

MATERIALITY AND PROJECT

Intentions

Within architecture, both project process and finished work can be enriched with its own materiality. For example, if material is chosen at the beginning of the work conception process, the following design process can explore and enhance the material properties and thus improve the final result. Also, we architects can optimise our project taking into account the techniques and building processes of the materials that will make it a reality. Even these material aspects can have a more active role by influencing the decision making during design.

In this sense, this course aims to deepen in how architectural works can draw on the chromatic, light, mechanical, tactile, thermal properties, etc., of each material. And also go into detail on how the work can be improved from considering its own technique and construction. This improving process will consider technical aspects as well as economic, environmental and social.

Among the different materials available to us architects, this course will focus on rediscovering the possibilities of traditional, commonly used and more experimental materials. There will be short lectures, exercises, workshops and possibly visits. These activities will cover different design strategies from detailing, modelling and building real-size prototypes. So we will resume the work that our ancestors did in this sense and their vernacular construction, but with a reinvented goal: to move towards a more sustainable architecture for a better future of our society.

Bibliography

HEBEL, Dirk, Marta WISNIEWSKA, and Felix HEISEL: *Building from Waste: Recovered Materials in Architecture and Construction*. Basel: Birkhauser, 2014

RIERA, Òscar, Fabian LLONCH, George RANALLI: *Sagrada Familia: Gaudí's unfinished masterpiece: geometry, construction and site*. China: Oscar Riera, 2014

BURRY, M & J: *Prototyping for architects*. London: Thames & Hudson, 2016

Syllabus

Week 1 Introduction.
Presentation of contents, program and calendar.
Introductory exercise and debate.

Block 1. Waste-based architecture

Week 2 General lecture about building from waste.
First exercise presentation and first proposals.

Week 3 Specific lecture about a specific case study.
Working on the first exercise.

Week 4 Brief students' presentation of their first exercise results.
General lecture on the construction of architectural structures.
Second exercise presentation and first proposals.

Block 2. Architectural structures

Week 5 Specific lecture about a stone structure architecture example.
Working on the second exercise and structural models.

Week 6 Specific lecture about a reinforced concrete structure architecture example.
Working on the second exercise and structural models.

Week 7 Specific lecture about a steel structure architecture example.
Working on the second exercise drawings, booklet and model.

Week 8 Specific lecture about a timber structure architecture specific case study.
Working on the second exercise drawings, booklet and model.

Week 9 Working on the second exercise drawings, booklet and model

Block 3. Prototypes & Mock-up

Week 10 Brief students' presentation of their second exercise results.
General lecture on prototypes and mock-up.
Third exercise presentation.

Week 11 Specific lecture or visit according to the students' learning process.
Working on the third exercise design and prototype.

W 12-15 Specific activity &/or third exercise.

Week 16 Students' presentation of their second and third exercises as a final project.
Whole class debate about each presentation.