Teaching guide

IDENTIFICATION DETAILS

Degree:	Architecture
Scope	Architecture, construction, building and urban planning, and civil engineering
Faculty/School:	Higher Polytechnic School
Course:	MEASUREMENTS, ESTIMATES AND VALUATIONS
Type:	Compulsory
ECTS credits:	6
Year:	5
Code:	3754
Teaching period:	Tenth semester
Subject:	Projects
Module:	Projectual
Teaching type:	Classroom-based
Language:	Spanish
Total number of student study hours:	150

SUBJECT DESCRIPTION

MEASUREMENTS, BUDGETS AND EVALUATIONS is a subject that makes students aware of the economic reality involved in the processes in which the architect is involved, and of the economic impact that decisions have in the project and work phase, together with the need for reliable budgetary management before the client and their real needs, so that rigor and reliability are cultivated in the future architect in all processes.

The student will understand that professional ethics in the entire economic process must be at the service of individuals and society.

GOAL

1.-Make the student aware of the economic weight of decisions in the project phase and of the importance of the economic management of the project and the deadlines before the client and their real needs as a promoter, so that rigor and reliability are cultivated in the student.

2.- Knowing what type of budget is necessary in each particular case determines the effort that is worth dedicating to its realization, as well as the degree of detail necessary, its precision and the consequences that may arise from our success or error towards third parties.

3.-Create in the student a criterion that allows them to correctly interpret project documents and to establish the value of the elements of a work in order to learn to make design, construction and construction decisions

4.- Know how to define, plan and quantify all the tasks that make up the execution project and the work.

5.- Manage computer resources as a work tool, databases and correctly assess the price of a task at any time during the process.

6.- To know the methods of urban and mortgage valuation, in order to complete the vision of the economic aspect of architecture and its management.

The specific aims of the subject are:

- Ability to evaluate works (20)

- Knowledge of deontology, collegial organization, professional structure and civil responsibility. (28)

- Knowledge of administrative and management procedures and professional processing. (29)

- Knowledge of measurement, assessment and assessment methods (31)

- Knowledge of the safety and hygiene project on site. (32)

PRIOR KNOWLEDGE

To follow the subject, the student must have acquired the fundamental knowledge taught in the area of knowledge of Construction, as well as having acquired the fundamental knowledge of the areas of Projects, Structures and Installations.

COURSE SYLLABUS

1.- THE BUDGET ENVIRONMENT

1.1. General functions, definitions and concepts
1.2 Cost forecasting
1.3 Project cost management and methodology
1.4 Building regulations

2.- BEFORE THE PROJECT
2.1. Intervening agents.
2.2. Project phases and documentation
2.3. The drafting of the project
2.4. Prediction and cost estimation methods
2.5. Pre-dimensioning and adjustments

3.- THE WORK UNITS
3.1. Economic documents of the project
3.2 Measurements and budget by work unit
3.3. Computer process and tool
3.4 Pricing tables and databases
3.5 Material and system specifications with the project
3.6 Price breakdown, direct and indirect costs
3.7. Machinery, labor, auxiliary equipment and raised parts.
3.8 Economic control of works and certifications.

4.- URBAN AND MORTGAGE VALUATIONS
General concepts, principles and definitions of the Regulations and valuation methods.

EDUCATION ACTIVITIES

1. FACE-TO-FACE ACTIVITIES

1.1. Presentation of content and activities by the teacher, commentary, recommended reading, and with the participation of students in the debate and resolution of doubts about the topics proposed in class

1.2. Carrying out exercises: Solve, individually, on the blackboard or on the table exercises proposed in class to apply the fundamental knowledge received.

1.3. Project workshop: Correction in groups of different sizes of the projects that students carry out in the classroom or at home, and they clarify in the light of the exercises of their classmates and the instructions of their teachers.

1.4. Group work: I work in small groups to deepen the fundamental teaching principles and stimulate coordination capacity among students.

11.5. Tutoring:
1.5.1. Classroom tutoring: Attention to the class group to enhance the practical follow-up of the subject.
1.5.2. Group tutoring: Attention to a small group of students who need additional help to follow the subject
1.5.3. Personalized: Individual attention to the student with the objective of reviewing and discussing the topics presented in class and clarifying doubts that the student cannot understand in their personal study.

1.6. Evaluation: Carrying out knowledge assimilation checks throughout the course and with the greatest possible continuity.

2. NON-FACE-TO-FACE ACTIVITIES

2.1. Preparing projects for class discussion: Design and prepare a public presentation of a proposed exercise in class.

2.2. Group work: Group design and development of works.

2.3. Theoretical and practical study: Study of the theoretical and practical contents of the program and preparation of recommended readings.

- Teaching will be given according to a combination of the theoretical and practical teaching system with the workshop system. The classes will have a theoretical component through talks that feel the concepts you want to infuse, but that will have a clear practical vocation in their object and procedure.

- Along with these theoretical classes for each part of the syllabus, a series of development work will be proposed throughout the course, practically to be carried out by students individually or in a small group, to allow them to monitor learning.

