310019 - Risk Prevention

Coordinating unit: 310 - EPSEB - Barcelona School of Building Construction
Teaching unit: 732 - OE - Department of Management
Academic year: 2018
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: 6
Teaching languages: Spanish

Teaching staff
Coordinator: CESAR GALLOFRE PORRERA
Others: JESUS ABAD PUENTE - JAUME ABAT DINARES - ANTONIO BENAVIDES VICÓ - FERNANDO TERRES DE ERCILLA

Requirements
To have studied the Seguretat i Salut laboral subject.

Degree competences to which the subject contributes

Specific:
1. FE-17 Ability to schedule and organise the constructive processes, the construction teams, the technical and human means for its execution and maintenance.
2. FE-18 Knowledge of the law of the construction and the contractual relations which occur in the different phases of the construction process, as well as the specific legislation, rules and regulations of the prevention and coordination in matters of safety and occupational health in construction.
3. FE-19 Aptitude to write studies, basic studies and safety and occupational health plans, and coordinate the safety in the project phase or in the construction execution phase.

Transversal:
4. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
5. ENTREPRENEURSHIP AND INNOVATION - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.
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Teaching methodology

There will be taught weekly theoretical classes, and workshop classes twice in the course. There will be done practices and the required material will be given so that the students, in their hours, can complete the knowledge.

Therefore:

- Exposition method / master class: Oral exposition by the faculty of the contents of the subject.
- Exposition participatory class: Spaces are incorporated so that the students take part and participate by means of short length activities at class.
- Resolution of exercises and problems: The students are demanded to develop the appropriate or right solutions by the application of transformation procedures of the available information and the interpretation of the results.
- Study of cases: Intensive and complete analysis of a real incident, problem or event with the purpose of understand it, interpret it, solve it, generate hypothesis, corroborate the data, reflect on it, complete the knowledge, diagnose it, and occasionally, test the possible alternative procedures of solution.

Learning objectives of the subject

The subject expect that the students get the necessary knowledge, so that they will be able to write job security studies and plans and coordinate the activities of the companies in the area of work safety and health in the constructions, both in project and execution phases.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 30h</th>
<th>20.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group:</td>
<td>30h</td>
</tr>
<tr>
<td></td>
<td>Hours small group:</td>
<td>0h</td>
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<tr>
<td></td>
<td>Guided activities:</td>
<td>0h</td>
</tr>
<tr>
<td></td>
<td>Self study:</td>
<td>90h</td>
</tr>
</tbody>
</table>
# Content

## Content 1: INTRODUCTION. THE SECURITY COORDINATOR

<table>
<thead>
<tr>
<th>Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>In this content the students work:</td>
</tr>
<tr>
<td>1.- Structure of the construction company, typologies.</td>
</tr>
<tr>
<td>2.- Legal framework. Regulations.</td>
</tr>
<tr>
<td>3.- Role of the coordinator.</td>
</tr>
<tr>
<td>4.- Naming of the coordinator.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Related activities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be done the activity 1, corresponding to the practices, and the activity 3, the final exam.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9h</td>
</tr>
<tr>
<td>Theory classes: 3h</td>
</tr>
<tr>
<td>Practical classes: 1h</td>
</tr>
<tr>
<td>Self study: 5h</td>
</tr>
</tbody>
</table>

## Content 2: COORDINATION OF SECURITY IN THE PROJECT PHASE

<table>
<thead>
<tr>
<th>Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>In this content the students work:</td>
</tr>
<tr>
<td>1.- Role of the project phase coordinator.</td>
</tr>
<tr>
<td>2.- Documents to write by the coordinators.</td>
</tr>
<tr>
<td>3.- Safety design criteria for the making of ESS and EBSS.</td>
</tr>
<tr>
<td>5.- EBSS. Concept. Content. Processing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related activities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be done the activity 1, corresponding to practices, and the activity 3, the final exam.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>27h</td>
</tr>
<tr>
<td>Theory classes: 4h</td>
</tr>
<tr>
<td>Practical classes: 4h</td>
</tr>
<tr>
<td>Self study: 19h</td>
</tr>
</tbody>
</table>
Content 3: ESS AND EBSS. ANALYSIS AND CONTENT

<table>
<thead>
<tr>
<th>Learning time: 39h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 9h</td>
</tr>
<tr>
<td>Practical classes: 7h</td>
</tr>
<tr>
<td>Guided activities: 3h</td>
</tr>
<tr>
<td>Self study : 20h</td>
</tr>
</tbody>
</table>

**Description:**
In this content the students work:

ESS
1. Project narrative.
2. Specifications.
4. Budget.
5. Graphic documentation.
6. Plans and details.

EBSS
1. Project narrative.
2. Graphic documentation.

**Related activities:**
There will be done the activity 1, corresponding to the practices, and the activity 3, the final exam.
### Content 4: SECURITY COORDINATOR IN THE EXECUTION PHASE

**Description:**
In this content the students work:
1. Role of the execution phase coordinator.
2. Documentation to write by the coordinators.
3. Safety design criteria for the making of safety and health plans.

#### SAFETY AND HEALTH PLAN
1. Transposition from the ESS to the safety and health plan.
3. Endorsement.
4. Processing.

#### EXECUTION PHASE SAFETY COORDINATOR METHODOLOGY
1. Study of the ESS or EBSS.
2. Endorsement of the plan.
3. Coordination meetings.

#### OTHER SAFETY AND HEALTH DOCUMENTS
2. Prior announcement. Processing

#### COORDINATION OF THE MAIN SAFETY AND HEALTH PRINCIPLES
1. Coordination meetings.
2. Prevention and coordination convention, informative sessions for the workers.
3. Technical and organizational solutions analysis.

#### CONSTRUCTION ACTIVITIES COORDINATION
1. Analysis of the planning.
2. Intervention in case of accidents.

#### CONTROL PROCEDURES
1. Control files.
2. Certificates and control sheets.
3. Access and control to the construction.

#### PROTOCOL FOR THE START OF THE CONSTRUCTION
1. Developer.
2. Project phase safety coordinator.
3. Execution phase safety coordinator.
4. Contractor.
5. Regulations at the construction.

#### MONITORING OF THE SAFETY AND HEALTH PLAN
1. Scheduled inspections.
2. Measures in front of the unfulfilment of the plan.
3. Paralysation of the construction.
4. End of the coordination.

#### Related activities:
There will be done the activity 1, corresponding to the practices, and the activity 3, the final exam.
### Planning of activities

| PRACTICE (CONTENT 1, 2, 3 AND 4) | Hours: 36h  
Practical classes: 16h  
Self study: 20h |
|---------------------------------|------------------|

**Description:**
Deliverable documents consisting on practices which will be done during the course. These practices will start at class, individually and will be delivered to the professor the suggested day.

**Support materials:**
All the course material (notes, books) required by the students available in ATENEA.

**Descriptions of the assignments due and their relation to the assessment:**
Correction and verification by the faculty of the achievement of the specific objectives by the students. It represents a 25% of the practices final mark.
Specific objectives:
At the end of the practice the students should be able to:
. The student must understand and apply the knowledge about:

INTRODUCTION. THE SAFETY AND HEALTH COORDINATOR
1.- Structure of the construction company, typologies.
2.- Legal framework. Regulations.
3.- Role of the coordinator.
4.- Naming of the coordinator.

COORDINATION OF THE SAFETY IN THE PROJECT PHASE
1.- Role of the project phase coordinator.
2.- Documents to write by the coordinators.
3.- Safety design criteria for the making of ESS and EBSS.
5.- EBSS. Concept. Content. Processing.

ESS AND EBSS. ANALYSIS AND CONTENT

ESS
1.- Project narrative.
2.- Specifications.
3.- Measurings.
4.- Budget.
5.- Graphic documentation.
6.- Plans and details.

EBSS
1.- Project narrative.
2.- Graphic documentation.

