

Course guide

2400210 - 240MEI63 - Cost Analysis and Control

Last modified: 05/07/2025

Unit in charge:	Barcelona School of Industrial Engineering		
Teaching unit:	Degree:	MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2025). (Optional subject).	
Academic year: 2025	ECTS Credits: 5.0	Languages: Catalan	

LECTURER

Coordinating lecturer:

Others:

PRIOR SKILLS

Basic accounting knowledge

TEACHING METHODOLOGY

· Theoretical Lectures (MD2):

Classroom explanation supported by slides. The theoretical explanations are contrasted with practical cases and real-life business examples presented by the instructor or discussed orally with the students.

· In-Class Practice Sessions (MD5):

In the practice sessions, students will work on the knowledge acquired in the theoretical classes, with a focus on cost calculation. Students must solve the cases proposed by the instructor and bring all necessary materials (notes, calculator, etc.). The case solutions will be addressed in class, and the most relevant aspects will be discussed to obtain a broader perspective beyond the specifics of each case.

· Independent Work (Individual Assignments) (MD3):

To ensure the individual consolidation of acquired knowledge and to support continuous assessment, students will be assigned individual cases to solve and submit. The case resolution structure and final solutions will be provided by the instructor.

· Group Project (MD4):

Throughout the course, students will develop a cost system design project for a company. Each group selects a company of their choice and applies the different concepts studied during the course to design an activity-based costing system that objectively calculates the cost of its products or services. At the end of the course, the project will be presented to the rest of the class, who will evaluate it critically.

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 costing and management control.

Specific objectives:

One. Understanding the mechanisms and limitations of spreadsheet traditional full-cost systems and Direct-Cost Cost.

Two. Understanding and methodological contributions in the field of management has led to the emergence of systems costs based activities.

Three. Know the national and international regulations that establish the criteria and procedures for calculating the cost of products and services companies.

4. Classify costs according to different criteria referred to internal accounting.

5. Mastering the problems of classification, quantification and allocation of resources that make up the cost of products and services.

6. Study the concepts necessary to implement cost systems based on industrial process and / or production organizations.

7. Analyze the problem of allocation and the need to seek baseline, which is the most objective, to identify factors with products.

8. Analyze and interpret accounting information internal reporting and transmitting it to the company management for decision making.

9. Mastering the techniques, procedures and systems to calculate the logical and reasonable cost of goods and services.

10. Controlling, supervising and organizing internal business designing and evaluating existing production processes, human factors, material resources and capital goods used.

11. Designing, developing and implementing 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 students to the calculation and analysis of systems costs preset.

13. Ability to analyze from a critical point of view that the information has limitations due to the subjectivity inherent in the allocation process and the difficulties that can arise when making decisions.

CONTENTS

1. BUSINESS STRATEGY AND MANAGEMENT ACCOUNTINGh

Description:

The company's productive activity.

Evolution of Cost Accounting.

The current situation and future outlook of Cost Accounting.

Related activities:

Master classes, practical sessions, quizzes, pre-projects, and final exams.

Full-or-part-time: 7h

Theory classes: 1h

Practical classes: 2h

Self study : 4h

2. CRITICAL ANALYSIS OF TRADITIONAL COST SYSTEMS

Description:

Concept of cost, types and expenses.

Cost classification.

Matching costs with revenues. Internal result.

Primary and secondary allocation. Treatment of main, auxiliary, and non-operating sections.

Introduction to cost and result models and structures.

The FULL-COST system. Methodology. Model limitations.

The DIRECT-COST system. Methodology. Direct Cost and decision-making. Model limitations.

Specific problems in cost calculation: concept of rational allocation, joint production, work in progress, etc.

Related activities:

Master classes, practical sessions, quizzes, pre-projects, and final exams.

Full-or-part-time: 42h

Theory classes: 9h

Practical classes: 8h

Self study : 25h

3. NEW TRENDS IN MANAGEMENT COMPATIBILITY

Description:

The ABC cost model. Methodology. Innovative aspects in strategic management. Case study

Related activities:

Master classes, practical sessions, quizzes, pre-projects, and final exams.

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

Theory classes: 2h 30m

Practical classes: 4h

Self study : 25h

4. METHODOLOGY AND ANALYSIS OF BUDGET COST SYSTEMS

Description:

Standard cost systems

Hard budgets

Flexible budgets

Related activities:

Master classes, practical sessions, quizzes, pre-projects, and final exams.

Full-or-part-time: 16h

Theory classes: 2h

Practical classes: 4h

Self study : 10h

5. MANAGEMENT COMPATIBILITY

Description:

The distinction between Cost Accounting and Management Accounting.

The definition of Management Accounting under a current approach.

From the accounting center to the responsibility center. Background, accounting center, management center, and responsibility center.

Cost accounting using management accounting criteria.

Related activities:

Master classes, practical sessions, quizzes, pre-projects, and final exams.

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

Theory classes: 2h

Practical classes: 2h 30m

Self study : 6h

6. PRACTICAL CASES

Description:

Explanation of several real-life cases on cost control and management and how companies have adapted to the changes brought about by the environment. Classes magistrals, pràctiques, qüestionari, preprojecte i examen final

Related activities:

Master classes, practicals, questionnaire, pre-project and final exam

Full-or-part-time: 6h

Theory classes: 4h

Practical classes: 2h

ACTIVITIES

1. PRACTICE. COST CLASSIFICATION

Description:

Study of cost classification and class discussion on the limits of this classification.

Material:

Practice book

Delivery:

It is done in class and does not need to be submitted.

Full-or-part-time: 1h

Practical classes: 1h

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

Description:

Application of these two cost models.

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

Material:

Practice book

Delivery:

It is done in class and does not need to be submitted.

Full-or-part-time: 2h 30m

Practical classes: 2h 30m

3. PRACTICE. COMPARISON OF THE FC AND DC MODEL.

Description:

Aplicació dels dos models a diferents casos i anàlisi i comparació dels resultats obtinguts.

Material:

Practice book

Delivery:

It is done in class and does not need to be submitted.

Full-or-part-time: 2h 30m

Practical classes: 2h 30m

4. PRACTICE. APPLICATION OF THE FC AND DC MODELS TO VARIOUS PROBLEMS.

Description:

Application of models with problems such as ongoing production, joint production and others.

Material:

Practice book

Delivery:

It is done in class and does not need to be submitted.

Full-or-part-time: 2h 30m

Practical classes: 2h 30m

5. PRACTICE. DECISION MAKING

Description:

Application on real cases of how the problem of cost calculation can help make strategic decisions within the company.

Material:

Practice book

Delivery:

It is done in class and does not need to be submitted.

Full-or-part-time: 2h 30m

Practical classes: 2h 30m

6. PRACTICE: APPLICATION OF FC AND DC WITH PARTICULAR PROBLEMS.

Description:

Application on a system of particular problematic costs such as reciprocal benefits, subactivity, work in progress etc.

Material:

Practice book

Delivery:

It is done in class and does not need to be submitted.

Full-or-part-time: 2h 30m

Practical classes: 2h 30m

7. PRACTICAL APPLICATION OF THE ABC SYSTEM

Description:

Application of the activity-based costing system to several real cases.

Material:

Practice book

Delivery:

It is done in class and does not need to be submitted.

Full-or-part-time: 2h 30m

Practical classes: 2h 30m

8. PRACTICE STANDARD COSTS AND BUDGETS

Description:

Applications of management accounting and control on real cases. Calculation and interpretation of deviations and measures to be taken.

Material:

Practice book

Delivery:

It is done in class and does not need to be submitted.

Full-or-part-time: 2h 30m

Practical classes: 2h 30m

9. MASTER CLASSES. PRESENTATION AND INTRODUCTION

Description:

Explanation of the organization of the subject and introduction to the syllabus. Differences between CF and CA. Exemplarization and solution of simple cases.

Material:

Course slides

Full-or-part-time: 3h 30m

Theory classes: 3h 30m

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

Description:

Description: Classification of costs, Correspondence of costs with income. The internal result. Primary and secondary distribution. Treatment of the main, auxiliary and non-operating sections. Introduction to the models and structures of costs and results.

Material:

Course slides

Full-or-part-time: 8h

Theory classes: 8h

11. MASTER CLASSES. FULL-COST AND DIRECT-COST MODELS

Description:

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

Specific problems of cost calculation: Concept of rational imputation, joint production, work in progress etc.

