310004 - Construction I

Coordinating unit: 310 - EPSEB - Barcelona School of Building Construction
Teaching unit: 753 - TA - Department of Architectural Technology
Academic year: 2017
Degree: BACHELOR'S DEGREE IN ARCHITECTURAL TECHNOLOGY AND BUILDING CONSTRUCTION (Syllabus 2015). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN BUILDING CONSTRUCTION SCIENCE AND TECHNOLOGY (Syllabus 2009). (Teaching unit Compulsory)
ECTS credits: 7,5
Teaching languages: Catalan, Spanish

Teaching staff
Coordinator: MONTSERRAT BOSCH
Others: MONTSERRAT BOSCH GONZALEZ
MARTA BATLLE BELTRAN
JORDI PASCUAL MO
AGUSTÍ PORTALES PONS
ORIOL MARIN GORDI

Opening hours
Timetable: Agustí Portales Pons: tuesday, from 10 to 12h.
Marta Batlle Beltran: wednesday, from 10 to 12h.
Jordi Pascual Mo: tuesday, from 17:30 to 18:30h.
Montserrat Bosch: monday from 12:00 to 14:00

Degree competences to which the subject contributes

Specific:
3. FE-4 Knowledge of the materials and traditional or prefabricated construction systems used in construction, their varieties and physical and mechanical features which define them.

Transversal:
1. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 1. Planning oral communication, answering questions properly and writing straightforward texts that are spelt correctly and are grammatically coherent.
2. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.
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Teaching methodology

Combine learning methods, presental, directed and autonomous. With the combination of the three methods must achieve the levels of knowledge, understanding and application.

In the learning method will focus on the aspects of clarity, precision and order, by teachers. Will the whole group. The teacher will develop the themes of the course in the classroom. Students will advance them the necessary documentation in PDF Athena better to follow the class.

In person will also practices in the classroom that will be solved in groups.

As Guided, students held throughout the year a cross workshop that relate different subjects: Building Construction I, Graphics I, Economics and Business Organization & Materials I

As self-learning autonomous, students must complete a series of practices will be documented and submitted weekly to the space ATENEA and teaching portfolio format for Final course evaluation

Learning objectives of the subject

At the end of the course, students should be able to:

· Determine the meaning of the constructive elements.
· Explain the process and phases of the construction of a building.
· Relate the constructive elements with the optimum materials for its construction.
· Define the properties of the constructive elements.
· Identify the different constructive systems and subsystems.
· Use the construction vocabulary and become aware of the responsibility of being a building professional in terms of sustainability and environmental respect.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 187h 30m</th>
<th>Hours large group: 45h</th>
<th>24.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group:</td>
<td>11h 15m</td>
<td>6.00%</td>
</tr>
<tr>
<td>Hours small group:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td>Guided activities:</td>
<td>18h 45m</td>
<td>10.00%</td>
</tr>
<tr>
<td>Self study:</td>
<td>112h 30m</td>
<td>60.00%</td>
</tr>
</tbody>
</table>
### C1 FIRST CONCEPTS OF THE BUILDING, THE SURROUNDINGS AND THE AGENTS INVOLVED IN THE BUILDING PROCESS

**Description:**
In this content, it is worked:
- Course introduction. Introduction to the information resources and Atenea working.
- The human needs and the relation between humans and environment. Functional necessities of the building.
- General characteristics and types of buildings. Urban conditioning.
- Habitability requirements and the necessity of a policy framework.
- The infrastructure necessity
- The agents involved in the building process
- The environmental responsibilities, the analysis of natural resources optimization and renewable energies.

**Related activities:**
There will be 15 Guided Activities during the course, enunciated via Athena, and with the correction criteria established. These activities are delivered weekly and at the end of the course will be collected into a document which will assess Teaching Portfolio.

There will be a workshop consisting of the design, preparation of documentation and construction of a building element that will be defined at the beginning of the year collaboratively.

