

Máster online 100%

Master in Economic Engineering + 60 ECTS Credits

Structuralia

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Master in Economic Engineering + 60 ECTS Credits

Modality
Online

Languages
Español

Duration
1500 hours (60 ECTS)

No Limit
AI Assistant

Does it include practices?
NO

Educational Institutions

Structuralia Engineering eLearning

Universidad Nebrija

Summary

The Master in Economic Engineering is a high-level specialization for professionals who seek to update and deepen the systematic evaluation of engineering projects, integrating cost and benefit analysis. This program equips you with advanced methodologies to quantify returns and disbursements, allowing you to determine the economic viability and justification of each investment. This discipline provides you with a robust framework for making strategic decisions, fusing microeconomic principles with cash flow techniques, risk and uncertainty analysis. You will develop a critical capacity to project engineering knowledge with fundamental economic elements, applying sophisticated tools in personal investments and large-scale industrial ventures. This approach will allow you to improve business competitiveness, achieving effective management of financial and business risks in global environments. You will acquire the necessary vision to transform the direction and decisions on investments and operations, ensuring sustainability and growth. You will delve into the fundamentals of economics applied to engineering, from macroeconomics to microeconomic analysis, and explore finance applied to engineering, including tools, instruments and the financial function, as well as the valuation of financial instruments. This knowledge will allow

you to address the complexity of investment projects with a comprehensive and strategic perspective.

Agenda

MODULE 1. FUNDAMENTALS OF ECONOMIC ENGINEERING

1. DIDACTIC UNIT 1. FUNDAMENTALS OF ECONOMIC ENGINEERING

1. From economic theory to Economic Engineering
2. Factors of production and economic sectors
3. The circular flow of the economy
4. The colors of the economy
5. Other current economic approaches

2. DIDACTIC UNIT 2. FROM MACROECONOMICS TO ECONOMIC ENGINEERING

1. From macroeconomics to Economic Engineering
2. The employment
3. inflation
4. What is the exchange rate?
5. The trade balance

3. DIDACTIC UNIT 3. FROM MICROECONOMIC ANALYSIS TO ECONOMIC ENGINEERING

1. Microeconomic analysis
2. The monopoly and oligopoly market
3. Definition of offer
4. The demand
5. Market equilibrium

4. DIDACTIC UNIT 4. ECONOMIC ENGINEERING AND INVESTMENT PROJECTS

1. Theoretical foundations of Economic Engineering
2. Principles of Economic Engineering
3. Basic elements of an Economic Engineering study
4. Cost of money
5. Economic Engineering and investment projects

MODULE 2. FINANCE FOR ENGINEERS

1. DIDACTIC UNIT 1. FINANCE AND ENGINEERING

1. Finance and engineering
2. Maximizing value in companies
3. Behavioral finance and its relationship with engineering
4. Structure of financial markets and planning in engineering
5. Decision making from a financial perspective

2. DIDACTIC UNIT 2. TOOLS, INSTRUMENTS AND FINANCIAL FUNCTION

1. Financial tools for engineers
2. Financing instruments

3. Financing instruments according to the term
4. Medium and long-term financing instruments
5. The financial function

3. DIDACTIC UNIT 3. ACCOUNTING FUNDAMENTALS FOR ENGINEERING

1. Cash Flow Cycle and Cash Budget
2. Procedure for preparing the cash budget
3. Pro forma financial statements
4. Pro forma balance sheet
5. Pro forma income statement

4. DIDACTIC UNIT 4. VALUATION OF FINANCIAL INSTRUMENTS

1. Risk, return and valuation
2. Tools to measure risk
3. Portfolio risk
4. Bond and Stock Valuation
5. Stock Valuation

MODULE 3. FINANCIAL MATHEMATICS

1. DIDACTIC UNIT 1. FINANCIAL MATHEMATICS

1. Origin and definition of financial mathematics
2. Importance and elements of financial mathematics
3. Time value of money
4. Focal time and date diagram
5. Applications and considerations of financial mathematics

2. DIDACTIC UNIT 2. SIMPLE FINANCIAL OPERATIONS

1. Definition and characteristics of simple capitalization financial operations
2. Elements and formulas of simple capitalization financial operations
3. Definition and characteristics of simple discount financial operations
4. Elements and formulas of simple discount financial operations
5. Additional Considerations of Simple Financial Operations