Material:

Course slides

Full-or-part-time: 12h 30m

Theory classes: 12h 30m

12. MASTER CLASSES. ABC MODEL

Description:

Description: The ABC cost model. Methodology. Innovative aspects in strategic management. Practical calculation case.

Material:

Course slides

Full-or-part-time: 8h

Self study: 5h

Theory classes: 1h 30m

Practical classes: 1h 30m

13. MASTER CLASSES. STANDARD COSTS AND RIGID AND FLEXIBLE PRESSPOSTS.

Description:

Description: Analysis of standard cost systems, rigid budgets and flexible budgets. Explanation and discussion of the calculation and interpretations of deviations from these models.

Material:

Course slides

Full-or-part-time: 5h

Self study: 2h 30m

Theory classes: 1h

Practical classes: 1h 30m

14. MASTER CLASSES. EXPLANATION OF PRACTICAL CASES

Description:

Explanation of real cases of companies and adaptation of their business model with the use of cost control and management systems explained in the subject

Material:

Transparencies of the subject and various articles.

Full-or-part-time: 2h 30m

Theory classes: 2h 30m

15. QUESTIONNAIRE 1. ONLINE QUESTIONNAIRE VIA ATENEA.

Description:

Preguntas tipo test sobre un caso específico que deberá resolver el alumno de forma individual. Asimismo se harán preguntas sobre la teoría explicada hasta el momento y de todas las prácticas realizadas en la asignatura.

Material:

Transparencias y prácticas realizadas en clase.

Delivery:

Via Atena on the agreed day and time.

Full-or-part-time: 4h

Guided activities: 4h

16. QUESTIONNAIRE 2. ONLINE QUESTIONNAIRE VIA ATENEA

Description:

Test-type questions about a specific case that the student will have to solve individually. At the same time, questions will be asked about the theory explained so far and all the practices done in the subject.

Material:

Transparencies and practices done in class.

Delivery:

Via Atena on the agreed day and time

Full-or-part-time: 4h

Guided activities: 4h



18. PRE-PROJECT PRESENTATION.

Description:

Exhibition of the work carried out, simulating the presentation to the General Management of the company of the system developed by the student

Material:

Exhibition of the work carried out, simulating the presentation to the General Management of the company of the system developed by the student

Delivery:

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

Full-or-part-time: 8h

Self study: 6h 30m

Theory classes: 1h 30m

19. FINAL EXAM

Description:

Solution of a practical case similar to the practices done in class and a test-type theory part with development questions on a specific topic.

Material:

Calculator

Delivery:

Day marked by Study Arrangement

Full-or-part-time: 2h

Theory classes: 2h

GRADING SYSTEM

- Involment 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 course

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 . 2a ed. ampl. Madrid [etc.] : McGraw-Hill/Interamericana de España, cop. 2009. ISBN 9788448170943.
- Martín Peña, Francisco; Rocafort Nicolau, Alfredo. Comptabilitat de costos . Barcelona : UOC Universitat Oberta de Catalunya, 2010. ISBN 9788469285435.
- Llobet Dalmases, J. [Joan] i Romera Cruz, V. [Víctor].. Manual de comptabilitat de costos (1a. ed.). 2023. Fundació Universitat Oberta de Catalunya (FUOC)., 2023.
- Martín Peña, Francisco ; Rocafort Nicolau, Alfred. Comptabilitat de costos II. 4a ed. Barcelona: Universitat Oberta de Catalunya, UOC, 2007.

Complementary:

- Kaplan, Robert S; Cooper, Robin. 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 Rodríguez, Carlos. Contabilidad de costos y estratégica de gestión . Madrid [etc.] : Prentice Hall, cop. 2000. ISBN 8483221551.
- Álvarez-Dardet Espejo, Concepción; Gutiérrez Hidalgo, Fernando. Contabilidad de gestión : profundización en el cálculo del coste y proceso de planificación y control . Madrid : Pirámide, cop. 2010. ISBN 9788436823554.
- Bragg, Steven M. Cost accounting fundamentals : essential concepts and examples. 7th edition. Centennial, CO: Accounting tools, [2022]. ISBN 9781642210842.
- Horngren, Charles T. [et al.]. Contabilidad de costos : un enfoque gerencial. 14a. ed. México: Pearson, 2012. ISBN 6073210264.