

Course guide

240353 - 240E0072 - Management and Cost Control

Last modified: 13/03/2025

Unit in charge: Barcelona School of Industrial Engineering
Teaching unit: 732 - OE - Department of Management.

Degree: MASTER'S DEGREE IN SUPPLY CHAIN, TRANSPORT AND MOBILITY MANAGEMENT (Syllabus 2014).
(Optional subject).
MASTER'S DEGREE IN MANAGEMENT ENGINEERING (Syllabus 2021). (Compulsory subject).

Academic year: 2025 **ECTS Credits:** 5.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Víctor Romera Cruz

Others: Victor Romera Cruz
Joan Llobet Dalmases

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. Apply theories and principles inherent in the financial area in order to analyze complex situations and uncertainty, and make decisions using engineering tools.
2. Develop and implement sustainable and socially responsible solutions.
3. Identify, analyze, diagnose, design and implement solutions in complex socio-technical systems.

TEACHING METHODOLOGY

- Master theory classes (MD2): Explanation in class with the help of slides. The theory explanations are matched with practical cases and examples of a real company exposed by the Professor or required, in an oral way, to the students
- Practices in class (MD5): The practical sessions will foster the work with the knowledge achieved in the theory classes, deepening in the aspects related to the calculation of costs. The students will have to solve cases proposed by the Professor and will have to bring all the necessary material (notes, calculator...). The solution to the case is set in the same class and the most interesting aspects are discussed, in order to obtain a more general view than the particular view of the case exposed
- Autonomous work (individual practices to be delivered) (MD3): So as to guarantee that the acquired knowledge is consolidated individually, as well as favouring a continuous evaluation where cases to be solved will be set and will have to be handed in individually. The resolution process of the cases set as well as their final resolution will be provided by the Professor
- Teamwork (MD4): During the course, the students will design a cost system coursework for a company. Each group, from a company which he/she proposes, applies the different concepts worked in class during the course so as to end up designing a system of costs for activities which allows to calculate, objectively, the cost of their products and services. By the end of the course, the coursework must be exposed to the rest of the class

LEARNING OBJECTIVES OF THE SUBJECT

Understand the most important problems of business management and industrial material costs.

Understand operation, methodology and tools of management control. Learn to make a critical analysis of the traditional cost systems and learn new management approaches and current trends of costing and management control.

Specific objectives:

- 1) Understand the mechanisms and limitations of traditional Full-Cost and Direct-Cost systems.
- 2) Understand the methodological aspects and contributions which has led to the emergence of systems costs based activities in the field of management.
- 3) Know the national and international regulations that establish the criteria and procedures to calculate the cost of products and services in companies.
- 4) Classify costs according to different criteria referred to internal accounting.
- 5) Master the problems of classification, quantification and assignation of resources that make up the cost of products and services.
- 6) Study the necessary concepts to implement cost systems based on industrial and/or productive process in the organizations.
- 7) Analyse the problem of assignation and the need to seek for a baseline, in a transparent way, to identify factors with products.
- 8) Analyse and interpret the internal accounting information reporting and transmitting it to the manager's of the company in order to make decisions.
- 9) Master the techniques, procedures and systems to calculate the logical and reasonable cost of goods and services.
- 10) Control, supervise and organise the internal business activity design and evaluate the existing production processes, human factors, the material resources and capital goods used.
- 11) Design, develop and implement a cost accounting system that allows decision-making situations to plan, organize resources, directing people towards goals and measure the impact on the results.
- 12) Introduce the students to the calculation and analysis of pre-established systems of costs.
- 13) Ability to analyse from a critical point of view that the information has limitations due to the subjectivity inherent in the assignation process and the difficulties that may arise when taking decisions.

STUDY LOAD

Type	Hours	Percentage
Hours large group	22,5	50.00
Hours small group	22,5	50.00

Total learning time: 45 h

CONTENTS

1. THE BUSINESS STRATEGY AND THE MANAGEMENT ACCOUNTING

Description:

The productive activity of the company
Evolution of the cost accounting
The current situations and prospects of the cost accounting

Related activities:

Master classes, practices, questionnaires, pre-project and final exam

Full-or-part-time: 7h

Theory classes: 1h
Practical classes: 2h
Self study : 4h

2. CRITICAL ANALYSIS OF THE TRADITIONAL COST SYSTEMS

Description:

Concept of cost, typology and expense
Classification of costs.
Correspondence of the costs and revenues. The internal result.
Primary and secondary distribution. Treatment of the main sections, auxiliaries and non-operative.
Introduction to the models and structures of costs and results.
The FULL-COST system. Methodology. Limitations of the model.
The DIRECT-COST system. Methodology. The Direct-cost and the decision making. Limitations of the model
Specific problems of the calculation of costs: Concept of rational imputation, joint production, running production

Related activities:

Master classes, practices, questionnaires, pre-project and final exam

Full-or-part-time: 42h

Theory classes: 9h
Practical classes: 8h
Self study : 25h

3. NEW TRENDS IN THE MANAGEMENT ACCOUNTING

Description:

The ABC model of costs. Methodology. innovative aspects in the strategic management. Practical case

Related activities:

Master classes, practices, questionnaires, pre-project and final exam

Full-or-part-time: 31h 30m

Theory classes: 2h 30m
Practical classes: 4h
Self study : 25h

4. METHODOLOGY AND ANALYSIS IN THE BUDGETED COSTS SYSTEMS

Description:

The standard cost-system
The limited budgets
The flexible budgets

Related activities:

Master classes, practices, questionnaires, pre-project and final exam

Full-or-part-time: 16h

Theory classes: 2h
Practical classes: 4h
Self study : 10h

5. THE MANAGEMENT ACCOUNTING

Description:

The distinction between Cost accounting and management accounting.
The delimitation of management accounting under a current approach
From the centre's accounting to the responsibility accounting. Background, centre's accounting, management centre and responsibility centre.
The cost accounting with the management accounting criteria

Related activities:

Master classes, practices, questionnaires, pre-project and final exam

Full-or-part-time: 10h 30m

Theory classes: 2h
Practical classes: 2h 30m
Self study : 6h

6. PRACTICAL CASES

Description:

Explanation of different real cases about the control and management of the costs and how companies must adapt to the changes marked by the environment

Related activities:

Master classes, practices, questionnaires, pre-project and final exam

Full-or-part-time: 6h

Theory classes: 4h
Self study : 2h

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Full-or-part-time: 1h 52m

Practical classes: 0h 20m
Laboratory classes: 0h 20m
Self study : 1h 12m

ACTIVITIES

1. PRACTICE. CLASSIFICATION OF COSTS

Description:

Study of the classification of costs and discussion in class about the limits of this classification

Material:

Book of practices

Delivery:

This practice is carried out in class and it does not have to be handed in

2. PRACTICE. APPLICATION OF THE ORGANIC AND INORGANIC COST MODELS AND BASIC CALCULATIONS OF COSTS

Description:

Application of these two cost models

At the same time, the valuation of the warehouses and types of costs will be introduced

Material:

Book of practices

Delivery:

This practice is carried out in class and does not have to be handed in

3. PRACTICE. COMPARISON OF THE FC AND DC

Description:

Application of the two models in different cases and analysis and comparison of the results obtained

Material:

Book of practices

Delivery:

This practice is carried out in class and does not have to be handed in

4. PRACTICE. APPLICATION OF THE FC AND DC MODELS WITH DIFFERENT ISSUES

Description:

Application of the models and issues as the current production, joint production and others

Material:

Book of practices

Delivery:

This practice is carried out in class and does not have to be handed in

5. PRACTICE. DECISION MAKING

Description:

Application of real cases of how the calculation of costs can help to make strategic decisions in a company

Material:

Book of practices

Delivery:

This practice is carried out in class and does not have to be handed in

6. PRACTICE. APPLICATION OF THE FC AND DC WITH SPECIFIC ISSUES

Description:

Application about a specific issue system of costs as reciprocal performance, subactivities, current production...

Material:

Book of practices

Delivery:

This practice is carried out in class and does not have to be handed in

7. PRACTICE. APPLICATION OF THE ABC SYSTEM

Description:

Application of different real cases of the cost system based on the activities

Material:

Book of practices

Delivery:

This practice is carried out in class and does not have to be handed in

8. PRACTICE. STANDARD COSTS AND BUDGETS

Description:

Application of the management and control accounting of real cases. Calculation of the interpretation of deviations and measures to be taken

Material:

Book of practices

Delivery:

This practice is carried out in class and does not have to be handed in

9. MASTER CLASSES. PRESENTATION AND INTRODUCTION

Description:

Explanation of the organization of the course and introduction to the units.
Differences between FC and DC. Examples and solution to easy cases.

Material:

Slides of the course

10. MASTER CLASSES. TYPES OF COSTS, ORGANIC AND INORGANIC MODELS

Description:

Description: Classification of costs, correspondence of costs with revenues. The internal result. Primary and secondary distribution. Treatment of main, auxiliar and non-operating sections. Introduction to models and structures of costs and results

Material:

Slides of the course

11. MASTER CLASSES. FULL COST AND DIRECT COST MODELS

Description:

The FULL-COST system. Methodology. Limitations of the model

The DIRECT-COST system. Methodology. The Direct cost and decision making. Limitations of the model

Specific problems of the cost calculation: concept of rational imputation, joint production, current production...