3. DIDACTIC UNIT 3. COMPOSITE OR COMPLEX FINANCIAL OPERATIONS

1. Definition and characteristics of compound capitalization financial operations
2. Elements and formulas of compound capitalization financial operations
3. Compound Interest Rates
4. Value equations. Focal time and date diagram
5. Additional Considerations of Simple Financial Operations

4. DIDACTIC UNIT 4. ANNUITIES AND AMORTIZATION

1. Definition, characteristics and classification of annuities
2. Types, elements and nomenclature of annuities
3. Annuity formulas
4. Amortization and amortization system
5. Sinking funds

MODULE 4. ECONOMIC PROJECTIONS IN ENGINEERING PROJECTS

MODULE 5. INVESTMENT MANAGEMENT

1. DIDACTIC UNIT 1. THEORETICAL FOUNDATIONS

1. Theoretical foundations of Financial Engineering
2. Factors that should be taken into account in an investment
3. Investment stages
4. Relationship between profitability, risk and liquidity
5. The scope of action of Financial Engineering

2. DIDACTIC UNIT 2. FINANCIAL INSTRUMENTS IN DEBT MARKETS

1. Debt structuring
2. Classification and types of debt financial instruments
3. Commercial papers and other fixed income instruments
4. Capital opening
5. Types of financial analysis for decision making in debt markets

3. DIDACTIC UNIT 3. STOCK EXCHANGE

1. Financial Engineering and stock markets
2. Entities supporting operations in stock exchanges
3. The New York Stock Exchange (NYSE)
4. National Association of Securities Dealers Automated Quotation (NASDAQ)
5. Final thoughts on the role of the stock market in the global economy

4. DIDACTIC UNIT 4. OTHER FINANCIAL MARKETS AND THEIR RELATIONSHIP WITH FINANCIAL ENGINEERING

1. Commodity markets and their application with Financial Engineering
2. Derivative instruments
3. Financial Engineering and investment portfolios
4. Cryptoasset markets
5. The Forex market and other financial markets

MODULE 6. BUDGET FORMULATION IN ENGINEERING PROJECTS

MODULE 7. FINANCIAL PLANNING IN ENGINEERING PROJECTS

1. DIDACTIC UNIT 1. MANAGEMENT OF ENGINEERING PROJECTS AND THEIR FINANCIAL PLANNING.

1. Project
2. Project management
3. Project Scope
4. Planning project activities
5. Project time and cost planning

2. DIDACTIC UNIT 2. FINANCIAL ORGANIZATION IN PROJECT MANAGEMENT.

1. Project team
2. Job profile in project management
3. Disaggregated project structure
4. Engineering Project Network
5. Tools to develop the project network

3. DIDACTIC UNIT 3. MANAGEMENT OF ENGINEERING PROJECTS.

1. Project Manager
2. Duties of a project manager
3. Leadership
4. Decision making
5. Risk management

4. DIDACTIC UNIT 4. PHYSICAL AND FINANCIAL MONITORING AND CONTROL

1. Project monitoring and control
2. Indicators in project management
3. Project progress reports
4. Project progress meetings
5. Project closure

MODULE 8. TOOLS FOR THE FINANCIAL AND ECONOMIC EVALUATION OF PROJECTS

MODULE 9. ASSESSMENT AND MODELING OF RISKS IN PROJECTS

MODULE 10. TFM. MASTER IN ECONOMIC ENGINEERING

Qualification

University Degree in Master of Lifelong Training in Economic Engineering issued by the Antonio de Nebrija University with 60 ECTS University Credits. Teachings not leading to obtaining an official qualification

Objectives

- • You will evaluate and design strategic economic• financial solutions to challenges in global investment portfolios. • You will direct the execution of viable economic• financial processes and solutions, considering the risk in various entities. • You will value financial and real assets in multiple risk scenarios, aligning yourself with market expectations. • You will design investment strategies that integrate cash flow analysis and uncertainty management. • You will implement advanced methodologies for quantifying benefits and costs in engineering projects. • You will manage financial and business risk in international contexts, optimizing business competitiveness. • You will make strategic decisions based on the economic viability of projects, ensuring their long-term sustainability. • You will integrate the microeconomic vision with engineering principles for a global perspective in making investment decisions.

What does it prepare you for?

