

EUROPASS DIPLOMA SUPPLEMENT

TITLE OF THE DIPLOMA (ES)

Técnico Superior en Acuicultura

TRANSLATED TITLE OF THE DIPLOMA (EN)⁽¹⁾

Higher Technician in Aquaculture

(1) This translation has no legal status.

DIPLOMA DESCRIPTION

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

Planning, organizing and supervising the activities of aquaculture production, coordinating the available resources to achieve the required quality of the product and complying with the applicable regulations.

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

“Techniques and Production Management of Auxiliary Culture Production”

The holder:

- Organizes and supervises the culture of phytoplankton, establishing the associated techniques and conditions as well as evaluating the final results.
- Organizes and supervises the production of rotifers, establishing the associated techniques and conditions as well as evaluating the final results.
- Organizes and supervises the production of brine shrimp, establishing the associated techniques and conditions as well as evaluating the final results.
- Develops plans of auxiliary cultures production, recognizing the different culture systems and setting tasks, biological, human and material resources according to production goals.
- Complies with and enforces the rules on labour risk prevention in aquaculture operations, identifying the associated risks and implementing the measures to prevent them under current regulations.

“Techniques and Production Management of Fish Production”

The holder:

- Organizes and supervises fish reproduction, determining the techniques and the associated conditions as well as recognizing the characteristics of each species.
- Sets techniques and incubation conditions and pre-larval phase treatment applicable to each species, monitoring their implementation and evaluating the results.
- Organizes and supervises the larval culture of fish species, establishing programs, techniques and systems of control, as well as analyzing (or evaluating) the processes and the results obtained.
- Organizes and supervises the growing conditions in the nurseries of fish, establishing the programme of operations and carrying out checks according to the production plan.
- Organizes and supervises the fattening of fish species, establishing programs, techniques and systems of control, and analyzing the processes and results obtained.
- Determines the fishing criteria and the preparation of the final product, according to quality criteria.
- Prepares fish production plans, recognizing the phases of the different processes and establishing the tasks and the resources in line with production goals.
- Complies with and enforces the rules on labour risk prevention in aquaculture operations, identifying the associated risks and implementing the measures to prevent them under current regulations.

“Techniques and Production Management of Molluscs”

The holder:

- Organizes the molluscs’ reproduction operations, determining the associated techniques and conditions as well as recognizing the reproductive characteristics of each species.
- Organizes and supervises the mollusc larval culture, establishing the associated techniques and conditions as well as evaluating the final results.
- Sets the techniques and the culture conditions of the seed molluscs, monitoring their application and evaluating the results obtained.
- Organizes and supervises the growing operations associated with molluscs fattening, according to the features of the species and applying fattening techniques.
- Determines the criteria for harvesting and preparation of the final product, according to the quality criteria of the product and interpreting the applicable regulations.

- Develops production plans for molluscs breeding and fattening, recognizing the phases of the processes and establishing tasks and resources, according to production goals.
- Complies with and enforces the rules on labour risk prevention in aquaculture operations, identifying the associated risks and implementing the measures to prevent them under the current regulations.

“Techniques and Production Management of Crustaceans”

The holder:

- Sets the stabling conditions and prepares the fish breeding, justifying the techniques and recognizing the reproductive characteristics of each species.
- Sets the larval culture conditions of crustaceans, assessing developmental stages, the species and applying associated techniques.
- Organizes the operations associated with crustaceans fattening, according to the nature of the species, the type of facilities, the performance criteria and applying fattening techniques.
- Determines fishing criteria and preparation of the final product, according to the quality criteria that the market demands.
- Develops plans of hatchery production, nursery and fattening of crustaceans, recognizing the phases of processes and establishing the tasks and the resources in line with production goals.

“Facilities, Innovation and Automation Systems in Aquaculture”

The holder:

- Characterizes the facilities and determines the teams, interpreting their technical specifications and considering their applications in the different production processes.
- Determines water and air treatments required by the different culture systems on the basis of the technical characteristics of the facility.
- Establishes maintenance programs for facilities and equipment, taking into account the technical information and associating the operations to be carried out with the functionality of the facility.
- Considers dysfunctions and damage to facilities and equipment, analyzing symptoms and diagnosing the causes to estimate their impact on the operation of the facility.
- Selects automation systems culture processes, assessing their impact on the production system and interpreting technical documentation.
- Proposes innovations for culture processes taking into account its evolution and interpreting production data.
- Complies with and enforces the rules on labour risk prevention in aquaculture operations, identifying the associated risks and implementing the measures to prevent them under current regulations.

“Analytical Techniques and Methods of Sanitary Control in Aquaculture”

The holder:

- Selects the physicochemical parameters that must be controlled, considering the cultivated species and their impact on the production process.
- Establishes the conditions of sampling and measurement of parameters on spot, considering the representativeness of the sample and analyzing the culture conditions.
- Develops protocols for sample preparation and analysis, identifying patterns of action and taking into account the technical specifications of the equipment.
- Determines corrective measures of the culture conditions, interpreting the obtained results in the analysis and assessing their impact.
- Develops the sanitary hygiene plan of the facility to ensure culture protection, identifying health barriers and other preventive measures depending on the type and stage of the culture.
- Performs diagnosis of common diseases, evaluating the symptoms observed and analytical results.
- Determines health treatments and supervises their progress, evaluating the therapeutic properties of drug products and interpreting the applicable legislation.