SAFETY AND HEALTH EXECUTION PHASE COORDINATOR
1.- Role of the execution phase coordinator.
2.- Documentation to write by the coordinators.
3.- Safety design criteria for the making of safety and health plans.

SAFETY AND HEALTH PLAN
1.- Transposition from the ESS to the safety and health plan.
2.- Analysis. Contents.
3.- Endorsement.
4.- Processing.

EXECUTION PHASE SAFETY COORDINATOR METHODOLOGY
1.- Study of the ESS or EBSS.
2.- Endorsement of the plan.
3.- Coordination meetings.

OTHER SAFETY AND HEALTH DOCUMENTS
2.- Prior announcement. Processing
3.- Protocol of construction start.

COORDINATION OF THE MAIN SAFETY AND HEALTH PRINCIPLES
1.- Coordination meetings.
2.- Prevention and coordination convention, informative sessions for the workers.
3.- Technical and organizational solutions analysis.

CONSTRUCTION ACTIVITIES COORDINATION
1.- Analysis of the planning.
2.- Intervention in case of incidents.

CONTROL PROCEDURES
1.- Control files.
2.- Certificates and control sheets.
WORKSHOP (CONTENT 3 AND 4)  

<table>
<thead>
<tr>
<th>Description:</th>
<th>Hours: 29h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliverable documents consisting on the work done in the two workshop classes which will be done during the course. These practices will start at class, and will be deliveried to the professor the suggested day.</td>
<td>Practical classes: 8h</td>
</tr>
<tr>
<td></td>
<td>Self study: 15h</td>
</tr>
<tr>
<td></td>
<td>Guided activities: 6h</td>
</tr>
</tbody>
</table>

Support materials:  
All the material (notes, books) required by the students available in ATENEA.

Descriptions of the assignments due and their relation to the assessment:  
Correction and verification by the faculty of the achievement of specific objectives by the students. It represents the 25% of the final mark of the practices final mark.
Specific objectives:
At the end of the practice the students should be able to:
- The student must understand and apply the knowledge about:

INTRODUCTION. THE SAFETY AND HEALTH COORDINATOR
1. Structure of the construction company, typologies.
2. Legal framework. Regulations.
3. Role of the coordinator.
4. Naming of the coordinator.

COORDINATION OF THE SAFETY IN THE PROJECT PHASE
1. Role of the project phase coordinator.
2. Documents to write by the coordinators.
3. Safety design criteria for the making of ESS and EBSS.

ESS AND EBSS. ANALYSIS AND CONTENT

ESS
1. Project narrative.
2. Specifications.
4. Budget.
5. Graphic documentation.
6. Plans and details.

EBSS
1. Project narrative.
2. Graphic documentation.

SAFETY AND HEALTH EXECUTION PHASE COORDINATOR
1. Role of the execution phase coordinator.
2. Documentation to write by the coordinators.
3. Safety design criteria for the making of safety and health plans.

SAFETY AND HEALTH PLAN
1. Transposition from the ESS to the safety and health plan.
3. Endorsement.
4. Processing.

EXECUTION PHASE SAFETY COORDINATOR METHODOLOGY
1. Study of the ESS or EBSS.
2. Endorsement of the plan.
3. Coordination meetings.

OTHER SAFETY AND HEALTH DOCUMENTS

COORDINATION OF THE MAIN SAFETY AND HEALTH PRINCIPLES
1. Coordination meetings.
2. Prevention and coordination convention, informative sessions for the workers.
3. Technical and organizational solutions analysis.

CONSTRUCTION ACTIVITIES COORDINATION
1. Analysis of the planning.
2. Intervention in case of accidents.

CONTROL PROCEDURES
1. Control files.
2. Certificates and control sheets.
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3.- Access and control to the construction.

**PROTOCOL FOR THE START OF THE CONSTRUCTION**

1.- Developer.
2.- Project phase safety coordinator.
3.- Execution phase safety coordinator.
4.- Contractor.
5.- Regulations at the construction.

