BACHELOR DEGREE IN SUSTAINABLE BUILDING ENGINEERING

# **PROJECT EVALUATION**

A.Y. 2023-2024 Prof. Rocco Murro

## AIMS AND TEACHING OBJECTIVES

The Course provides the fundamental themes of the project evaluation, setting out the most innovative developments of the discipline. This means the answers that, in recent years, the discipline of the economic evaluation gave to issues posed by cultural and environmental economics, by the principles of sustainable development, by the effects of climatic change, by the complexity of large projects. Specifically, the Course provides the theoretical-methodological tools for: a) the valuation of goods in building, civil and environmental sectors; b) the evaluation of economic feasibility and overall sustainability of projects.

## FRAMEWORK OF THE COURSE AND CONTENTS

The Course is divided into three thematic sessions and deals with the following topics.

## 1. Elements of Economics and Economic Theories of Value

Initially, in the framework of basics of Microeconomics, elements are provided on the theory of supply, demand, market price formation and general economic equilibrium.

Then, the economic theories of value are treated and the main senses of the economic value are exposed: Cost Value, Exchange Value, Use Value.

#### 2. Theories and Methods of Property Appraisal

Preliminarily the role of Property Appraisal is outlined, the postulates are introduced and the appraisal procedures are exposed. Then, the thematic session deals with the valuation criteria of exclusive and inclusive goods: Cost Value, Market Value and Use Value.

For appraisals based on the criteria of Market Value, for which it is possible to have clear and secure market information, real estate valuation procedures commonly used in international practice are proposed: Sales Comparison Approach, Income Capitalization Approach, Cost Approach. For the appraisal of goods without or lacking in explicit market data, the Stated Preference Techniques are exposed.

### 3. Evaluation Methods and Techniques for Projects, Plans and Programs

Evaluation methods and techniques in the activity of designing, planning and programming are exposed, highlighting the related application issues.

Financial (Investment Analysis), economic (Cost-Benefit Analysis) and multi-dimensional (Multi-criteria Analysis) techniques are examined. Then, an overview of principles, techniques, methods and theoretical-applicative tools of the inclusive approaches for the economic evaluation of goods of collective fruition are presented.

## CONDITIONS OF THE COURSE AND METHOD OF EXAMINATION

The Course is structured through lectures and exercises. The student has to take the exam individually through theoretical and applicative tests. The student can get exemptions of the topics of the thematic sessions of the program at the conclusion of each of them.

## **BIBLIOGRAPHY**

Appraisal Institute, "The Appraisal of Real Estate", 15th ed., Appraisal Institute, Chicago, 2020. Bateman I. J. et al., "Economic Valuation with Stated Preference Techniques: A Manual", Edward Elgar, Cheltenham, 2002.

Sloman J., Garratt D., "Essentials of Economics", Pearson Education Ltd, Harlow, 2013.

Lecture Notes of the Course.