- Learning is achieved through personal work, as well as through the participation, involvement and interest of the student, for which individual and collective corrections will be made so that we can see the results that are being obtained in the class, and the general evolution of the group. Teamwork will also be encouraged in small practices to inculcate order and formality in one's own work, which allows teams to carry out their work efficiently.

- Continuous monitoring of individual and group practices, through phases of teacher delivery and supervision.

* Training activities, as well as the distribution of working hours, can be modified and adapted according to the different scenarios established following the instructions of the health authorities.

DISTRIBUTION OF WORK TIME

TEACHER-LED TRAINING ACTIVITIES	INDIVIDUAL WORK
60 Horas	90 Horas

SKILLS

Basic Skills

Students must have demonstrated knowledge and understanding in an area of study that is founded on general secondary education. Moreover, the area of study is typically at a level that includes certain aspects implying knowledge at the forefront of its field of study, albeit supported by advanced textbooks

Students must be able to apply their knowledge to their work or vocation in a professional manner and possess skills that can typically be demonstrated by coming up with and sustaining arguments and solving problems within their field of study.

Students must have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgments that include reflections on pertinent social, scientific or ethical issues

Students must be able to convey information, ideas, problems and solutions to both an expert and non-expert audience

Students must have developed the learning skills needed to undertake further study with a high degree of independence

Capacity for analytical, synthetic, reflective, critical, theoretical and practical thought.

Ability to solve problems and to take decisions.

Ability to apply procedures.

Knowledge of research methods and those pertaining to the preparation of construction projects.

An understanding of the problems involved in structural design, construction and engineering associated with building projects.

Ability to design in order to meet the requirements of the building ¿s users while observing the limits imposed by budgetary factors and building regulations.

An adequate knowledge of industries, organizations, regulations and procedures required in order to turn projects into buildings and to integrate blueprints into planning.

General Skills

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Specific skills

Aptitude for the conception, practice and development of construction management. (T)

Knowledge of civil, administrative, urban, building and industry regulations related to professional performance.

Knowledge of feasibility analysis and the supervision and coordination of integrated projects.

Knowledge of real estate valuation.

LEARNING RESULTS

Perform the measurements and the complete budget of a building through a computer program, properly breaking down all the intermediate steps.

Organize the budget of the Execution Project with all the necessary chapters, including the additional chapters determined by the regulations: Safety and Health, Waste Management and Quality Control.

Prepare a budget, draft and calculate unit and decomposed prices of units of work, basic and auxiliary prices.

Know the elements that make up the direct and indirect costs of a work, general expenses and industrial benefit.

Calculate the fees and other expenses necessary to carry out the drafting, processing, management and construction of a building project.

Control the costs of the construction process, deadlines and review work certifications.

Make average estimates of a project budget, estimates by comparison, estimates by cost inductors and typologies.

Detect the factors that cause cost deviations in architectural projects and know how to avoid them.

Conduct studies of the influence of Scope and Performance on the cost of a project.

Learn about real estate valuation systems

LEARNING APPRAISAL SYSTEM

CONTINUOUS EVALUATION

This course is based on continuous evaluation. The student will demonstrate with their work in the classroom, their partial deliveries, their corrected autonomous exercises, and a general attitude towards their learning if they are qualified in the competencies that they are expected to develop in this subject.

Periodically, an exercise will be carried out in relation to the contents of the course. To pass the subject per course, it will be mandatory to submit all the exercises on time. The exercises will be graded from 0 to 10 and general corrections will be made on a regular basis. In addition, the following should be taken into account:

A.1. CRITERIA FOR APPROVING:

The student will pass per course if:

- Attend at least 80% of classes if the student intends to be evaluated on a continuous basis, otherwise he will be eligible for the extraordinary call. In the case of repeat students with obvious time incompatibility, a waiver will be made on this percentage of attendance and an appropriate solution will be sought according to the subjects affected.

A.1.1 WORKS AND DELIVERIES: 90% of the final grade

- Deliver the course exercises on the date and time indicated. If any exercise is missing, it will count as 0 and will average with the rest of the practices. A work is considered delivered when it meets all the basic content and format requirements (paper and digital) indicated in the statement. All exercises will be delivered in the corresponding task of the Virtual Classroom. Suspended practices can be compensated with others that are approved, since the average prevails.
- You get an average score for these works and the knowledge exam of 5 to 10. Papers submitted after the deadline will be graded with a maximum score of 5. The distribution of ratings will be as follows:
- Ratings as a percentage above 100%:

Practice 1. Case study discussed in class (analysis and conclusions); 5%

Practice 2. Case analysis: forecast and reality (research): 5%

Practice 3. Cost management: scope and benefits (research): 5%

Practice 4. Typological analysis (research): 5%

Practice 5. 5.1. Estimation by averages in previous phases and adjustments to the PEM;

5.2.Estimated fees, project phases and other necessary expenses: 10% (5% + 5%)

Practice 6. Whole building measurements and budgets (group of 2): 50%

Theoretical knowledge and comprehension exam: 20%

A.1.2 COURSE FOLLOW-UP: 10% of the final grade.

