

EUROPASS DIPLOMA SUPPLEMENT

TITLE OF THE DIPLOMA (ES)

Técnico Superior en Organización y Control de Obras de Construcción

TRANSLATED TITLE OF THE DIPLOMA (EN)⁽¹⁾

Higher Technician in Organization and Monitoring of Construction Works

(1) This translation has no legal status.

DIPLOMA DESCRIPTION

The holder of this diploma will have acquired the General Competence with regard to:

Organising, on-site, the execution of building and civil works, managing resources, coordinating tasks and monitoring work units already finished, according to the project specifications, the construction planning, the received guidelines, the applicable regulations and the established requirements regarding quality, safety, occupational health and environment.

Within this framework, the PROFESSIONAL MODULES and their respective LEARNING OUTCOMES acquired by the holder are listed below:

“Building Structures”.

The holder:

- Makes calculations for the pre-dimension of construction elements, solving problems of statics and applying composition, decomposition and equilibrium of forces and their moments.
- Prepares internal forces diagrams, analysing structural elements of construction and determining the effects produced by the action of load.
- Proposes construction solutions for construction structures, relating their typology to the properties of materials used and their installation process.
- Measures elements and simple structural systems made of reinforced concrete, steel, wood or brick, applying regulations and using calculation procedures.
- Recognises methods and operating processes for land survey, relating them to the establishment of soil properties, its classification as regards foundation and geotechnical information drawn from the study.
- Characterises earthworks, analysing associated execution processes and relating them to the use of machinery.
- Proposes constructive solutions for foundations and retaining elements, relating their characteristics to the execution processes and tasks.

“Construction Measurements and Assessments”.

The holder:

- Prepares lists of construction work units, analysing construction projects and organising the information obtained in chapters.
- Prepares price tables of construction work units, selecting resources and yield.
- Measures construction units, applying established criteria, calculating quantities and showing results in normalised documents.
- Prepares construction work estimates relating the measurements of work units to their price.
- Carries out cost control by preparing comparative studies of offers, certificates and technical documentation.
- Takes measurements, makes estimates and establishes cost control processes by using specific computer tools.

“Building Work Setting Out”.

The holder:

- Collects information in order to make sketches and setting out plans, selecting relevant data obtained from the analysis of project documentation, land survey and work site location.
- Makes sketches and setting out plans, selecting the setting out method and noting down relevant data.
- Schedules setting out tasks, establishing the work sequence and specifying necessary resources.
- Completes technical information for the setting out, incorporating the calculation results of coordinates, distances, angles, heights, inclinations and other complementary parameters to sketches, plans and planning.
- Sets out construction work points and elements, materialising their location on the field and/or work site.

“Construction Scheduling”.

The holder:

- Identifies project and execution activities of construction works, relating them to the stages of the process and scheduling procedures.
- Prepares the sequence of project and execution activities of construction works, establishing times and resources for their execution.

- Prepares programmes for the design, procurement and control of construction works, establishing goals and identifying participants and procedures.
- Monitors execution plans of construction works, applying scheduling techniques and proposing corrections for detected deviations.
- Manages the quality of project documents, analysing documentation systems and applying control techniques.
- Prepares plans to prevent occupational hazards in construction, relating specific risks to the stages of the construction process and establishing measures for prevention and protection.

“Documentation of Projects and Construction Works”.

The holder:

- Prepares graphic documentation for the implementation and general organization of construction work, interpreting location plans and representing the situation of works, temporary facilities and storage and waste disposal areas.
- Prepares graphic documentation for the execution of construction works based on project plans, identifying elements and units of work, obtaining dimensions and specifying the works that are going to be done by means of structural details and sketches.
- Prepares graphic documentation for the execution of linear and urbanisation works based on project plans, identifying work elements and units, obtaining dimensions, heights and gradient, and specifying works that are going to be carried out by means of structural details and sketches.
- Obtains information in order to carry out construction works based on execution projects, identifying materials, resources and conditions established for their execution, and processing documentation related to office computer tools.
- Updates graphic documentation of projects and construction works by editing plans and introducing changes through computer applications according to instructions received.
- Manages documentation of projects and construction works, copying, organising and filing it in digital and hard-copy formats.

