Course guide
310741 - 310741 - Workshop 9: Final Model

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Unit in charge: Barcelona School of Building Construction
Teaching unit: 752 - RA - Departamento de Representación Arquitectónica.
753 - TA - Department of Architectural Technology.
732 - OE - Department of Management.

Degree: BACHELOR'S DEGREE IN ARCHITECTURAL TECHNOLOGY AND BUILDING CONSTRUCTION (Syllabus 2019). (Compulsory subject).

Academic year: 2024 **ECTS Credits:** 6.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Gaspar Fàbregas, Kàtia

Others: Baringo Sabater, Pedro
Capellà Llovera, Joaquin
Crespiera Olle, Roma
Garcia Rodriguez, Francisco Javier
Gaspar Fàbregas, Kàtia
Taltavull Fedelich, Antonio

REQUIREMENTS

It is necessary to have passed the following courses: Construction of structures, Construction below ground level, Construction of envelopes and finishes, Planning and organization of works, Budgeting and cost control, Quality in building, Coordination of occupational health and safety.

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 executive process.
On the other hand, to accompany the student's learning process, several information sessions related to the topics 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.
• Learn to create documentation in a professional format.
• Learn to present the activity carried out in a professional format.

STUDY LOAD

Type	Hours	Percentage
Hours small group	60,0	40.00
Self study	90,0	60.00

Total learning time: 150 h

CONTENTS

Phase 1 Project audit

Description:
In this phase, the students, through the work teams, will audit a real executive project with the support of the faculty, from the point of view of the agent of the construction process assigned to them. From the analysis of the project, they will detect the possibility of requiring more information for the understanding of the project or will identify possible defects or errors. Subsequently, they will make proposals to improve the construction process or reduce its costs.

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 complete 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

GRADING SYSTEM

The final grade is the sum of the following grades:

Nfinal = Nf1*0.15 + Nf2*0.15 + Nf3*0.30 + Ndf4*0.20 + Nf4*0.20

Nfinal: final grade. (100%)

Nf1: qualification of the delivery of results of phase 1. (15%)
• Oral presentation (made preliminary delivery) 5%
• Final delivery 10%

Nf2: qualification of the delivery of phase 2 results. (15%)
• Oral presentation (made preliminary delivery) 5%
• Final delivery 10%

Nf3: qualification of the delivery of results of phase 3. (30%)
• Oral presentation (made preliminary delivery) 10%
• Final delivery 20%

Ndf4: qualification of the discussion between groups in phase 4. (20%)

Nf4: qualification of the delivery of phase 4 results and Self-assessment. (20%)
• Oral presentation (made preliminary delivery) 7%
• Final delivery 13%

EXAMINATION RULES.

Non-participation in the oral presentations of the activity of the different phases of the workshop will be evaluated as 0 NP.

Each phase has two deliveries: a preliminary delivery plus oral presentation and a final delivery, which must incorporate improvements or changes, based on the comments of the teaching staff in the presentation of the previous delivery.

Taller 9 has continuous evaluation. There is no re-evaluation.

BIBLIOGRAPHY

Basic:
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- Portales Pons, Agustí. El Oficio de jefe de obra : las bases de su correcto ejercicio . Barcelona : Edicions UPC, 2007. ISBN 978-84-8301-891-0.
- Mateos Perera, Jesús; Menéndez Ondina, Antonio. La Programación en la construcción . 2ª ed. Madrid : Bellisco, 2003. ISBN 8495279770.
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Complementary:
- Ribera Roget, Albert; Gifra Bassó, Ester; Castellano i Costa, Jordi; Sáez Pérez, María Paz. Presupuestos de proyecto y ofertas económicas de obra : cómo tratar y evaluar los costes de construcción . Morata de Tajuña : Manuscritos, 2011. ISBN 9788492497713.
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- González Fernández de Valderrama, Fernando; Sainz Avia, Jorge; García Erviti, Federico. Mediciones y presupuestos : para arquitectos e ingenieros de edificación . 2a ed., act. y ampl. Barcelona : Reverté, 2010. ISBN 978-84-291-3201-4.