



**Education for zero
energy Buildings using
Building Information
Modelling**

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Learning Unit 8



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BIM MODEL STANDARDIZATION FOR nZEB DESIGN

EQF	6	Target	Project manager Consultant Designer Construction manager Specialist in green building
Description			

The following learning unit is based on standardizing the structure of the BIM model based on European regulations and national requirements to achieve an nZEB design. Also, the necessary documentation to validate nZEB will be studied and thus optimize the workflow.

Objectives

- Standardize the BIM model data structure to accomplish nZEB goals based on European directives and national requirements.
- Generate the required documentation for nZEB validation.
- Optimize the design workflow based on the standardized BIM model.

Generic competences

- Ability to apply construction procedures, methodology and planning techniques.
- Knowledge, understanding and ability to apply the necessary legislation during the project.
- Motivation for quality and improvement.
- Apply analytical capacity.
- Cognitive and practical skills to perform tasks related to the process of designing energy saving buildings.

Specific competences

- Identification of the BIM Project Collaboration requirements based on the Project Performance Requirements (BIM Uses), and Project Roles and Responsibilities – Contractual Hierarchy.



- Identification and selection of the Project Procurement Model requirements in the form of the Delivery Model (Contract) and Procurement Strategy.
- Develop and define the Statement of Requirements (SOR) or Statement of Work (SOW) describing the BIM deliverables, essential requirements, and specifications.
- Ability to specify the BIM Dimensions, Uses, Roles and Responsibilities of each agent.
- Understand the best practices used in nZEB design and apply them to a project.
- Establish the information framework required to assist communication and collaboration from Design - Construction - Operation for asset handover.
- Apply BIM quality standards for the project's delivery.
- Collect, manage and disseminate documentation, graphical models and non-graphical data for the whole project team in a Common Data Environment (CDE).
- Design and establishment of solutions for collaborative workflows with native BIM projects (using the same software) or open BIM projects (using more than one vendor software).
- Describe integrated design processes and concepts.
- Illustrate the use of information modelling in design teams and management of information modelling within the nZEB design.

Recommended learning methodology

Methodology

The recommended methodology for the course would be Gamification, which is based on the application of elements of games (non-playful context), in order to influence the behaviour of people from the stimulation of their motivation.

In addition, another recommended methodology would be Design Thinking. A methodology that considers innovation as a holistic approach, where students through technology and their own interests or training needs converge through an action plan designed by themselves. It is based on finding the most original solution to a real problem given by the teacher, and for which the students will have to analyse the situation, establish hypotheses, and foresee possible impacts of the action.

Method



The recommended methods will be based on individual work and the adaptation to Self-learning.

Recommended assessment methodology

The recommended assessment methodology would be the resolution of practical cases and the realization of tests destined to evaluate the knowledge of regulations and the necessary documentation for building nZEB.