“Construction Processes in Construction”.

The holder:

- Identifies structural processes of typologies of construction works, analysing projects and technical documentation related to them, and establishing agents and works that participate in its execution.
- Determines the characteristics of construction processes for the execution of facades, analysing project solutions to different elements, identifying any necessary materials and resources, and establishing the sequence of works.
- Determines the characteristics of construction processes for the execution of roofs, according to their typology, analysing project solutions to different elements, identifying any necessary materials and resources, and establishing the sequence of works.
- Determines the characteristics of construction processes for the execution of partitions, claddings, drop ceilings and raised floors, analysing project solutions, identifying any necessary materials and resources, and establishing the sequence of works.
- Determines the characteristics of installation works in construction, analysing project solutions, identifying any necessary resources, establishing the sequence of works, and applying requirements of manufacturers and current regulations.
- Determines the characteristics of construction processes for the execution of continuous and discontinuous claddings in construction, analysing project solutions, identifying any necessary resources, establishing the sequence of works, and applying the requirements of manufacturers and current regulations.

“Construction Processes in Civil Works”.

The holder:

- Identifies construction processes of typologies of civil and piping works, analysing projects and technical documentation related to them, and establishing agents and works that participate in their execution.
- Determines the characteristics of construction processes of surfacings and pavements by analysing project solutions, identifying structural elements involved, and relating the sequence of works to the resources for their execution.
- Determines the characteristics of construction processes of railways by analysing project solutions, identifying structural elements involved, and relating the sequence of works to the resources for their execution.
- Determines the characteristics of construction processes of viaducts and underpasses by analysing project solutions, identifying structural elements involved, and relating the sequence of works to the resources for their execution.
- Determines the characteristics of construction processes of tunnels by analysing project solutions, identifying structural elements involved and relating the sequence of works to the resources for their execution.
- Determines the characteristics of construction processes of subgrades, pavements, services piping and other urbanisation elements by analysing project solutions, identifying structural elements involved, and relating the sequence of works to the resources for their execution.
- Determines the characteristics of construction processes of dams, ports and beach regeneration works by analysing project solutions, identifying structural elements involved, and relating the sequence of works to the resources for their execution.

“Monitoring of Construction Structures”.

The holder:

- Organises implementation tasks of foundations and structures by analysing project solutions and related technical documentation, identifying works to be carried out and distributing available resources in the operation area.
- Organises works for land preparation and execution of supplementary elements to develop structures that are based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises formwork production and assembly works based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises framework production and installation works based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises concreting works based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises foundations and retaining elements works in construction works that are based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises execution works of elements whose structure is made of reinforced concrete; these works are based on technical provisions specified in projects and regulations. The holder also plans related activities and establishes procedures to monitor and control tasks.
- Organises structural execution works of prefabricated elements made of reinforced concrete, metal or wood; these works are based on technical provisions specified in projects and regulations. The holder also plans related activities and establishes procedures to monitor and control tasks.
- Organises execution works of masonry structures made of blocks, concrete, bricks or stones; these works are based on technical provisions specified in projects and regulations. The holder also plans related activities and establishes procedures to monitor and control tasks.

“Monitoring of Execution in Construction Works”.

The holder:

- Organises implementation tasks of construction works by analysing project solutions and related technical documentation, identifying works to be carried out and distributing available resources in the operation area.
- Organises execution works of facades based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises execution works of roofs based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises execution works of partitions, claddings, drop ceilings and raised floors; these works are based on technical provisions specified in projects and regulations. The holder also plans related activities and establishes procedures to monitor and control tasks.
- Organises installation works in construction; these works are based on technical provisions specified in projects and regulations. The holder also plans related activities and establishes procedures to monitor and control tasks.
- Organises execution of finishing works that are based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.