“Environmental Management of Aquaculture Processes”

The holder:

- Defines the organization of the implementation of quality management systems, describing the rules on which it is based and its requirements.
- Develops and controls the documentation of the quality management system, analyzing its characteristics and importance for the control and the improvement of the process and the product.
- Identifies and evaluates the environmental risks of aquaculture, characterizing its environmental impact and proposing corrective measures.
- Defines the organization of the implementation of the environmental management system in aquaculture facilities, assessing the compliance with the standard rules.
- Defines the organization of the management of emissions, spills and waste in aquaculture facilities, according to current regulations and minimizing the environmental impact.
- Programs courses of training and adaptation to changes in the environment manual, identifying training needs and establishing the objectives, content and learning activities.

“Fish Keeping”

The holder:

- Designs and assembles the facility, taking into account the objectives of its intended use and determining the space, the equipment and the materials.
- Develops plans of maintenance for the aquariums installations, interpreting its operations and setting out the tasks to be carried out.
- Establishes the conditions of reception, conditioning, transport and stabling of the aquariums species, describing and applying the techniques to preserve the animal welfare and the product quality.
- Organizes the production of aquariums species of commercial interest, applying culture techniques until the quality parameters for their distribution are achieved.
- Determines food control operations and physicochemical parameters, according to the physiological characteristics of the species in each type of facility.
- Establishes operations of prevention and health inspection of the aquarium species, identifying pathologies and defining preventive and therapeutic treatments.

“Project on Implementation of an Aquaculture Production Facility”

The holder:

- Identifies the needs of the production sector, relating them to the 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, determining the intervention plan and the associated documentation.
- Defines the procedures for the monitoring and control of the project implementation, justifying the selection of the variables and the 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 assistance.
- Assesses the risks derived from his/her activity, analysing job conditions and the risk factors present in his/her labour setting.
- Participates in the development of a risk prevention plan for a small enterprise, identifying the responsibilities of all the agents involved.
- Applies protection and prevention measures, analysing risk situations in the labour setting of the Higher Technician in Aquaculture.

“Business and Entrepreneurial Initiative”

The holder:

- Recognizes the 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 its 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 structure and the organization of a company, relating them to the production and marketing of the products obtained.
- Applies ethical and work habits in the development of their profession, according to the characteristics of the job and the company procedures.
- Assists in the activities of organization and supervision of auxiliary crop production, controlling the application of the techniques in the different processes of culture and respecting hygienic measures.
- Assists in the development of breeding techniques, participating in the control of the specific tasks and in the improvement process, and taking part in the development of preventive maintenance plans in aquaculture facilities.
- Assists in the control and monitoring of fattening phases of aquaculture species, assessing the implementation of corrective measures and health treatments and complying with protocols of quality, safety and environmental protection.

RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THE DIPLOMA

The Higher Technician in Aquaculture works in the areas of plankton culture, reproduction, larval rearing and post-larvae, juvenile or seeds, breeding and fattening, as an employee or self-employed in SMEs or large companies, whether public or private nature, research and exhibition of marine animals, production companies aquarium fish and shellfish guilds. He/she coordinates the persons responsible for production areas.

The most relevant occupations or jobs are the following:

- Technical Manager of the reproduction of seawater fish.
- Technical Manager of larvae culture of fish seawater.
- Technical Manager of the reproduction of freshwater fish.
- Technical Manager of the reproduction of molluscs.
- Technical Manager of the larval culture of molluscs.
- Technical Manager of the reproduction of crustacean.
- Technical Manager of the larval culture of molluscs.
- Technical Manager of pre-fattening seawater fish.
- Technical Manager of fattening seawater fish.
- Technical Manager of fattening freshwater fish.
- Technical Manager of pre-fattening molluscs.
- Technical Manager of fattening molluscs.
- Technical Manager of fattening crustacean.
- Technician in environment for aquaculture.
- Technician in pathologies in aquaculture.
- Technician in derivatives and processed industries of fishing and aquaculture, companies, vessels and fish markets.
- Technician in quality control laboratory of fishery products.
- Technical Manager in aquariums.
- Designer and assembler of exhibition spaces in aquariums.

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 (EQF5).

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 1585/2011, of 4 November, according to which the diploma of Higher Technician in Aquaculture 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
Techniques and Production Management of Auxiliary Crop Production	10
Techniques and Production Management of Fish Production	16
Techniques and Production Management of Shellfish	16
Techniques and Production Management of Crustaceans	7
Facilities, Innovation and Automation Systems In Aquaculture	12
Analytical Techniques and Methods of Sanitary Control In Aquaculture	6
Environmental Management of Aquaculture Processes	7
Fish Keeping	10
Project on Implementation of an Aquaculture Production Facility	5
Professional Training and Guidance	5
Business and Entrepreneurial Initiative	4
On The Job Training	22
OFFICIAL DURATION (HOURS)	TOTAL CREDITS
	120
	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

