TEACHING METHODOLOGY

Workshop 9 is based on active learning teaching methodologies. Learning is collaborative and interactive between students and also between students and teachers. From a real executive project, the students will be grouped into work teams taking different roles of the agents of the construction process (construction company or construction management) and the teaching staff will take the role of project manager of the work. From the point of view of the agent of the assigned construction process, the work teams will develop the necessary actions to carry out the execution of the work, from the project audit, to the preparation of the contractual part and the monitoring of the work. To develop the workshop, a work team with the role of a construction company will be associated with a work team with an optional management role, so that the two agents of the process must interact, expose and discuss the results obtained in the different phases of the process executive.

On the other hand, to accompany the student’s learning process, several information sessions related to the topics that are being developed will be held. Teamwork does not impede the individuality of the participants, so learning is also carried out and evaluated individually.

LEARNING OBJECTIVES OF THE SUBJECT

• Know the construction process, the agents that participate and their functions and responsibilities.
• Analyze the executive project before the start of the work in order to detect possible errors or lack of information, and assess its technical viability.
• Make proposals to improve the executive project, which imply an improvement in the construction process and a reduction in costs.
• Prepare the time, cost and implementation planning prior to contracting the work of a complete project.
• Apply the specific conditions for contracting works.
• Prepare economic offers from the point of view of the different agents of the construction process.
• Monitor and control the planning of time, costs and implementation in the organization of the work.
• Develop the quality control program for materials and construction systems. Assess the environmental impacts of the construction process.
• Analyze and develop the necessary construction details for the execution of the work.
• Manage work modifications through constructive proposals, implementation and discussion of contradictory ones, assessing their involvement in work.
• Know the documentation related to the completion of the work.
STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours small group</td>
<td>60,0</td>
<td>40.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h

CONTENTS

Phase 1 Project audit

Description:
• Know the construction process, the agents that participate and their functions and responsibilities.
• Analyze the executive project before the start of the work in order to detect possible errors or lack of information, and assess its technical viability.
• Make proposals to improve the executive project, which imply an improvement in the construction process and a reduction in costs.
• Prepare the time, cost and implementation planning prior to contracting the work of a complete project.
• Apply the specific conditions for contracting works.
• Prepare economic offers from the point of view of the different agents of the construction process.
• Monitor and control the planning of time, costs and implementation in the organization of the work.
• Develop the quality control program for materials and construction systems. Assess the environmental impacts of the construction process.
• Analyze and develop the necessary construction details for the execution of the work.
• Manage work modifications through constructive proposals, implementation and discussion of contradictory ones, assessing their involvement in work.
• Know the documentation related to the completion of the work.

Specific objectives:
• Know the construction process, the agents that participate and their functions and responsibilities.
• Analyze the executive project before the start of the work in order to detect possible errors or lack of information, and assess its technical viability.
• Make proposals to improve the executive project, which imply an improvement in the construction process and a reduction in costs.

Related activities:
• A1 Delivery and presentation of the results of phase 1 of the project's audit. (15%)

Full-or-part-time: 40h  
Laboratory classes: 16h  
Self study : 24h
### Phase 2 Preparation of the contractual part

**Description:**
In this phase, the student body through the work teams will carry out the necessary actions to carry out the contracting of the work, from the point of view of the agent of the construction process assigned to them. They will carry out the necessary work planning processes (costs, time, subcontracting, implementation ...) and will prepare the contract between the construction company and the developer, and between the project management and the developer.

**Specific objectives:**
- Prepare the time, cost and implementation planning prior to contracting the work of a complete project.
- Apply the specific conditions for contracting works.

**Related activities:**
- A2 Delivery and presentation of the results of phase 2 of preparation of the contractual part. (15%)

**Full-or-part-time:** 20h  
Laboratory classes: 8h  
Self study: 12h

### Phase 3 Follow-up of the work

**Description:**
In this phase, the student body through the work teams will carry out the necessary actions to monitor the work, from the point of view of the agent of the construction process assigned to them. They will carry out the processes for the execution and monitoring and control of the necessary work (costs, time, subcontracting, implementation, quality, environment ...).

**Specific objectives:**
- Prepare the economic offer for the completion of the work from the point of view of the construction company, as well as the base work budget.
- Monitor and control the planning of time, costs and implementation in the organization of the work.
- Develop the quality control program for materials and construction systems. Assess the environmental impacts of the construction process.
- Analyze and develop the necessary construction details for the execution of the work.

**Related activities:**
- A3 Delivery and presentation of the results of phase 3 monitoring of the work. (30%)

**Full-or-part-time:** 50h  
Laboratory classes: 20h  
Self study: 30h
### Phase 4 Closure of work

**Description:**
In this phase, the teaching staff will provide the list of contradictory prices that have appeared for the settlement of work that the work teams must negotiate based on their role in the construction process (contradictory prices and their implications). Finally, the procedures and documentation related to the completion of the work will be discussed.

**Specific objectives:**
- Argue, according to the interests of the role it represents, the final settlement of the work and the contradictory prices that appear, negotiating according to the conditions of the contract and other criteria that are considered relevant.
- Know the documentation related to the completion of the work.
- Analyze and develop the necessary documentation for the completion of the work.

**Related activities:**
- A4 Discussion between groups about contradictory prices, in the work liquidation phase. (20%)
- A5 Delivery and presentation of the results of phase 4 closure of the work. (20%)

**Full-or-part-time:** 40h
Laboratory classes: 16h
Self study: 24h

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### GRADING SYSTEM

The final grade is the sum of the following grades:

\[
N_{\text{final}} = N_{f1} \times 0.15 + N_{f2} \times 0.15 + N_{f3} \times 0.30 + N_{df4} \times 0.20 + N_{f4} \times 0.20
\]

- \(N_{f1}\): qualification of the delivery of results of phase 1. (15%)
- \(N_{f2}\): qualification of the delivery of results of phase 2. (15%)
- \(N_{f3}\): qualification of the delivery of results of phase 3. (30%)
- \(N_{df4}\): qualification of the discussion between groups in phase 4. (20%)
- \(N_{f4}\): qualification of the delivery of results of phase 4 i Self-evaluation. (20%)

### EXAMINATION RULES.

It is a requirement to participate in the presentations of the different phases of the Taller9 to evaluate the deliveries. Taller 9 has continuous evaluation. There is no re-evaluation.
BIBLIOGRAPHY

Basic: