# Course guide
# 210314 - SPDC - Computational Design Protocol Seminar

**Last modified:** 14/12/2023

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| **Unit in charge:** | Barcelona School of Architecture |
| **Teaching unit:** | 752 - RA - Departamento de Representación Arquitectónica. |

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| **Degree:** | DEGREE IN ARCHITECTURE STUDIES (Syllabus 2014). (Optional subject). |

**Academic year:** 2023    **ECTS Credits:** 3.0    **Languages:** Catalan, Spanish, English

## LECTURER

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| **Coordinating lecturer:** | SALVADOR GILABERT SANZ - LUIS GIMÉNEZ MATEU |

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| **Others:** | Primer quadrimestre:<br>SALVADOR GILABERT SANZ - Grup: LAC<br>LUIS GIMÉNEZ MATEU - Grup: LAC |

## PRIOR SKILLS

Knowledge of geometry and parametric systems

## REQUIREMENTS

It is recommended to have passed the subject Architectural Representation IV

## DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

**Specific:**
EAB1. Translation from Spanish slope
ET6. Translation from Spanish slope

**Generical:**
CG4. Translation from Spanish slope
CG5. Translation from Spanish slope

**Transversal:**
CT4. Translation from Spanish slope
CT5. Translation from Spanish slope
CT6. Translation from Spanish slope
CT7. Translation from Spanish slope

**Basic:**
CB2. Translation from Spanish slope
CB3. Translation from Spanish slope
CB4. Translation from Spanish slope
CB5. Translation from Spanish slope

## TEACHING METHODOLOGY

Theoretical and practical lessons with guided learning tutorials

## LEARNING OBJECTIVES OF THE SUBJECT

Assimilate the necessary knowledge for the different stages involved in the construction processes of buildings, from the initial idea to the final required documentation for the building construction.

Achieve the level of solvency required to make a presentation of the obtained results in the graphic and alphanumeric processing of architectural projects.

Know the environmental parameters that influence the energy efficiency of buildings through the use of tools that enable the analysis of the features required for sustainable construction.

Learn to use computer graphics resources necessary for the development of technical documentation of architectural construction processes.

Have capacity to approach a teamwork and collaborate in its resolutions and discussions.

## STUDY LOAD

| Type | Hours | Percentage |
|------|-------|------------|
| Self study | 42,0 | 56.00 |
| Hours large group | 33,0 | 44.00 |

**Total learning time:** 75 h

## CONTENTS

**SEMINAR COMPUTATIONAL DESIGN PROTOCOLS**

**Description:**
The architectural project is a complex process in which knowledge management must be linked to design in an operational way. This is the goal of the subject, to use parametric methods, to go beyond geometry and form to create a system that includes all the variables associated with the process.

**Specific objectives:**
Collaboration with the Thematic Workshop - Computer Architecture Laboratory

**Full-or-part-time:** 2h
Theory classes: 0h 30m
Practical classes: 1h 30m

## GRADING SYSTEM

EVALUATION SYSTEM
Continuous assessment
Continuous assessment will be based on the work carried out by the student during the academic year, through the submission of assignments or the performance of written and/or oral tests, according to the criteria and timetable established.
Final assessment
If the continuous assessment is not positive, a second assessment may be carried out, which will consist of a final overall test in the established methodology according to the criteria of the lecturer in charge (written or oral test and/or submission of assignments).
Telematic continuous assessment
In online teaching situations, continuous assessment will be carried out synchronously and asynchronously, by the methods established by the University and the School, with a periodic record of academic activity by submitting assignments, forums, questionnaires or any other means provided by the Atenea platform, or the alternative tools provided to the teaching staff.
In situations in which this telematic teaching takes place when face□□to□□face teaching has already begun, or for non□□academic reasons, any alterations to the weightings or regular teaching control systems will be communicated in detail to all students on the Atenea platform for every subject.
Final telematic assessment
If the continuous telematic assessment is not positive, a second assessment may be carried out consisting of a final overall test in telematic format to be established in accordance with the criteria of the lecturers in charge and the ICT resources and tools provided by the University or the School.
The measures for adapting to distance teaching will be implemented in accordance with ICT security and personal data protection criteria to ensure compliance as regards Personal Data Protection legislation (RGPD and LOPDGDD).

## BIBLIOGRAPHY

**Basic:**
- Agkathidis, Asterios, 1974-. Modular structures in design and architecture. English ed. Amsterdam: Bis Publishers, 2009. ISBN 9789063692063.
- Arquitectura biomórfica : diseño orgánico y construcción. Barcelona: Promopress, 2017. ISBN 9788416504961.
- Pottmann, Helmut. Architectural geometry. Exton, PA: Bentley Institute Press, 2007. ISBN 9781934493045.
- Computational architecture : digital designing tools and manufacturing techniques. Amsterdam: BIS publishers, 2012. ISBN 9789063692872.
- Tedeschi, Arturo. AAD_Algorithms-aided design : parametric strategies using Grasshopper. Brienza: Le Penseur, cop. 2014. ISBN 9788895315300.

## RESOURCES

**Other resources:**
For the development of the course it is necessary to use a personal laptop, with internet connection, prepared to work with programs of graphic computer design.

The materials and documents of the subject may be written indistinctly in any languages of instruction.