“Monitoring of Execution in Civil Works”.

The holder:

- Organises implementation tasks of civil and piping works by analysing project solutions and related technical documentation, identifying works to be carried out and distributing available resources in the operation area.
- Organises earthworks based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises execution works of surfacings, pavements and supplementary elements that are based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Organises execution works of conduits and services piping that are based on technical provisions specified in projects and regulations, planning related activities and establishing procedures to monitor and control tasks.
- Participates in work organization of civil works such as railways, bridges and tunnels; these works are based on technical provisions specified in projects and regulations. The holder also plans related activities and establishes procedures to monitor and control tasks.

“Refurbishment and Maintenance of Construction Works”.

The holder:

- Organises general tasks of refurbishment and maintenance of construction works, consulting technical documentation, identifying works that are going to be carried out, preparing the work site, selecting resources, and fulfilling quality, safety and health conditions and environmental corrective measures.
- Organises execution works of demolitions, consulting technical documentation, identifying works that are going to be carried out, preparing the work site, selecting resources, and fulfilling quality, safety and health conditions and environmental corrective measures.
- Organises refurbishment and maintenance works of structural elements such as foundations, walls and structures, consulting technical documentation, identifying works that are going to be carried out, preparing the work site, selecting resources, and fulfilling quality, safety and health conditions and environmental corrective measures.

- Organises refurbishment and maintenance works of facades, consulting technical documentation, identifying works that are going to be carried out, preparing the work site, selecting resources, and fulfilling quality, safety and health conditions and environmental corrective measures.
- Organises refurbishment and maintenance works of roofs, consulting technical documentation, identifying works that are going to be carried out, preparing the work site, selecting resources, and fulfilling quality, safety and health conditions and environmental corrective measures.
- Organises refurbishment and maintenance works of interior works (partitions, claddings, carpentry and locksmithing), consulting technical documentation, identifying works that are going to be carried out, preparing the work site, selecting resources, and fulfilling quality, safety and health conditions and environmental corrective measures.
- Organises refurbishment and maintenance works of installations in buildings and public services, consulting technical documentation, identifying works that are going to be carried out, preparing the worksite, selecting resources, and fulfilling quality, safety and health conditions and environmental corrective measures.
- Organises refurbishment and maintenance works of external pavements, consulting technical documentation, identifying works that are going to be carried out, preparing the work site, selecting resources, and fulfilling quality, safety and health conditions and environmental corrective measures.

“Project on Organisation and Monitoring of Construction Works”.

The holder:

- Identifies the needs of the production sector, relating them to standard projects that may satisfy them.
- Designs projects related to the competences described in the diploma, including and developing their constituting stages.
- Plans the project implementation or execution, determining the intervention plan and associated documentation.
- Defines the procedures for the monitoring and control of the project implementation, justifying the selection of variables and instruments used.

“Professional Training and Guidance”.

The holder:

- Selects job opportunities, identifying the different possibilities of labour integration, and the alternatives of lifelong learning.
- Applies teamwork strategies, assessing their effectiveness and efficiency on the achievement of the company's goals.
- Exercises rights and complies with the duties derived from labour relationships, recognising them in the different job contracts.
- Determines the protective action of the Spanish Health Service in view of the different covered eventualities, identifying the different types of assistant.
- Assesses risks derived from his/her activity, analysing job conditions and risk factors present in his/her labour setting.
- Participates in the development of a risk prevention plan in a small enterprise, identifying the responsibilities of all agents involved.
- Applies protection and prevention measures, analysing risk situations in the labour setting of the Higher Technician in Organisation and Monitoring of Construction Works.

“Business and Entrepreneurial Initiative”.

The holder:

- Recognises skills related to entrepreneurial initiative, analysing the requirements derived from job positions and business activities.
- Defines the opportunity of creating a small enterprise, assessing the impact on the performance setting and incorporating ethic values.
- Carries out the activities for the setting-up and implementation of a company, choosing the legal structure and identifying the associated legal obligations.
- Carries out basic administrative and financial management activities of an SME, identifying the main accounting and tax obligations and filling in documentation.

