Postgrados espol®


MASTER OF SCIENCE

# IN INDUSTRIAL SYSTEMS ENGINEERING

RPC-SO-03-No. 099-2021

# Choose **ESPOL**

**INSTITUTIONAL PRESTIGE**

**INTERNATIONAL PARTNERSHIPS AND ALLIANCES**

**EXCLUSIVE CAMPUS LOCATION**

**MODERN INFRASTRUCTURE**

**ENGAGEMENT WITH SOCIETY**

**EMPLOYABILITY**

**6,897**

**GRADUATES**

**126**

**INTERNATIONAL ALLIANCES**

## Institutional **Awards:**

RANKINGS SCIMAGO INSTITUTIONS

QS UNIVERSITY RANKINGS LATIN AMERICA

THE WORLD UNIVERSITY RANKINGS

SUSTAINABLE DEVELOPMENT GOALS

# About the **program**

The **Science Master's Degree in Industrial Systems Engineering** aims to train professionals with knowledge and skills that favor the analysis and design of technological tools applied to the proper management of automatic systems managed by people.

It seeks to promote the efficient use of financial, technical, and administrative resources, focusing on optimizing and continuously improving production and service processes. Likewise, it focuses on the effective management of information for decision-making and participation in the development required by the social and economic needs of the country.

**94%**
*employability rate in our programs.*

**69%**
*of our graduates work in recognized companies.*

**88%**
*of graduates consider the content of our programs relevant.*

***FIMCP - Graduate Follow-up Survey.***

## Meet you **Coordinator**

*With a focus on applied research, data analytics, and emerging technologies, professionals develop skills to create innovative, efficient, and sustainable solutions.*

*This program promotes the intelligent use of financial, technical, and administrative resources, strengthening strategic decision-making and business competitiveness.*

*It contributes to the industrial and economic development of the country, training leaders who integrate automation, management of complex systems, and continuous improvement to respond to future challenges.*

**Kleber Barcia, Ph.D.**
**Contact:** kbarcia@espol.edu.ec

# ¿Why are we your **best option?**

1. In our program, the student will learn to manage and incorporate methodology on research applied to process innovation from data analysis and administration to implementing and controlling industrial systems.

2. You are trained as a highly versatile professional capable of developing and managing projects in various areas, such as the industry's supply chain, procurement, storage, production, service, and machine learning applications.

3. Strong focus on applied science research.

## Licenses and **study platforms:**

Office 365 LinkedIn Learning

CANVAS BY INSTRUCTURE

espol Centro de Información Bibliotecaria

## Other **benefits:**

Latina SEGUROS

ESPOL postgraduate students have personal accident insurance. **You can review the conditions of this benefit [here].**

# Program **Details**

## Who is this **program for?**

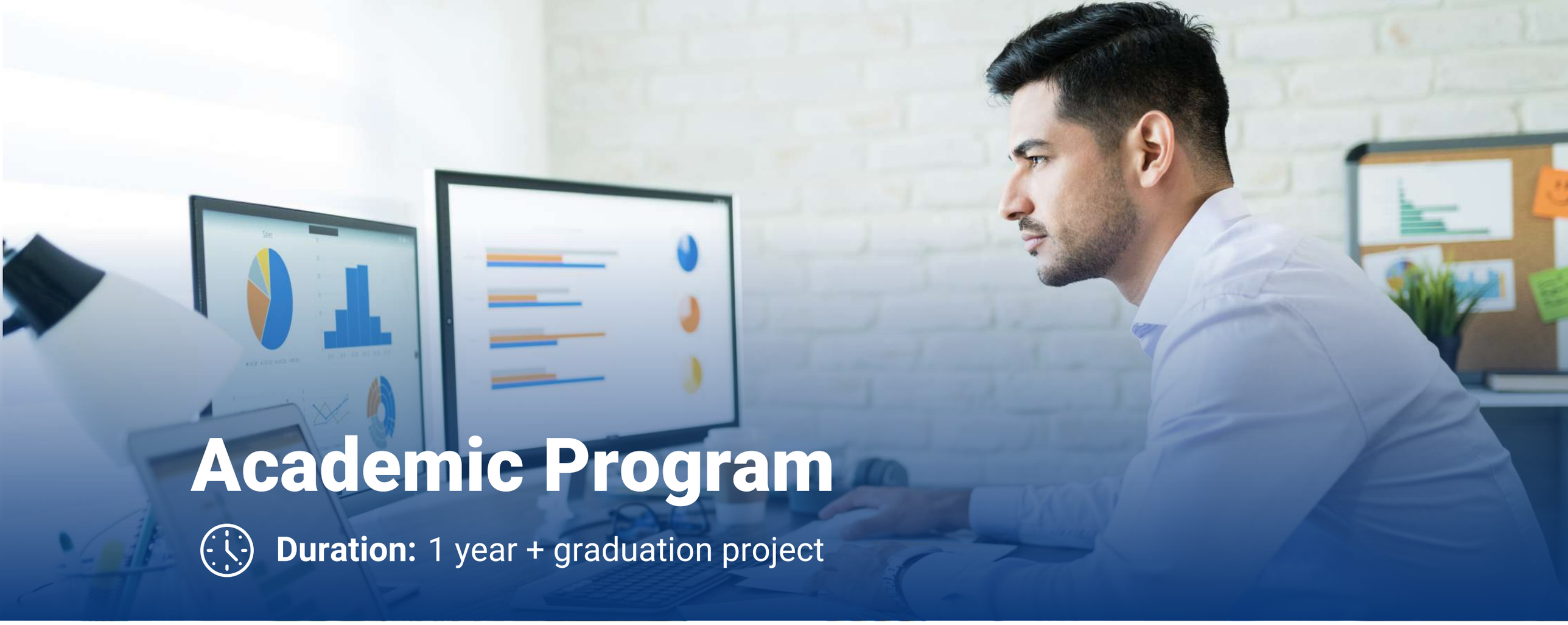
The student must have a third-level degree in specific fields such as mathematics, statistics, engineering, related professions, industry, and production.

