europass

EUROPASS DIPLOMA SUPPLEMENT

TITLE OF THE DIPLOMA (ES)

Técnico Superior en Anatomía Patológica y Citodiagnóstico

TRANSLATED TITLE OF THE DIPLOMA (EN) (1)

Higher Technician in Pathological Anatomy and Cytodiagnosis

(1) This translation has no legal status.

DIPLOMA DESCRIPTION

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

Processing histological and cytological samples, selecting and doing approximations of diagnoses of general and gynaecologic cytologies, and collaborating on the execution of clinical and forensic necropsies, so that they can be used as a support for clinical or medical legal diagnosis, organising and planning work, and fulfilling service quality and resources optimization criteria, under the corresponding medical direction.

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

"Management of Biological Samples".

The holder:

- Analyses the organisational structure of the health sector and the working area, interpreting laws.
- Identifies laboratory documentation, relating it to working processes in the pre-analytical phase and to the inventory control.
- Identifies types of biological samples, relating them to analyses or studies that need to be carried out.
- Carries out collection and distribution of the most usual biological samples, applying specific protocols of the unit.
- Carries out collection and distribution of human biological samples obtained by means of invasive and surgical procedures, applying specific protocols of the unit.
- Selects techniques for preservation, storage, transport and shipment of samples, following the requirements of the sample.
- Applies safety and risk prevention protocols when handling chemical and biological products by applying (Interpreting) current regulations.

"General Laboratory Techniques".

The holder:

- Classifies materials, basic equipment and reagents used in laboratories, describing their use and maintenance.
- Applies safety and risk prevention protocols when handling chemical and biological products by interpreting current regulations.
- Carries out solutions and dilutions of samples and reagents, justifying calculations of mass, volume and concentration.
- Applies methods for separation of substances, justifying the selected technique.
- Carries out the technical assessment of coherence and reliability of the results obtained, using statistical tools.
- Carries out microscopy techniques, applying tools for digitalisation and delivery of images.
- Applies quality management systems in the clinical and pathological anatomy laboratory, analysing quality regulations.

"Molecular Biology and Cytogenetics".

The holder:

- Determines the characteristics of processes that need to be carried out in cytogenetics and molecular biology laboratories, relating them to materials and equipment.
- Carries out cellular samples, describing the steps of the procedure.
- Applies techniques for chromosome analysis in peripheral blood, fluids and tissues, interpreting the protocols established.
- Applies techniques for extraction of nucleic acids to biological samples, selecting the type of technique according to the sample to be analysed.
- Applies techniques of PCR and electrophoresis to the study of nucleic acids, selecting the type of technique according to the study to be carried out.
- Applies techniques for hybridization with probe to samples of nucleic acids, chromosomes and cuts in tissues, interpreting the protocols established.
- Determines methods for cloning and nucleic acid sequencing, justifying the steps for each procedure of analysis.

“General Pathophysiology”.

The holder:

– Recognises the general structure and organization of the human body, describing its structural units and the relations according to their specialisation.
– Identifies the developmental process of the disease, relating it to functional changes of the organism and the alterations that causes.
– Recognises immune system disorders, relating them to general characteristics of immunity.
– Identifies the characteristics of infectious diseases, relating them to infectious agents and clinical manifestations.
– Identifies the process of tumour development, describing the characteristics of benign and malignant neoplasms.
– Recognises manifestations of diseases in the big systems of the organism, describing physiological alterations of the most frequent pathologies.
– Recognises hemodynamic and vascular disorders, relating their alterations to human diseases of big morbidity and high mortality.
– Recognises eating and endocrine and metabolic disorders, relating them to manifestations of common pathologies.

“Necropsies”.

The holder:

– Carries out the preparation process of autopsies, selecting documentation and material according to the type of autopsy.
– Carries out the autopsy procedure, identifying the phases to carry it out.
– Carries out gross anatomy identification, recognising normal patterns.
– Carries out gross anatomy identification, recognising abnormal patterns.
– Carries out the extraction of tissue, prosthesis, pacemakers and other devices from the body, identifying the technique and protocol for the documentation of each extraction.

