

Course guide 210742 - AA - Environmental Assessment

Last modified: 08/07/2024

Unit in charge: Teaching unit:	Barcelona School of Architecture 753 - TA - Department of Architectural Technology.		
Degree:	MASTER'S DEGREE IN ADVANCED STUDIES IN ARCHITECTURE-BARCELONA (Syllabus 2015). (Optional subject).		
Academic year: 2024	ECTS Credits: 5.0	Languages: Spanish	
LECTURER			

Coordinating lecturer:	ELENA GARCÍA NEVADO
Others:	Segon quadrimestre: ELENA GARCÍA NEVADO - AEMA2

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

Туре	Hours	Percentage
Self study	87,5	70.00
Hours large group	37,5	30.00

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%).

BIBLIOGRAPHY

Basic:

- 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.

- Serra, R.; Coch, H. Arquitectura y energia natural [on line]. Barcelona: Edicions UPC, 2001 [Consultation: 05/05/2020]. Available on: <u>http://hdl.handle.net/2099.3/36276</u>. ISBN 9788483014974.

- Isalgué, A. Física del so i la llum. Barcelona: Edicions UPC, 1995. ISBN 8476535449.

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 restringit a usuaris UPC).