This program equips you with the skills to lead the economic evaluation of engineering projects, integrating cost and benefit analysis with a global strategic vision. The Master in Economic Engineering specializes project managers and financial analysts in the economic evaluation of projects to ensure the viability and competitiveness of investments. You will develop the ability to minimize uncertainty, obtaining financial projections adapted to the real environment of any investment. You will apply advanced cash flow and risk analysis techniques, essential for decision making in complex contexts. You will master the valuation of financial and real assets, and you will manage investment portfolios with an ethical and social responsibility approach. Thus, you will optimize business competitiveness, ensuring the viability and success of your projects. You will acquire a perspective that transforms the way you direct and decide, providing an additional strategic mechanism for managing investments and operations.

Who is it addressed to?

Aimed at professionals in the Engineering, Finance, Project Management, Banking, Environmental Consulting and Industrial Production sectors. This program is ideal for project managers, financial analysts, administration and finance managers, or economic consultants looking for advanced tools for systematic project evaluation and strategic decision making. It is also perfect for financial planners in investment banking, industrial designers or plant managers who want to delve deeper into risk management and asset valuation, optimizing business competitiveness. If you are looking to update and specialize your knowledge to face the challenges of investment and operation in global environments, to enhance your professional career, this training offers you the necessary methodologies.

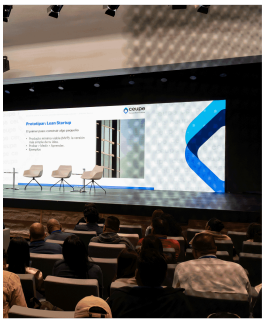
Official Character

This training is not included within the scope of official regulated training (Early Childhood Education, Primary Education, Secondary Education, Official Vocational Training FP, Baccalaureate, University Degree, Master University Officer and Doctorate). It is therefore a complementary and/or specialization training, aimed at the acquisition of certain competencies, skills or aptitudes of a professional nature, which can be assessed as merit in job boards and/or competitive examinations, always within the section of Complementary Training and/or Continuous Training. It is always essential to review the specific grading requirements of the specific public job boards to which we wish to apply.

Professional Outings

- The specialization in Economic Engineering qualifies you for senior management and strategic consulting roles, transforming decision-making in your organization. It qualifies you for roles as Investment Project Director, leading the evaluation and execution of complex initiatives, or as Senior Financial Analyst, applying advanced models for asset valuation and portfolio management in financial entities. Specializes you for the position of Risk Management Manager, designing strategies to mitigate uncertainty in financial and operational environments. As an Economic and Environmental Impact Consultant, you will advise on the viability and sustainability of large projects. In addition, it allows you to assume the role of Financial Planner in investment banking, structuring operations and optimizing business competitiveness, or as Head of Industrial Production, integrating the economic vision in the optimization of processes. Likewise, you will be able to direct your career towards specialized research and teaching in the field of economic engineering.







Live Madrid

Live the International Week

As an additional complement to your training, you can be part of the SIM: Week International in Madrid. A unique meeting that brings together students from all over the world. For seven days you can live an academic and cultural experience in the heart of Europe, culminating with the graduation ceremony in Madrid.

- Conferences and workshops with international experts
- Visits to companies and reference organizations
- Networking with students from different countries
- Cultural activities and discovery of Madrid
- graduation ceremony

Structural

Structuralia is a leading educational institution in postgraduate and highly specialized online training, focused on the fields of engineering, architecture, construction, energy, technology and digital transformation.

Founded in 2001 with a strong industrial DNA, the result of collaboration between large companies in the sector and the Universitat Politècnica de Catalunya (UPC), for more than 25 years we have accompanied technical professionals in their academic and professional development through practical, flexible training aligned with the reality of the labor market.

Our training proposal connects advanced technical knowledge, real employability and international projection, acting as key support in the professional evolution of those seeking to specialize, grow professionally and generate impact in their sector, with a firm commitment to the democratization of access to technical excellence.



+350.000

Students have gone through our virtual classrooms



+20 years

Experience in the training sector



5 stars

QS ranking in online education

EDUCA EDTECH
Group

Educa Edtech GROUP

When you enroll in a course or master's degree, you will get a free subscription to MyLXP while your training lasts. You will have access to more than 400 key courses (soft skills, languages, digital skills, etc.) and other surprises. Sign up and see how MyLXP improves your learning.

