

Course guide

310784 - 310784 - Digitalization in Professional Roles

Last modified: 08/07/2026

Unit in charge: Barcelona School of Building Construction
Teaching unit: 753 - TA - Department of Architectural Technology.

Degree: BACHELOR'S DEGREE IN ARCHITECTURAL TECHNOLOGY AND BUILDING CONSTRUCTION (Syllabus 2019).
(Optional subject).

Academic year: 2026 **ECTS Credits:** 3.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Coloma Picó, Eloi

Others: Coloma Picó, Eloi
Casals Fernandez, Jordi
Aguilar Urquidez, Pavel

PRIOR SKILLS

Basic knowledge of the use of BIM tools and computer tools in general.

TEACHING METHODOLOGY

- Mentoring of students.
- Instrumental work in a semi-flipped format.
- Case studies with role simulation.

LEARNING OBJECTIVES OF THE SUBJECT

- Demonstrate the value of BIM and digital twins across the different professional roles associated with building engineering.
- Understand the digital transformation of the construction sector throughout the entire building life cycle.
- Apply digital tools aimed at management —cost, time, quality, risks and operation—.
- Develop collaborative working skills in digital environments.
- Encourage reflection on the student's professional positioning in a digitalised context.

STUDY LOAD

Type	Hours	Percentage
Hours large group	20,0	26.67
Hours medium group	10,0	13.33
Self study	45,0	60.00

Total learning time: 75 h

CONTENTS

Digitalisation applied to professional roles

Description:

The course begins with an introduction to the digital transformation process of the sector and to its implementation through BIM and digital twins.

Subsequently, different use cases are developed, linked to different professional roles in the construction sector:

- Project manager.
- Quantity take-off specialist.
- Constructability specialist.
- Site manager.
- Head of technical office.
- Asset information manager.
- Digital twin manager.

Related activities:

Each session will include a short activity that must be submitted and will form part of the continuous assessment.

Full-or-part-time: 75h

Theory classes: 20h

Practical classes: 10h

Self study : 45h

GRADING SYSTEM

The grading system will consist of the assessment of several deliverables that will be uploaded to the virtual campus.

Submissions must be made exclusively through the campus. Late submissions will not be accepted.

Two oral examinations will be held, one midterm and one final, in order to verify authorship and understanding of the submitted work. There will be no reassessment exam.

EXAMINATION RULES.

The instructions for tests and assessed assignments must be read carefully, and submissions must comply with the required content and format. Failure to comply with the requirements for deliverables may result in penalties in the final mark or in the test or assignment being declared invalid.

The use of artificial intelligence tools will only be permitted when expressly indicated, and only for the purposes and under the conditions established. Their use in assessment tests is prohibited unless prior authorisation has been granted.

The improper use of artificial intelligence tools, as well as failure to comply with the requirements, criteria, contents or formats established in the instructions, may result in penalties in the final mark or in the test or assignment being declared invalid.