“On the Job Training”.

The holder:

- Identifies the company's structure and organization, relating them to the type of service provided.
- Applies labour and ethic habits in his/her professional activity according to the characteristics of the job position and the procedures established by the company.
- Obtains information for the execution of construction works, analysing technical information, recognising the operation area and carrying out data collection.
- Organises execution tasks of construction works, identifying works that are going to be carried out, preparing the work site, selecting resources and establishing safety means and facilities.
- Carries out the monitoring and control of the execution of tasks in construction works, checking means and supervising procedures and processes used in accordance with technical documentation.
- Cooperates in the execution of work units, using materials, tools and techniques that are characteristic of different trades.

- Values projects and construction works, measuring work units and making estimates and certifications.
- Cooperates in the execution plan of construction works by making, adapting or updating plans and programmes.

RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THE DIPLOMA

The Higher Technician in Organization and Monitoring of Construction Works practises his/her activity in small, medium-size and large construction companies, public Administrations, architecture and engineering firms, and consultancies.

The most relevant occupations or jobs are the following:

- Foreman/woman and team leader in structural construction works.
- Construction works manager, in general.
- Foreman/woman in building renovation and remodelling construction works.
- Building finishes foreman/woman and/or workshop manager.
- Building construction foreman/woman.
- Civil works manager, in general.
- Earth works manager.
- Pavements and surfacing manager.
- Piping manager in civil works.
- Technical Office Assistant Manager.
- Assistant Planner.
- Cost Control Assistant Technician.
- Document control specialist.
- Setting out specialist.

AWARD, ACCREDITATION AND LEVEL OF THE DIPLOMA

Name of the body awarding the diploma on behalf of the King of Spain: Spanish Ministry of Education or the different Autonomous Communities according to their areas of competence. The title has academic and professional validity throughout Spain.

Official duration of the education/ training leading to the diploma: 2000 hours.

Level of the diploma (national or international)

- NATIONAL: Non-University Higher Education
- INTERNATIONAL:
 - Level 5 of the International Standard Classification of Education (ISCED5).
 - Level 5 of the European Qualifications Framework (EQF 5).

Entry requirements: Holding the Certificate in Post-Compulsory Secondary Education (Bachillerato) or holding the corresponding access test.

Access to next level of education/training: This diploma provides access to university studies.

Legal basis. Basic regulation according to which the diploma is established:

- Minimum teaching requirements established by the State: Royal Decree 636/2015, of 10 of June, according to which the diploma of Higher Technician in Organization and Monitoring of Construction Works and its corresponding minimum teaching requirements are established.

Explanatory note: This document is designed to provide additional information about the specified diploma and does not have any legal status in itself.

COURSE STRUCTURE OF THE OFFICIALLY RECOGNISED DIPLOMA

PROFESSIONAL MODULES IN THE DIPLOMA ROYAL DECREE	CREDITS ECTS
Building Structures.	6
Construction Measurements and Assessments.	6
Building Work Setting Out.	7
Construction Scheduling.	6
Documentation of Projects and Construction Works.	11
Construction Processes in Construction.	14
Construction Processes in Civil Works.	11
Monitoring of Construction Structures.	5
Monitoring of Execution in Construction Works.	6
Monitoring of Execution in Civil Works.	4
Refurbishment and Maintenance of Construction Works.	8
Project on Organization and Monitoring of Construction Works.	5
Vocational Training and Guidance.	5
Business and Entrepreneurial Initiative.	4
On the Job Training.	22
	TOTAL CREDITS
	120
OFFICIAL DURATION (HOURS)	2000

* The minimum teaching requirements shown in the table above comprise 55% official credit points valid throughout Spain. The remaining 45% corresponds to each Autonomous Community and can be described in the **Annex I** of this supplement.

INFORMATION ON THE EDUCATION SYSTEM