**MONITORING OF THE SAFETY AND HEALTH PLAN**

1.- Scheduled inspections.
2.- Measures in front of the unfulfilment of the plan.
3.- Paralysation of the construction.
4.- End of the coordination.

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<table>
<thead>
<tr>
<th><strong>FINAL EXAM (CONTENT 1, 2, 3 AND 4)</strong></th>
<th><strong>Hours</strong>: 22h</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong>:</td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td>Individual and written exam of the entire list of topics of the subject.</td>
<td>Self study: 20h</td>
</tr>
<tr>
<td><strong>Support materials</strong>:</td>
<td></td>
</tr>
<tr>
<td>Final exam wordings.</td>
<td></td>
</tr>
<tr>
<td><strong>Descriptions of the assignments due and their relation to the assessment</strong>:</td>
<td></td>
</tr>
<tr>
<td>The deliverable document will be the resolution of the exam. It represents the 50% of the final mark of the subject.</td>
<td></td>
</tr>
</tbody>
</table>
**Specific objectives:**
At the end of the practice the students should be able to:

1. The student must understand and apply the knowledge about:
   - INTRODUCTION. THE SAFETY AND HEALTH COORDINATOR
     1. Structure of the construction company, typologies.
     2. Legal framework. Regulations.
     3. Role of the coordinator.
     4. Naming of the coordinator.
   - COORDINATION OF THE SAFETY IN THE PROJECT PHASE
     1. Role of the project phase coordinator.
     2. Documents to write by the coordinators.
     3. Safety design criteria for the making of ESS and EBSS.
   - ESS AND EBSS. ANALYSIS AND CONTENT
     - ESS
       1. Project narrative.
       2. Specifications.
       4. Budget.
       5. Graphic documentation.
       6. Plans and details.
     - EBSS
       1. Project narrative.
       2. Graphic documentation.
   - SAFETY AND HEALTH EXECUTION PHASE COORDINATOR
     1. Role of the execution phase coordinator.
     2. Documentation to write by the coordinators.
     3. Safety design criteria for the making of safety and health plans.
   - SAFETY AND HEALTH PLAN
     1. Transposition from the ESS to the safety and health plan.
     3. Endorsement.
     4. Processing.
   - EXECUTION PHASE SAFETY COORDINATOR METHODOLOGY
     1. Study of the ESS or EBSS.
     2. Endorsement of the plan.
     3. Coordination meetings.
   - OTHER SAFETY AND HEALTH DOCUMENTS
     2. Prior announcement. Processing
   - COORDINATION OF THE MAIN SAFETY AND HEALTH PRINCIPLES
     1. Coordination meetings.
     2. Prevention and coordination convention, informative sessions for the workers.
     3. Technical and organizational solutions analysis.
   - CONSTRUCTION ACTIVITIES COORDINATION
     1. Analysis of the planning.
     2. Intervention in case of accidents.
   - CONTROL PROCEDURES
     1. Control files.
     2. Certificates and control sheets.
3.- Access and control to the construction.

**PROTOCOL FOR THE START OF THE CONSTRUCTION**

1.- Developer.
2.- Project phase safety coordinator.
3.- Execution phase safety coordinator.
4.- Contractor.
5.- Regulations at the construction.

**MONITORING OF THE SAFETY AND HEALTH PLAN**

1.- Scheduled inspections.
2.- Measures in front of the unfulfilment of the plan.
3.- Paralysisation of the construction.
4.- End of the coordination.

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**Qualification system**

The final mark is the addition of these partial marks:

\[
\text{Final mark} = 0.25 \times \text{workshop classes evaluation mark} + 0.25 \times \text{practices evaluation mark} + 0.5 \times \text{final exam mark}
\]

**Regulations for carrying out activities**

All the continuous evaluation activities must be handed in (practices and workshop).

The final exam will be done individually and by writing.

**Bibliography**

**Basic:**


**Complementary:**


**Others resources:**

Other resources:

- www.coac.es
- www.coaats.es