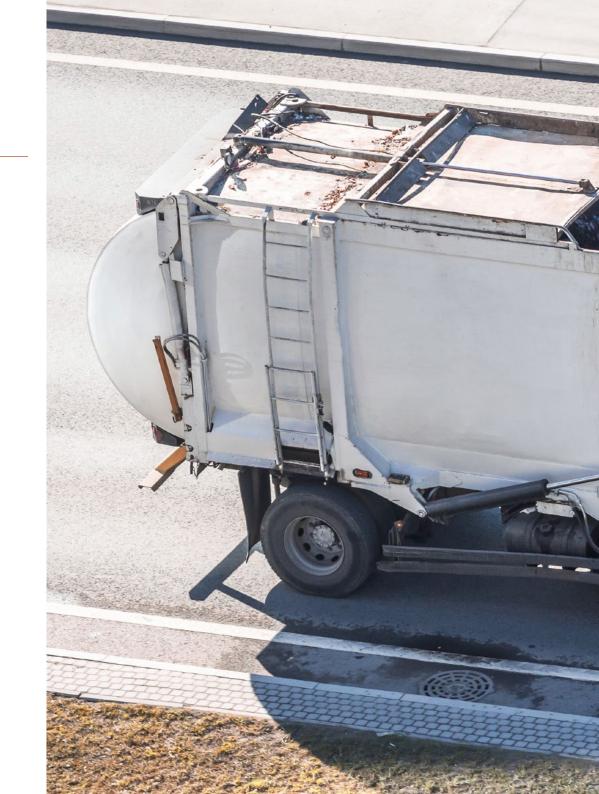
## tech 10 | Objectives



## **General Objectives**

- » Identify the origin of urban or municipal waste and the evolution in its production
- » Have key knowledge on the potential health and environmental effects of municipal waste and landfill issues.
- » Know the main digital technologies available in municipal solid waste management.







## Objectives | 11 tech



## **Specific Objectives**

- » Analyze the evolution of waste production by origin and type of waste.
- » Know how to analyze and assess the health and environmental impact of waste management.
- » Propose measures to reduce, recycle and reuse the waste generated.
- » Propose landfill management and restoration models.
- » Deepen understanding of the latest digital technologies available in Solid Urban Waste Management.





#### Management



#### Nieto-Sandoval González-Nicolás, David

- Industrial Technical Engineer by the E.U.P. of Málaga.
- Industrial Engineer by the E.T.S.I.I.
- Master's Degree in Integral Management of Quality, Environment and Health and Safety at Work from the University of the Balearic Islands
- Working for more than 11 years as a consultant in engineering, project management, energy saving and circularity in organizations, both for companies and on his own account, for clients in the private agri-food industry and the institutional sector.
- Professor certified by EOI in the areas of Industry, Entrepreneurship, Human Resources, Energy, New Technologies and Technological Innovation.
- Trainer of the European INDUCE project
- Trainer in institutions such as COGITI and COIIM.

#### **Professors**

#### Álvarez Cabello, Begoña

- » Degree in Biology from the University of Córdoba.
- » Master's Degree in Environmental Quality and Sustainability in Local and Territorial Development from the University of Castilla-La Mancha.
- » Technician in Occupational Risk Prevention by the Fundación de la Construcción.
- » Specialist in Geographic Information Systems (GIS)
- » Extensive experience as an environmental and occupational risk prevention technician, with more than 15 years of experience in different sectors: waste, renewable energies, industry, environmental impact assessment, local and regional administration, and conservation biology.
- » Teacher of Certificate of Professionalism and approved by the EOI in environmental, waste and water issues.
- » Member of the Harmush Fauna Study and Conservation Association, which develops international projects on endangered species and various publications.

#### Nieto-Sandoval González-Nicolás, David

- » Industrial Technical Engineer by the E.U.P. of Málaga.
- » Industrial Engineer by the E.T.S.I.I.
- » Master's Degree in Integral Management of Quality, Environment and Health and Safety at Work from the University of the Balearic Islands
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- » Trainer of the European INDUCE project.
- » Trainer in institutions such as COGITI and COIIM.

#### Titos Lombardo, Ignacio

- » Degree in Environmental Sciences from the University of Castilla-La Mancha.
- » Master's Degree in Integrated Quality and Environmental Management
- » Senior Technician in Occupational Risk Prevention.
- » Partner-Consultant of Implantación Integral de Sistemas de Calidad, S.L., a consulting firm created in 1998 and specialized in the development of quality, environmental and prevention consulting and auditing projects and in advising local corporations on environmental matters.
- » The company has been carrying out its activity for more than 12 years, advising and auditing companies in sectors as varied as waste, water, food, industry, transportation, renewable energy, etc.
- » Teacher of Certificates of Professionalism
- » Currently, the administrator of Imsica Formación, S.L., an entity specialized in the in-company training of its clients.
- » Teacher of the Recicla2 Project for the promotion of waste management and recycling and the creation of green companies.





