Course guide
210138 - RA IV - Architectural Representation IV

Last modified: 16/02/2024

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

Degree: DEGREE IN ARCHITECTURE STUDIES (Syllabus 2014). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 5.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: ANDRES DE MESA GISBERT

Others:

Primer quadrimestre:
OMAR FABRISIO AVELLANEDA LOPEZ - Grup: 1ST2
MARILENA CHRISTODOULOU - Grup: 1ST2
ANDRES DE MESA GISBERT - Grup: 1ST2
LUIS GIMÉNEZ MATEU - Grup: 1SM2
JOAQUIM NARCÍS MOYA SALA - Grup: 1SM2
MARC SANCHEZ OLIVARES - Grup: 1SM2

Segon quadrimestre:
OMAR FABRISIO AVELLANEDA LOPEZ - Grup: 2SM1
ANDRES DE MESA GISBERT - Grup: 2SM1
JOSE RAMON DOMINGO MAGAÑA - Grup: 2SM1
LUIS GIMÉNEZ MATEU - Grup: 2ST1
JOAQUIM NARCÍS MOYA SALA - Grup: 2ST1
MARC SANCHEZ OLIVARES - Grup: 2ST1

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
ET11. Translation from Spanish slope
ET12. Translation from Spanish slope
ET13. Translation from Spanish slope
ET14. Translation from Spanish slope
ET19. Translation from Spanish slope
ET2. Translation from Spanish slope
ET3. Translation from Spanish slope
ET6. Translation from Spanish slope
ET9. Translation from Spanish slope
EP11. Translation from Spanish slope
EP14. Translation from Spanish slope
EP15. Translation from Spanish slope
EP16. Translation from Spanish slope
EP18. Translation from Spanish slope
EP19. Translation from Spanish slope
EP2. Translation from Spanish slope
EP20. Translation from Spanish slope
EP21. Translation from Spanish slope
EP22. Translation from Spanish slope
EP24. Translation from Spanish slope
EP3. Translation from Spanish slope

Generical:
CG4. Translation from Spanish slope
CG5. Translation from Spanish slope
CG7. Translation from Spanish slope
CG2. Translation from Spanish slope

Transversal:
CT1. Translation from Spanish slope
CT3. Translation from Spanish slope
CT4. Translation from Spanish slope
CT5. Translation from Spanish slope
CT6. Translation from Spanish slope
CT7. Translation from Spanish slope
CT2. Translation from Spanish slope

Basic:
CB1. Translation from Spanish slope
CB2. Translation from Spanish slope
CB3. Translation from Spanish slope
CB4. Translation from Spanish slope
CB5. Translation from Spanish slope

TEACHING METHODOLOGY

Classroom activities Type of group Week hours
T Lectures Great (50/80) 1
P Practice Small (10/30) 3
AD Tutorials small group Tutorial (>10) 12,5 h/ semester

Personal work 70h/semester

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
Hours large group	11,0	8.80
Hours small group	32,0	25.60
Guided activities	12,0	9.60
Self study	70,0	56.00

Total learning time: 125 h

CONTENTS

THE USE OF PARAMETRIC SYSTEMS AS RESOURCES OF DE BUILDING PROCESS

Description:
Knowledge of the tools necessary to implement work with objects in the development of architectural designs.

Control of architectural elements in global information systems of buildings.

Generation of architectural components for its integration into metric and construction control systems.

Solution to the implementation of buildings into natural environments. Graphic control of the land topography.

Introduction to free-form geometry parametric systems applied to architectural design. Application of parametric control tools to the resolution of architectural forms.

Interaction of different parametric tools to give versatility and to enable the modification of results in construction processes.

Basic knowledge in the management and research of construction processes.

Knowledge about the possibilities of exchange of alphanumeric and graphical information applied to calculation of technical processes and representation of geometric forms involved in architectural projects.

GRADING SYSTEM

Systems Assessment Continuous Assessment Final assessment
Long reply exercises 70% 80%
Short reply Tests 20% 20%
Work and individual exercises 10%

Continuous telematic evaluation
In online teaching situations, continuous assessment will be carried out synchronously and asynchronously by the means established by the University and the School, with a periodic record of academic activity through submissions, forums, questionnaires or any other means facilitated by the Atenea platform, or the alternatives provided to the teaching staff. In the situations in which this telematic teaching is a product of face-to-face teaching that has already begun, or for questions of extra-academic order, the changes in the weightings or regular control systems of the teaching will be communicated in detail to all students by the Athena of each subject.

Telematic final evaluation
If the continuous telematic evaluation is not positive, a second evaluation can be carried out, which will consist of a final test of a global nature in telematic format that will be established in accordance with the criteria of the professor responsible and the media and ICTs provided by the University or School.

The measures for adaptation to non-classroom teaching will be implemented in accordance with the criteria of ICT security and personal data protection to ensure compliance with the legislation on Personal Data Protection (RGPD and LOPDGDD)

EXAMINATION RULES.

In order to carry out the assessment tests, it will be necessary to use a laptop computer with wi-fi connection capable of running graphic information systems.

BIBLIOGRAPHY

Basic:
- Agkathidis, Asterios. Arquitectura biomórfica : diseño orgánico y construcción. Barcelona: Promopress, 2017. ISBN 9788416504961.
- Agkathidis, Asterios. Computational architecture : digital designing tools and manufacturing techniques. Amsterdam: BIS publishers, 2012. ISBN 9789063692872.
- Agkathidis, Asterios. Modular structures in design and architecture. English ed. Amsterdam: Bis Publishers, 2009. ISBN 9789063692063.
- Pottmann, Helmut; Bentley, Daril; Hofer, Michael; Asperl, Andreas. Architectural geometry. Exton, PA: Bentley Institute Press, 2007. ISBN 9781934493045.
- Arturo Tedeschi. AAD_Algorithms-Aided Design. 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.