This follow-up and attitude towards the subject will be measured as follows:

- Active and relevant participation in exhibition classes: 35%
- Positive student evolution throughout the course: 15%
- Timely delivery of coursework in a timely manner: 50%

Plagiarism, as well as the use of illegitimate means in evaluation tests, will be sanctioned in accordance with those established in the Evaluation Regulations and the University's Coexistence Regulations.

A.2. QUALIFICATION CRITERIA AND JOB IMPROVEMENTS

The qualification of the coursework will be subject to evaluation criteria that the student will know in advance in the statements. The corrections of the papers before delivery will respond to the steps that the student must take, which may vary depending on the point where their work is located. These corrections can be made on paper or through appropriate virtual classroom resources.

Any improvement can be made by teaching, correcting and attending other corrections during the course of the practice through classes and tutoring. Any note made in class about one student's work will affect the rest; therefore, it will not be necessary to repeat to each student what should be improved if these improvements are repeatedly exposed in the context of public correction. If a student wishes to recover up to two exercises not submitted on the corresponding date, they will be evaluated as delivered after the deadline and will have the

corresponding penalty in the evaluation of section A.1.2. Likewise, in the case of exercises presented insufficiently and that the student wants to recover during the period of continuous evaluation.
If a student wishes to recover a third exercise, not submitted or insufficient, it will be evaluated as delivered out of date and will score at most 5.0. No more coursework can be improved or submitted after the due date during the continuous evaluation.
EVALUATION IN ORDINARY AND EXTRAORDINARY CALLS
B.1. EVALUATION IN AN ORDINARY CALL
Following the indications of the Report for the Request for Verification of the Degree in Architecture, students who do not pass the course by continuous evaluation may be eligible for the ordinary call. Those students who, having submitted all their papers, do not reach the average grade of five, will have to submit insufficient or pending papers and take a final course exam. To carry out this exam, it will be necessary to submit ALL the practices of the course, which will be evaluated on the same criteria set out in the statements, and whose score will amount to 80%. The remaining 20% of the grade will result from a 2-hour face-to-face exam in which you will be asked about the most relevant procedures of the course.
Plagiarism, as well as the use of illegitimate means in evaluation tests, will be sanctioned in accordance with those established in the Evaluation Regulations and the University's Coexistence Regulations.
B.2. EVALUATION IN AN EXTRAORDINARY CALL
Following the indications of the Report for the Request for Verification of the Degree in Architecture, students who have not passed the course in the previous calls may be eligible for the extraordinary call. To carry out this exam, it will be necessary to submit ALL the practices of the course, which will be evaluated on the same criteria set out in the statements, and whose score will amount to 80%. The remaining 20% of the grade will result from a 2-hour face-to-face exam in which you will be asked about the most relevant procedures of the course.
Plagiarism, as well as the use of illegitimate means in evaluation tests, will be sanctioned in accordance with those established in the Evaluation Regulations and the University's Coexistence Regulations.

ETHICAL AND RESPONSIBLE USE OF ARTIFICIAL INTELLIGENCE

1.- The use of any Artificial Intelligence (AI) system or service shall be determined by the lecturer, and may only be used in the manner and under the conditions indicated by them. In all cases, its use must comply with the following principles:
a) The use of AI systems or services must be accompanied by critical reflection on the part of the student regarding their impact and/or limitations in the development of the assigned task or project.
b) The selection of AI systems or services must be justified, explaining their advantages over other tools or methods of obtaining information. The chosen model and the version of AI used must be described in as much detail as possible.
c) The student must appropriately cite the use of AI systems or services, specifying the parts of the work where they were used and describing the creative process followed. The use of citation formats and usage examples may be consulted on the Library website(https://www.ufv.es/gestion-de-la-informacion_biblioteca/).
d) The results obtained through AI systems or services must always be verified. As the author, the student is responsible for their work and for the legitimacy of the sources used.
2.- In all cases, the use of AI systems or services must always respect the principles of responsible and ethical use upheld by the university, as outlined in the Guide for the Responsible Use of Artificial Intelligence in Studies at UFV. Additionally, the lecturer may request other types of individual commitments from the student when deemed necessary.
3.- Without prejudice to the above, in cases of doubt regarding the ethical and responsible use of any AI system or service, the lecturer may require an oral presentation of any assignment or partial submission. This oral evaluation shall take precedence over any other form of assessment outlined in the Teaching Guide. In this oral defense, the student must demonstrate knowledge of the subject, justify their decisions, and explain the development of their work.

BIBLIOGRAPHY AND OTHER RESOURCES

Basic

Valderrama, Fernando Measurements and Budgets: for Architects and Building Engineers Barcelona: Reverté 2010
(Valderrama, Fernando Measurements and Budgets: for Architects and Building Engineers Barcelona: Reverté 2010 , ||Valderrama, Fernando Measurements and Budgets Barcelona: Reverté 2018)