EDUCA LXP Methodology

The comprehensive tailored online education experience

EDUCA LXP is more than a methodology, it is a completely educational experience personalized thanks to all the possibilities offered by artificial intelligence. Now the content adapts to you, your needs and preferences, while offering you access to updated and practical content that really makes a difference in the labor market.

Flexibility

100% online learning adapted to your schedule: study from any device wherever, whenever and however you want.

Personalization

Contents and training itineraries adapted to your needs, thanks to AI.

Innovation

Constantly evolving technological developments driven by AI through the Learning Experience Platform.

Artificial intelligence

Discover PHIA, your learning assistant that will help you every step of the way.

Teaching support

Human empathy and academic guidance from a specialized teaching team.

Educational Experience

Didactic approach oriented to work by competencies, which favors practical and meaningful learning.

MY LXP

When you enroll in a course or master's degree, you will get a free subscription to MyLXP while your training lasts

You will have access to more than 400 key courses (soft skills, languages, competencies digital, etc.) and other surprises. Sign up and see how MyLXP improves your learning.

Meet PHIA, your personalized learning assistant

Use all the possibilities of artificial intelligence to get the most out of it match to your training

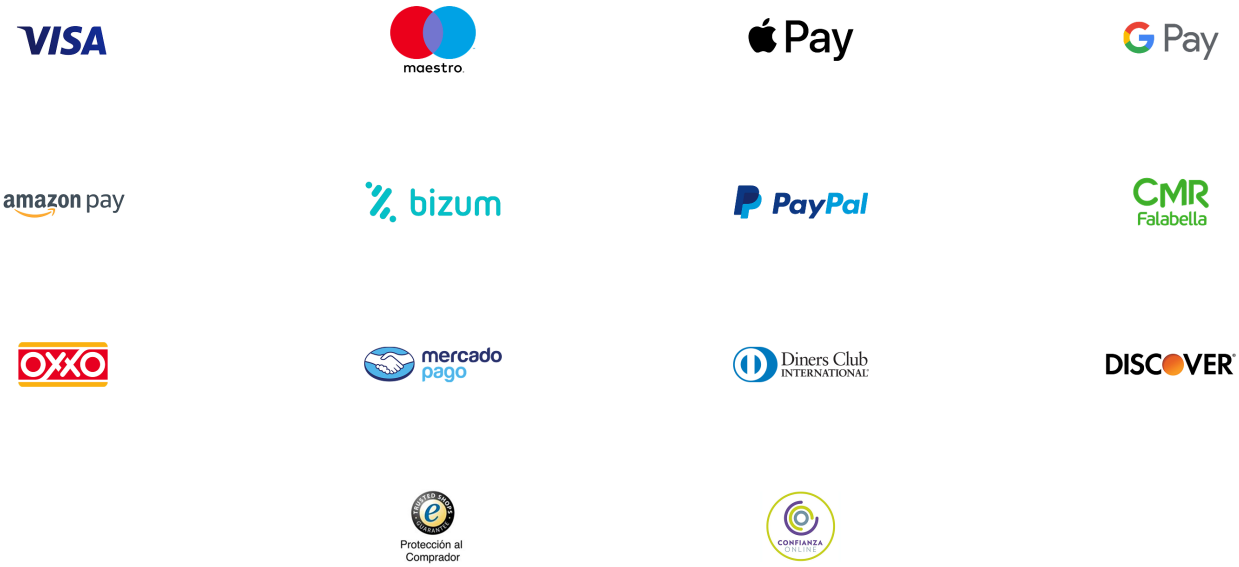
EDUCA EDTECH Group leads the digital revolution in education, promoting the continuous learning and technological transformation. The group is made up of recognized training institutions and its mission is to democratize access to education, promote the transfer of knowledge, technological development and research.

With the experience accumulated over more than 20 years, we have perfected our learning platform EDUCA LXP (Learning Experience Platform), the basis of our educational methodology, which provides students with online training practical and meaningful.



Discover all the payment facilities

We adapt to all international payment methods.



Funding and scholarships

Finance your course or master's degree and enjoy the available scholarships. Contact our expert team to know which one best suits your profile.

25%
Alumni Scholarship

15%
Scholarship recommended

20%
Functional Diversity Scholarship

20%
Unemployment scholarship

15%
GROUP Scholarship

20%
Scholarship for Professionals, Healthcare, members

15%
Entrepreneurship Scholarship

20%
Large Family Scholarship