Material:

Slides of the course

12. MASTER CLASSES. ABC MODELS

Description:

Description: The ABC model of costs. Methodology. Innovative aspects in the strategic management. Practical calculation case

Material:

Slides of the course

13. MASTER CLASSES. STANDARD COSTS AND LIMITED AND FLEXIBLE BUDGETS

Description:

Description: Analysis of the standard cost systems, limited and flexible budgets. Explanation and discussion about the calculation and interpretations of the deviations of this model

Material:

Slides of the course

14. MASTER CLASSES. EXPLANATION OF THE PRACTICAL CASES

Description:

Explanation of the real cases of companies and adaptation to the business model of these companies using the control and management cost systems explained in this course

Material:

Slides of the course and different articles



15 . QUESTIONNAIRE 1. ON-LINE QUESTIONNAIRE VIA ATENEA.

Description:

Test questions about a specific case which the student will have to solve individually. At the same time questions will be done about the theory explained until the moment and of all the practices done in the course

Material:

Slides and practices carried out in class

Delivery:

By Atenea the day and hour set

17. PRE-PROJECT

Description:

Put into practice the acquired knowledge in the methodology and implementation of the cost systems, by the elaboration and improvement of a cost calculation system about the basis of a real company and value qualitatively the differences between the different cost models of a real company

Material:

Slides and practices carried out in class

Delivery:

Regarding to the planning of the course

18. PRESENTATION OF THE PRE-PROJECT

Description:

Exposition of the coursework carried out, simulating the exposition to the manager's of the company of the system elaborated by the student

Material:

Slides, practices carried out in class and pre-project carried out by the student

19. FINAL EXAM

Description:

Solution of a similar practical case of the practices carried out in class and a part of theory test type with essay questions about a certain topic

Material:

Calculator

Delivery:

Day set by the Department of Studies

Full-or-part-time: 112h 36m

Practical classes: 20h 18m

Laboratory classes: 20h 18m

Self study: 72h

GRADING SYSTEM

WATCH CATALAN VERSION FOR QUARTER 2 OF THE 2019-2020 COURSE

- Participation in the practices: 10%
- Individual Practice: 25%
- Pre-project: 30%
- Final Exam: 35%

The qualification of the reassessment exam will replace the mark of the written examination

Students who have made the final examination and have not passed the subject, they can make the reassessment exam

EXAMINATION RULES.

They will be communicated at the beginning of each semester

BIBLIOGRAPHY

Basic:

- Martín Peña, Francisco ; Ros Riera, Juan. Costes: contabilidad y gestión. Madrid: Centro de Estudios Financieros, cop. 2003. ISBN 8445411691.
- Sáez Torrecilla, Ángel ; Fernández, Fernández, Antonio ; Gutiérrez Díaz, Gerardo. Contabilidad de costes y contabilidad de gestión [on line]. 2a ed. amp. Madrid: McGraw-Hill/Interamericana de España, cop. 2009 [Consultation: 31/01/2025]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=7058. ISBN 9788448170943.
- Martín Peña, Francisco ; Rocafort Nicolau, Alfred. Comptabilitat de costos. Barcelona: Universitat oberta de Catalunya, UOC, 2010. ISBN 9788469285435.
- Martín Peña, Francisco ; Rocafort Nicolau, Alfred. Comptabilitat de costos II. 4a ed. Barcelona: Universitat Oberta de Catalunya, UOC, 2007.
- Llobet Dalmases, J. [Joan] i Romera Cruz, V. [Víctor].. Manual de comptabilitat de costos (1a. ed.) [. 2023. Fundació Universitat Oberta de Catalunya (FUOC)., 2023.

Complementary:

- Castello Taliani, Emma ; Jesús Lizcano Álvarez. El sistema de gestión y de costes basado en las actividades. Madrid: Instituto de Estudios Económicos, 1994. ISBN 8488533101.
- Kaplan, Robert S. ; Cooper, R. Coste y efecto : cómo usar el ABC, AMB y el ABB para mejorar la gestión, los procesos y la rentabilidad. Barcelona: Gestión 2000, 1999. ISBN 8480882786.
- Mallo, Carlos ... [et al.]. Contabilidad de costos y estrategia de gestión. Madrid: Prentice Hall, cop. 2000. ISBN 8483221551.
- Álvarez-Dardet Espejo, Concepción ; Gutiérrez Hidalgo, Fernando. Contabilidad de gestion : profundizacion en el cálculo del coste y proceso de planificación y control. Madrid: Ediciones Pirámide, cop. 2010. ISBN 9788436823554.
- Bragg, Steven M. Cost accounting fundamentals. 7th ed. Centennial, CO: Accounting tools, 2022. ISBN 9781642210842.
- Horngren, Charles T. [et al.]. Contabilidad de costos : un enfoque gerencial [on line]. 14a. ed. México: Pearson, 2012 [Consultation: 04/02/2025]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=4954. ISBN 6073210264.