

Course guide

210742 - AA - Environmental Assessment

Last modified: 14/12/2023

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

Degree: MASTER'S DEGREE IN ADVANCED STUDIES IN ARCHITECTURE-BARCELONA (Syllabus 2015). (Optional subject).

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

LECTURER

Coordinating lecturer: ELENA GARCÍA NEVADO - AGNESE SALVATI

Others: Segon quadrimestre:
ELENA GARCÍA NEVADO - Grup: AEMA2
AGNESE SALVATI - Grup: AEMA2

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

Type	Hours	Percentage
Self study	80,0	64.00
Hours large group	15,0	12.00
Hours small group	30,0	24.00

Total learning time: 125 h

CONTENTS

title english

Description:

Evaluation of environmental, thermal, acoustic and lighting phenomena on architecture. Possible systems: of measurement (punctual and continuous; from field or laboratory) and of simulation (calculation, simples, simplified, elaborated) Physical subjects with possible applications in architecture and their relation with the users perception. Variables measurement and possible relations.

Measurement appliances: appliances limit. Operation and good use foundations. The survey as a mean for opinions. Developed measurement program. Behaviour simulations: calculation limits. Operation and good use of calculation programs. Programs to use.

Specific objectives:

To strengthen a theoretical knowledge of environmental results on architecture. To be capable of confirming data obtained from external sources, for instance the results of the building's behaviour. To learn to do, personally, simulations and measurements of their results, and in this way being able to verify the tools good operation. To know the calculation foundations of informatics systems, with the aim of learning their limitations and possibilities. To learn to perform punctual and registered measurements, with the objective of confirming their coincidence with the existent reality.

Full-or-part-time: 125h

Theory classes: 15h

Laboratory classes: 30h

Self study : 80h

GRADING SYSTEM

Continuous evaluation (%) Final evaluation (%)

SE04 Testing and reporting of experimental work 40

SE05 Continuous evaluation 20

SE08 Delivered work marks 20

Continuous evaluation using simulations and measurements performed during the course. The final score will be a result from the works of the course (40%), the measurements (40%) and the synthesis capacity and the critic vision acquired (20%).

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 LOPDGD)

BIBLIOGRAPHY

Basic:

- Isalgué, A. Física del so i la llum. Barcelona: Edicions UPC, 1995. ISBN 8476535449.
- Serra, R.; Coch, H. Arquitectura y energia natural [on line]. Barcelona: Edicions UPC, 2001 [Consultation: 05/05/2020]. Available on: <http://hdl.handle.net/2099.3/36276>. ISBN 9788483014974.
- Clarke, J.A. Energy simulation in building design [on line]. 2nd ed.. Oxford: Butterworth Heinemann, 2001 [Consultation: 05/05/2020]. Available on: <https://www.sciencedirect-com.recursos.biblioteca.upc.edu/book/9780750650823/energy-simulation-in-building-design>. ISBN 9780750650823.

Complementary:

- Crawley, Drury B.. "Contrasting the capabilities of building energy performance simulation programs". Building and Environment [on line]. 2008, núm. 4, p. 661-673 [Consultation: 05/05/2020]. Available on: [https://www.sciencedirect.com/science/article/abs/pii/S0360132306003234?via%3Dihub\(Accés](https://www.sciencedirect.com/science/article/abs/pii/S0360132306003234?via%3Dihub(Accés) restringit a usuaris UPC).