## Occupational **Field**

Graduates of the Science Master's Degree in Industrial Systems Engineering will be trained to apply their research skills, knowledge, and advanced engineering tools in designing, constructing, operating, and developing solutions to society's challenges. You will do so with a focus on ethics, responsibility, honesty, and creativity, actively participating in the innovation of teams, systems, and processes.

**Modality:**
Two ordinary periods within a year, in which 11 modules are taught, followed by an ordinary period to carry out the thesis degree work.

**Schedule:** 40 hours of face-to-face work.



# Academic Program

**Duration:** 1 year + graduation project

## First academic period:

1. Stochastic Modeling
2. Advanced Operations Research
3. Research Topics
4. Convex Optimization
5. Machine Learning for Industry
6. Modeling and Analysis of Manufacturing Systems

## Second academic period:

7. Network Modeling and Analysis
8. Discrete Event Simulation
9. Research I
10. Research II
11. Research III

## Third academic period:

12. Graduation Work

→ **Master of Science in Industrial Systems Engineering**

# Nuestros docentes:

## Jorge Abad Morán, Ph.D.

Ph.D. in Industrial Engineering from the University of Missouri, United States.

**Research area:** Supply Chains, Lean Six Sigma, Productive Systems, Process Improvement, and Energy Efficiency.

## Andrés Abad Robalino, Ph.D.

Ph.D. Industrial Engineering and Operations from the University of Michigan in Ann Arbor, MI, United States.

**Research area:** Machine Learning y Data Science, Optimización e Investigación de Operaciones, Inteligencia Artificial.

## Kleber Barcia Villacreces, Ph.D.

Ph.D. in Industrial Engineering from the University of Texas at Arlington, TX, USA.

**Research area:** Manufacturing Systems, Lean Six Sigma.

## Denise Rodríguez Zurita, Ph.D.

Ph.D. in Industrial Engineering and Operations Research from Ghent University, Belgium.

**Research area:** Linking Processes, Continuous Improvement, Process Diagramming and Analysis, Process Improvement, Lean Manufacturing Applications, Lean Six Sigma.

## Cinthia Pérez Singuenza, Ph.D.

Ph.D. in Industrial and Systems Engineering from the University of Florida, Gainesville, USA.

**Research area:** Supply Chain Management, Inventory Management, Operations Research.

## Jaime Macías Aguayo, Ph.D.(c)

Ph.D.(c) in Engineering from the University of Cambridge, England - United Kingdom.

**Research area:** Digital Logistics & Industry 4.0, Digital Information Value Estimation, Stochastic Modeling of Random Processes in Manufacturing and Services, Mathematical Optimization.

# Admission information and requirements:


**Scan and learn more about the Admission Process here:**

# Requirements:

1. Application test.
2. Academic record from your last degree.
3. Interview.
4. Bachelor’s degree registered on SENESCYT.
5. Disability ID Card (if able).
6. Professional resume.
7. Academic or professional´s reference letter.
8. Statement of interest.
9. Copy of bill from basic utility service (printed or digital).

**For Ecuadorian applicants:**

Colored copy of the ID card and current voting certificate.

**For foreign applicants:**

Colored copy of the ID card.

Copy of Bachelor’s degree legalized through consular channels and registered on SENESCYT.

# Scholarship and funding:

**Total Cost:** $8,500 USD

**Tuition fee:** $8,000 USD | **Admission Fee:** $500 USD

**Direct funding up to 18 installments.**

Scholarships available for up to

**75%**

of the tuition fee

**20%**

Alumni ESPOL.
Full payment.
Employee of ESPOL or a public company affiliated with ESPOL.
Economic status.

**15%**

Early application and payment of the admission exam (up to 15%).
Publication in scientific journals indexed in Scopus or Wos.

**10%**

**Disability.**
**Alumni from other public universities in Ecuador.**
**Publication in conferences**
**Ranking of top academic averages in undergraduate studies.**

**5%**

Alumni from other private universities in Ecuador.
Graduate of a certification or diploma program from FIMCP
Family member of an employee of FIMCP.

**The requirements and conditions outlined in the scholarship guidelines for FIMCP research master's programs apply. Approved by the Academic Council in resolution CUA-FIMCP-2023-05-18-056. Installment amounts are subject to the specific program.*

**Contact us to learn more about our financing plan:**

**Whatsapp:** +593 96 146 6574
**Phone:** 04-226900 ext. 1388
**Email:** postgradosfimcp@espol.edu.ec

**Business hours:** Monday to Friday, 08h00 a 16h30.
Campus Gustavo Galindo Velasco
**Km 30.5 Vía Perimetral**
Guayaquil - Ecuador

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