“Cytological and tissue processing”.

The holder:

– Carries out sample processing, prior to tissue inclusion, selecting materials, reagents and equipment.
– Carries out tissue blocks, selecting inclusion methods.
– Applies cutting techniques, relating them to the material of the block, the equipment and the technique.
– Applies staining techniques, characterising the sequences of the process.
– Applies histochemical and enzyme histochemical techniques, characterising the sequences of the process.
– Applies immunohistochemical techniques, characterising the sequences of the process.
– Processes cellular samples, relating their characteristics to the technique to be used.

“Gynaecologic cytology”.

The holder:

– Recognises morphological and functional characteristics of the female reproductive system, describing physiological anatomy, histology and hormonal activity.
– Identifies clinical data from the application for cytological study, relating the diagnostic tests to the reproductive pathology.
– Analyses gynaecologic cytologies, describing normal cellular patterns.
– Analyses cervico-vaginal smears, describing alteration signs in non-tumoral benign pathologies.
– Analyses cervico-vaginal smears, describing cellular alterations in benign and malignant neoplastic processes.
– Analyses images of cytologies from the breast, relating them to normal and abnormal cellular patterns.
– Analyses cytological samples of vulva, endometrium, fallopian tubes and ovary, describing normal cellular patterns, inflammation, degeneration and neoplasm.

“General cytology”.

The holder:

– Analyses images of cytologies taken from the respiratory system, relating them to normal and abnormal cellular patterns.
– Analyses images of cytologies taken from the lymph nodes, spleen, thymus, skin, soft tissue and bones, relating them to normal and abnormal cellular patterns.
– Analyses images of cytologies taken from the thyroid, parathyroid, prostate and testicle, relating them to normal and abnormal cellular patterns.
– Analyses images of cytologies taken from the digestive system, relating them to normal and abnormal cellular patterns.
– Analyses images of cytologies taken from the urinary system, relating them to normal and abnormal cellular patterns.
– Analyses images of cytologies taken from organic fluids, the nervous system and the eyeball, relating them to normal and abnormal cellular patterns.

“Project on Pathological Anatomy and Cytodiagnosis”.

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 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 assistance.
– 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 Pathological Anatomy and Cytodiagnosis.

"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 structure and organization of the enterprise, relating them to the production and commercialisation of the products that obtains.
– Applies ethical and work habits in the development of his/her professional activity, according to the characteristics of the job and the procedures established by the enterprise.
– Manages biological samples, according to a specific protocol of the unit, according to the analysis to be carried out.
– Handles biological samples, applying laboratory techniques.
– Carries out the process and macroscopic identification of the autopsy, applying protocols and recognising normal and abnormal patterns.
– Carries out cytological and tissue processing, applying protocols for the treatment of samples.
– Analyses gynaecologic and general cytologies, relating them and describing normal and abnormal cellular patterns.

RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THE DIPLOMA

The Higher Technician in Pathological Anatomy and Cytodiagnosis works in the health sector, in public institutions and bodies and in private enterprises, both in primary and specialist care services and in research centres. S/He works under the supervision of the corresponding doctor.
His/Her professional activity is regulated by the State Health Administration.

The most relevant occupations or jobs are the following:

- Higher Technician in Pathological Anatomy and Cytology.
- Expert Technician in Pathological Anatomy and Cytology.
- Cytology Technician
- Forensic assistant
- Prosector of clinical and medical legal autopsies.
- Funeral practitioner
- Co-worker and assistant in molecular biology.
- Co-worker and assistant for research

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:

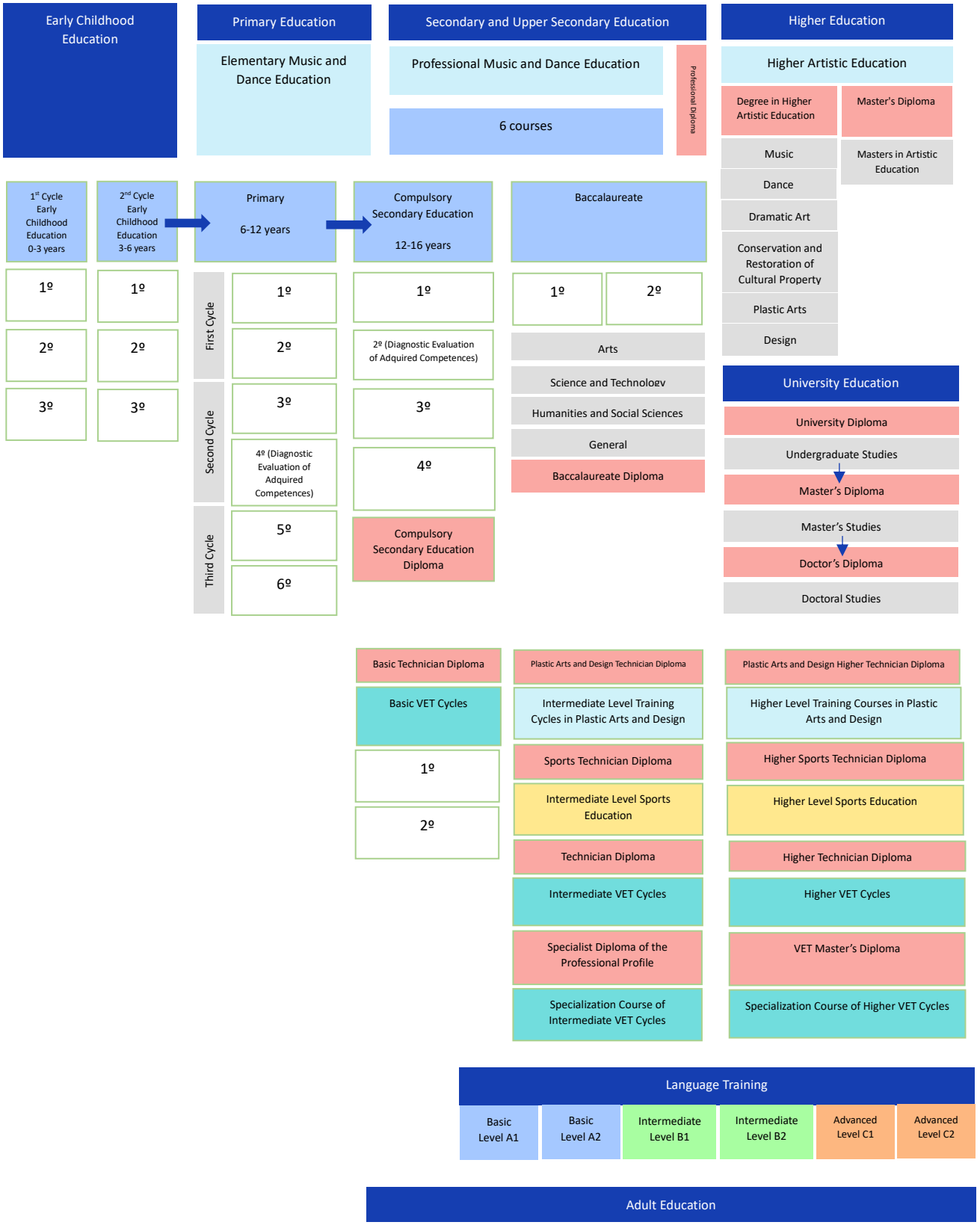
- Minimum teaching requirements established by the State: Royal Decree 767/2014, of 12 September, according to which the diploma of Higher Technician in Pathological Anatomy and Cytodiagnosis and its corresponding minimum teaching requirements are established.

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
Management of Biological Samples.	11
General Laboratory Techniques.	12
Molecular Biology and Cytogenetics.	11
General Pathophysiology.	12
Necropsies.	5
Cytological and tissue processing.	13
Gynaecologic cytology.	10
General cytology.	10
Project on Pathological Anatomy and Cytodiagnosis.	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.

europass

INFORMATION ABOUT THE EDUCATION SYSTEM