

Quality and Economics in Building:

Calendar: 1st Year 1st Semester

Contact Hours: 15T +30h00 T/P + 7h30 EL/OT

Syllabus:

QUALITY

Construction Quality: concepts, evolution, principles, and guidelines with the construction SPQ Civil.

ISO standards 9000: Vocabulary. Quality management system. Constructive process flowcharts.

Management Systems Audits: NP EN ISO 19011: 2003.

Quality of Construction Products: certification and approval. Systems of conformity assessment. CE labelling.

LNEC quality mark.

Integrated Management Systems.

ECONOMY

Construction Economics: Concepts, evolution, principles. Demand, supply, market and elasticity. Macroeconomics and Microeconomics. The value of time.

Accounting: Accountability documents. Investment analysis of projects.

Real Estate Market: origin of the value and usefulness of real estate. Market segments, investment location.

Strategy and Investment Decision: general concepts. Comparison of investments. Decision models with uncertainty and risk.

Economic and financial functions in Excel.

Intended learning outcomes of the curricular unit:

Analyze the concepts, evolution, general principles of quality, the SPQ and the state of civil construction sector.

Analyze systems and documentation of quality framework, its context and applicability in the civil construction sector.

Asses the qualification of products, processes or systems of people and organizations.

Analyze, evaluate and plan systematically a civil construction process or system, integrating the principles, standards, methodologies, tools and techniques of quality.

Analyze the concepts, evolution, general principles of economics and the functioning in society and in the civil construction sector.

Analyze economic and financing instruments in organizations.

Assess the economic viability of alternative projects, through the cost-benefit analysis, of the investment period and the behavior of decision-makers in the face of uncertainty and risk.

Applying computer tools in viability studies and financial evaluation.

Demonstration of the syllabus coherence with the curricular unit's intended learning outcomes:

The syllabus allows the student to:

- Develop the cognitive processes and contextual analysis, planning and assessment of quality systems, processes or products in the context of multidisciplinary teams or organizations of civil engineering and construction.

- Understand, implement, analyze and create documentation of the Portuguese System of quality and management systems of organizations and teams of civil construction and engineering sector.

Understand and analyze the economy at the level of society, through the instruments of economic policy.

- Understand and analyze the economy at the level of organizations and teams of development of investment in construction projects.

- Know, systematize and train the methods, techniques and tools for investment analysis and decision support with economic uncertainty and risk, using computer tools to support the elaboration of feasibility studies.

Teaching methodologies (including evaluation):

Theoretical-practical lessons and e-Learning activities.

Evaluation 25% by practical work, 5% by practical work presentation, 65% by exam and 5% by E-Learning activities.

Demonstration of the teaching methodologies coherence with the curricular unit's intended learning outcomes:

Theoretical and Theoretical-practical lessons:

Exposition and interactive lessons with audiovisuals recourse and/or other, which seeks to stimulate critical thinking, the critical spirit of students, the self-knowledge and the ability to communicate.

Application of methodologies and tools in the context of the quality, the analysis of investment projects, the decisions with uncertainty and examining the behavior of decision-makers to risk.

Achievement of practical work that constitute the evaluation of discipline, with the guidance and follow-up of the teacher, stimulating capacities of analyzing, searching, evaluating, selecting information, systematizing, planning, communicating, building solutions, working in teams, organizing temporal, spatial and financially the activities in work context.

E-Learning activities:

Works of implementation of the financial and economic functions of Microsoft Excel, developing the use of informatics tools.

Asynchronous activities, with a view to stimulate the research, analysis, evaluation and comment of themes and concepts in the context of Economy.

Synchronous activities in order to monitor the development and study of the respective subjects.