**Specific objectives:**
- To acquire the knowledge related to the theory taught.
- Acquire habits and self study material
- Coordinate group activities
- Written documents and eició quality university

### C2 FOUNDATIONS CONCEPT AND ITS RELATION WITH THE FIELD

**Description:**
In this content it is worked:
- The field
- Earthworks
- The foundations

**Related activities:**
Workshop activities

**Specific objectives:**
During C1 and C2 it is carried out the first work and the partial test
<table>
<thead>
<tr>
<th>C3 STRUCTURAL CONCEPTS IN BUILDINGS</th>
<th>Learning time: 91h</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 19h 30m</td>
</tr>
<tr>
<td>In this content it is worked:</td>
<td>Practical classes: 7h 15m</td>
</tr>
<tr>
<td>Building structure.</td>
<td>Guided activities: 14h 15m</td>
</tr>
<tr>
<td><strong>Related activities:</strong></td>
<td>Self study : 50h</td>
</tr>
<tr>
<td>Workshop activities.</td>
<td></td>
</tr>
<tr>
<td><strong>Specific objectives:</strong></td>
<td></td>
</tr>
<tr>
<td>During C3 and C4 it is carried out the second work and the second partial test.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C4 THE CONCEPT OF BUILDING ENVELOPE, FINISHING ELEMENTS AND INSTALLATIONS</th>
<th>Learning time: 26h</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 8h 30m</td>
</tr>
<tr>
<td>In this content it is worked:</td>
<td>Self study : 17h 30m</td>
</tr>
<tr>
<td>· The roof, the facade and the field contact.</td>
<td></td>
</tr>
<tr>
<td>· Interior divisions</td>
<td></td>
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<tr>
<td>· The necessity of finishing elements, materials and finishing elements techniques</td>
<td></td>
</tr>
<tr>
<td>· Functional necessity: basic and complementary installations</td>
<td></td>
</tr>
<tr>
<td><strong>Related activities:</strong></td>
<td></td>
</tr>
<tr>
<td>EVALUATION:</td>
<td></td>
</tr>
<tr>
<td>Individual test (activity 7) during the big group sessions.</td>
<td></td>
</tr>
<tr>
<td><strong>ACTIVITIES:</strong></td>
<td></td>
</tr>
<tr>
<td>Activity 8 (in group) that belongs to the medium group sessions.</td>
<td></td>
</tr>
</tbody>
</table>
Planning of activities

<table>
<thead>
<tr>
<th>Learning Portfolio</th>
<th>Hours: 45h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Guided activities: 45h</td>
</tr>
</tbody>
</table>

**Description:**
The portfolio consists of 15 educational activities aimed at the beginning of the year, which relate the theoretical content with applied learning: they will visit buildings will generate graphic or written, must be made directed reading, etc.

**Support materials:**
Will be specified in the statements published ATENEA

**Descriptions of the assignments due and their relation to the assessment:**
Weekly in the date published in Athena, and final course in a format Portfolio Docente

**Specific objectives:**
To consolidate the knowledge acquired in the classroom
Know and use appropriate vocabulary building
Recognize systems built areas in the park built

<table>
<thead>
<tr>
<th>Transversal Workshop</th>
<th>Hours: 80h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 50h</td>
</tr>
<tr>
<td></td>
<td>Guided activities: 30h</td>
</tr>
</tbody>
</table>

**Description:**
Wednesday from 12:00 to 14:00 will be programmed for all groups subject a series of lectures and guided activities that will track the cross section. The schedule of activities will be published in early Athenian course

**Support materials:**
Published at the beginning of the course on ATENEA

**Descriptions of the assignments due and their relation to the assessment:**
At the end of the Course

**Specific objectives:**
Study antecedents, Diseño Budget, correcting elements and build a 1: 1 scale

Qualification system

CONTINUED AVALUATION. During periods provided for exams in the school calendar will be two exams.
The first test involves 25%, the second 30%, the 20% self dossier and the workshop by 25%
Examination FINAL NOTE = 1 exam 25% + 2 exam 30% + AD Portafolio 20% + Workshop 25%. Approved grade 5 or higher.

RE-EVALUATION. The re-assessment tests will be on the dates designated by the center. Remember that to access the re-evaluation, the grade of the continuous evaluation must be equal or greater than 3.50.

Regulations for carrying out activities

If some of the activities of the continuous evaluation is not done, it will be considered as not counted.
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Bibliography

Basic:


Complementary:


Others resources:
Various. Published and updated on ATENEA