## tech 18 | Structure and Content

#### Module 1. Municipal Solid Waste Management

- 1.1. Sources and Production
  - 1.1.1. Sources of Origin
  - 1.1.2. Composition Analysis
  - 1.1.3. Evolution of Production
- 1.2. Municipal Solid Waste Management
  - 1.2.1. Classification According to Standards
  - 1.2.2. Characteristics of Municipal Solid Waste
- 1.3. Effects on Public Health and the Environment
  - 1.3.1. Health Effects of Air Pollution
  - 1.3.2. Health Effects of Chemicals
  - 1.3.3. Effects on Fauna and Flora
- 1.4. Importance of Minimization
  - 1.4.1. Waste Reduction
  - 1.4.2. The 5Rs and their Benefits
  - 1.4.3. Fractionation and Problems
- 1.5. Phases of Operational Waste Management
  - 1.5.1. Waste Containerization.
  - 1.5.2. Waste Collection Types and Systems
  - 1.5.3. Transfer and Transportation.
- 1.6. Types of Urban Waste Treatment I
  - 1.6.1. Sorting Plants.
  - 1.6.2. Composting.
  - 1.6.3. Biomethanization.
  - 1.6.4. Energy Recovery.
- 1.7. Types of Urban Waste Treatment II
  - 1.7.1. Landfills
  - 1.7.2. Environmental Impact of Landfills
  - 1.7.3. Landfill Sealing.





### Structure and Content | 19 tech

- 1.8. Municipal Management of MSW Landfills
  - 1.8.1. Social Perception and Physical Situation
  - 1.8.2. MSW Landfill Management Models
  - 1.8.3. Current MSW Landfill Issues
- 1.9. Waste as a Source of Business
  - 1.9.1. From Health Protection to Circular Economy
  - 1.9.2. The Economic Activity of Waste Management
  - 1.9.3. From Waste to Resource
  - 1.9.4. Waste as a Substitute for Raw Materials
- 1.10. Digitalization in the Management Process
  - 1.10.1. Classification Based on Deep Learning
  - 1.10.2. Container Sensing
  - 1.10.3. Smart Bins







## tech 22 | Methodology

#### At TECH we use the Case Method

Our program offers you a revolutionary approach to developing your skills and knowledge. Our goal is to strengthen your skills in a changing, competitive, and highly demanding environment.



With TECH you can 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 Hazardous Waste course is an intensive program that 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 Technological 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 has been the most widely used learning system among the world's leading business 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.

In a given situation, what would you do? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, you will be presented with multiple real cases. You will have to combine all your knowledge, and research, argue, and defend your ideas and decisions.

## tech 24 | Methodology

#### **Re-learning Methodology**

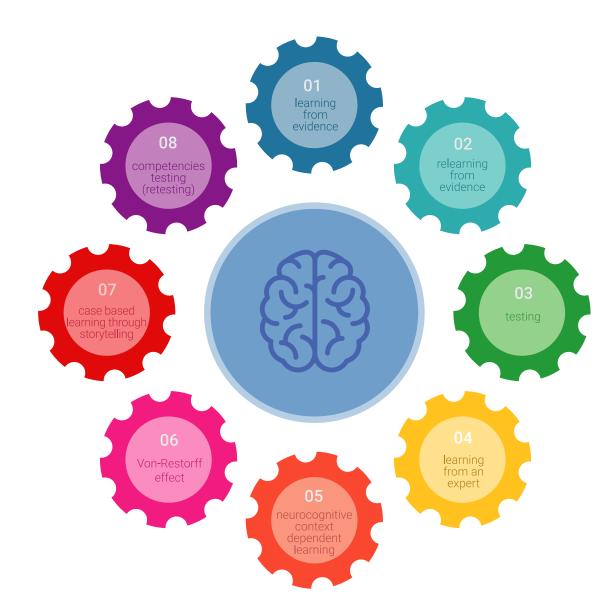
Our University is the first in the world to combine Harvard University case studies with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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

In 2019 we obtained the best learning results of all Spanishlanguage online universities in the world.

At TECH you will learn with an innovative methodology designed to train the managers of the future. This method, at the forefront of international teaching, is called Re-learning.

Our University is the only one in Spanish-speaking countries licensed to incorporate 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 Spanish online university indicators.



### Methodology | 25 tech

In our program, learning is not a linear process, but rather a spiral (we 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.

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 to success.

Based on the latest evidence in neuroscience, not only do we know how to organize information, ideas, images, memories, but we also know that the place and context where we have learned something is crucial for us to be able to remember it and store it in the hippocampus, and 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.

In this program you will have access to the best educational material, prepared with you 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 really specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Classes

There is scientific evidence on the usefulness of third-party expert observation.

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



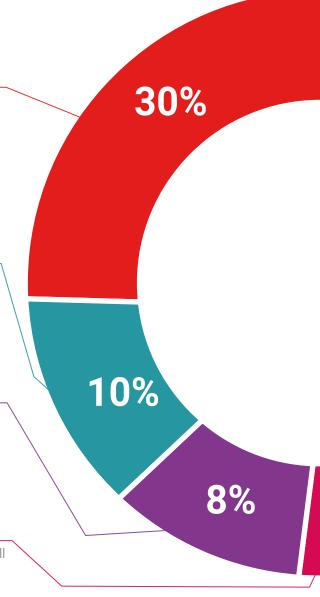
#### **Practising Skills and Abilities**

You 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 we live in.



#### **Additional Reading**

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





You 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 Latin America.



#### **Interactive Summaries**

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.



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

#### **Testing & Re-Testing**

We periodically evaluate and re-evaluate your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.



25%

3%

20%





## tech 30 | Certificate

This **Course on Urban Solid Waste Management** contains the most complete and up to date scientific program on the market.

After the student has passed the evaluations, they will receive their corresponding **Postgraduate Certificate** issued by **TECH - Technological University.** 

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

Title: Postgraduate Certificate in Solid Urban Waste Management

ECTS: 6

Official Number of Hours: 150



<sup>\*</sup>Apostille Convention. In the event that the student wishes to have their paper diploma Apostilled, TECH EDUCATION will make the necessary arrangements to obtain it at an additional cost of €140 plus shipping costs of the Apostilled diploma.

technological university Postgraduate Certificate

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