EUROPASS DIPLOMA SUPPLEMENT

TITLE OF THE DIPLOMA (ES)

Técnico Superior en Desarrollo de Aplicaciones Web

TRANSLATED TITLE OF THE DIPLOMA (EN) [1]

Higher Technician in Development of Web Applications

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(1) This translation has no legal status.

DIPLOMA DESCRIPTION

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

Developing, implementing and maintaining web applications, irrespective of the model used and using specific technologies, guaranteeing secure access to data and complying with the accessibility, usability and quality criteria required by established standards.

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

"Computer Systems"
The holder:
- Assesses computer systems identifying their components and characteristics.
- Installs operating systems planning the process and interpreting technical documentation.
- Manages the system information identifying storage structures and applying measures to ensure data integrity.
- Manages operating systems using commands and graphical tools and assessing the system needs.
- Interconnects network systems configuring devices and protocols.
- Works with network systems managing their resources and identifying existing security restrictions.
- Writes documentation assessing and using general purpose computer applications.

"Databases"
The holder:
- Recognises the elements of databases analysing their functions and assessing the usefulness of management systems.
- Creates databases defining their structure and the characteristics of their elements according to the relational model.
- Checks the stored information using wizards, graphic tools and data manipulation language.
- Changes the stored information using wizards, graphic tools and the data manipulation language.
- Develops stored procedures assessing and using the language statements included in the database management system.
- Designs normalized relational models interpreting entity-relationship model.
- Manages the information stored in object-relational databases, assessing and using the possibilities provided by the management system.

"Programming"
The holder:
- Recognises the structure of a computer program, identifying and relating the elements of the programming language used.
- Writes and tests simple programs, recognising and applying the basics of object-oriented programming.
- Writes and debugs codes, analysing and using the control structure of language.
- Develops programs organised into classes analysing and applying the principles of object-oriented programming.
- Performs operations of information input and output, using specific procedures of language and class libraries.
- Writes programs that handle information selecting and using advanced types of data.

"Markup Language and Information Management Systems"
The holder:
- Recognises the characteristics of the markup language analysing and interpreting code fragments.
- Uses markup languages for the transmission of information through the web analysing the structure of documents and identifying their elements.

- Creates content channels analysing and using syndication technologies.
- Establishes validation mechanisms for XML documents using methods to define their syntax and structure.
- Carries out conversions of XML documents using processing techniques and tools.
- Manages information in XML format analysing and using storage technologies and query languages.
- Works with business information management systems carrying out tasks of import, integration, assurance and extraction of information.

"Development Environments"
The holder:
- Identifies the elements and tools that intervene in the development of a computer program, analysing their features and phases that must be followed until final release.
- Assesses integrated development environments analysing their characteristics in order to edit source code and generate executable files.
- Verifies that programs are operative designing and carrying out tests.
- Optimises codes using available tools in the development environment.
- Generates class diagrams assessing their importance in the development of applications and using available tools in the environment.
- Generates behaviour diagrams assessing their importance in the development of applications and using available tools in the environment.

"Web Development in Client Environment"
The holder:
- Selects programming architectures and technologies on web clients, identifying and analysing their capacities and characteristics.
- Writes simple statements, applying language syntax and verifying their execution on Web browsers.
- Writes code, identifying and applying the functionalities provided by the predefined objects of language.
- Programs code for Web clients analysing and using structures defined by the user.
- Develops Interactive Web applications integrating events handling mechanisms.
- Develops Web applications analysing and applying the characteristics of the object model of the document.
- Develops dynamic Web applications, recognising and applying asynchronous communication mechanisms between client and server.

"Web Development in Server Environment"
The holder:
- Selects programming architectures and technologies on web server environments, identifying and analysing their capacities and characteristics.
- Writes statements executable by a web server recognising and applying procedures of code integration into markup language.
- Writes statements blocks embedded in markup language, selecting and using programming structures.
- Develops web applications embedded in markup language analysing and incorporating functionalities according to specifications.
- Develops web applications identifying and applying mechanisms to separate the presentation logic from the business logic.
- Develops applications to access data warehouses, applying measures to maintain information security and integrity.
- Develops web services analysing how they work and implementing the structure of their components.
- Generates dynamic web pages analysing and using web server technologies that add code to the markup language.
- Develops hybrid web applications selecting and using code libraries and heterogeneous information repositories.

"Web Applications Display"
The holder:
- Implements web architectures analysing and applying functionality criteria.
- Manages web servers, assessing and applying configuration criteria for a secure access to services.
- Implements web applications in application servers, assessing and applying configuration criteria for secure use.
- Manages file transfer servers, assessing and applying configuration criteria that guarantee service availability.
- Verifies the execution of web applications checking network services configuration parameters.
- Prepares the documentation of the web application assessing and selecting tools for document generation and version control.

"WEB Interfaces Design"

The holder:

- Plans the creation of a web interface assessing and applying design specifications.
- Creates homogeneous web interfaces defining and applying styles.
- Prepares multimedia files for the web, analysing their characteristics and using specific tools.
- Integrates multimedia content into web documents assessing their contribution and selecting Interactive elements appropriately.
- Develops accessible web interfaces, analysing established guidelines and applying verification techniques.
- Develops user-friendly web interfaces analysing and applying the established usability guidelines.

"Project on Development of Web Applications"

The holder:

- Identifies the needs of the production sector, relating them with 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 protection 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 Development of Web Applications.

"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 production and marketing of the products obtained.
- 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.
- Organises the work that must be done, identifying allocated tasks from the planning of projects and interpreting specific documentation.
- Manages and uses computer systems and development environments, assessing their requirements and characteristics according to the purpose of use.
- Participates in the management of data bases and application servers, assessing/planning their configuration according to the web development project on which they are based.
- Intervenes in the development and display of server web applications, using specific tools and languages and complying with established requirements.
- Intervenes in the development and test of interfaces for web applications, using specific tools and languages and complying with established requirements.

RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THE DIPLOMA

The Higher Technician in Development of Web Applications works in public or private companies or organisations either as an employee or self-employed person, carrying out his/her tasks in the area of computer applications development related to web environments (intranet, extranet and Internet).

The most relevant occupations or jobs are the following:

- Web programmer
- Multimedia programmer
- Person in charge of developing web environment applications

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 686/2010, of 20 May, according to which the diploma of Higher Technician in Development of Web Applications 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
Computer Systems.	10
Databases.	12
Programming.	14
Markup Language and Information Management Systems.	7
Development Environments.	6
Web Development in Client Environment.	9
Web Development in Server Environment.	12
Web Applications Display.	5
WEB Interfaces Design.	9
Project on Development of Web Applications.	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.

Higher Education

Secondary Education

Higher Arts Education

Postgraduate Diploma
University Degree Diploma
University Studies

Higher Technical Diploma
Higher Studies in Art and Design

Higher Technical Diploma
Higher Level VET cycles

Higher Technical Diploma
Higher Studies in Sports

Bachiller Certificate
Post-compulsory Secondary Education *(Bachillerato)*

Technical Diploma
Intermediate Studies in Art and Design

Technical Diploma
Intermediate Level VET cycles

Technical Diploma
Intermediate Studies in Sports

Compulsory Secondary Education Certificate
Compulsory Secondary Education

Voluntary Modules

Compulsory vocational modules

* V I P

Primary Education

Infant Education

* Vocational Initiation Programmes

Entrance test with no previous academic requirements

Specific entrance test

Direct access

LABOUR MARKET