Postgrados espol®

MASTER'S IN

MANUFACTURING ENGINEERING AND MANAGEMENT

RPC-SO-03-No. 050-2023

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 **Master's in Manufacturing Engineering and Management,** is a program that provides a comprehensive understanding of manufacturing from two perspectives: manufacturing engineering and manufacturing management.

Students gain knowledge in metal, polymer, ceramic manufacturing, additive and sustainable manufacturing, in addition to obtaining certifications in areas such as quality, supply chain, and warehousing. The program also offers participants the opportunity to earn professional certifications through selected modules and by completing a final exam or a project supervised by experts.

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.**

Our students' **opinions:**

"Being in touch again with academics, especially the master's program, has motivated me to contribute to the creation of knowledge within ESPOL for the development of our country. The master's program has exceeded my expectations and has shown me areas where I know I can be of great help."

Mario Andrés Aguilar

"I chose the Master's in Manufacturing Engineering and Management because of its innovative approach to industrial management and modern technologies like robotics and polymers. The hybrid format, laboratory practices, and elective courses from other master's programs have broadened my knowledge and improved my professional performance. I highly recommend this master's program for those looking to grow and contribute to the development of the country!"

Marcelo Brito

"My experience in this program has been extremely enriching, allowing me to strengthen my professional career. I have acquired key skills to standardize manufacturing processes, implement advanced technologies like industrial robotics, and optimize manufacturing management. Thanks to this learning, I have been able to reduce costs and improve efficiency in manufacturing processes, which has also opened doors for me as a consultant in the private sector."

Christian Rodríguez

¿Why are we your **best option**?

Professional Certifications

MA	**Additive Manufacturing** Design for Manufacturing Additive Manufacturing	**Certified Expert in Additive Manufacturing**
MT	**Traditional Manufacturing** Design for Manufacturing Metal Manufacturing Manufacturing for polymers and ceramics	**Certified Expert in Traditional Manufacturing Technology**
MM	**Modern Manufacturing** Additive Manufacturing Industrial Robotics for Manufacturing Integration of CAD/CAM Technologies	**Certified Expert in New Manufacturing Technologies**
MS	**Sustainable Manufacturing** Topics in manufacturing management Sustainable Manufacturing and Circular Economy	**Certified Expert in Sustainable Manufacturing**

Licenses and **Learning Platforms**

Office 365 LinkedIn Learning AUTODESK

CANVAS BY INSTRUCTURE

espol Centro de Información Bibliotecaria

Additional **Benefits**

Latina SEGUROS

ESPOL postgraduate students receive personal accident insurance. **More details about this benefit can be found [here].**

Program **Details**

¿Who Should **Apply**?

Professionals with a bachelor's degree, preferably in the broad fields of engineering, industry, and construction, who are interested in updating their knowledge and transforming current manufacturing management paradigms. Applicants with other degrees may be admitted subject to evaluation by the academic committee.

Career **Opportunities**

Upon completing this program, graduates will be prepared to manage and update manufacturing processes, as well as to develop sustainable and innovative solutions that add value through manufacturing in the industry.

Schedules

The program combines synchronous online classes, independent work, and hands-on practical sessions:

Theoretical classes:

Tuesday, Wednesday, and Thursday: 6:00 PM to 10:00 PM

Saturday: 8:00 AM to 1:00 PM (These sessions will generally be held online)

On-site practical sessions:

Saturday: 8:00 AM to 1:00 PM (Only for subjects with practical/experimental learning hours).

Academic **Curriculum**

Duration: 1 year + thesis

First Academic Term:

1. Materials engineering for manufacturing
2. Design for manufacturing
3. Manufacturing for metals
4. Manufacturing for polymers and ceramics
5. Topics in manufacturing management

Second Academic Term:

6. Additive Manufacturing
7. Elective in Manufacturing I
8. Storage and Supply chain management
9. Sustainable Manufacturing and Circular Economy
10. Formulation and development of Manufacturing projects

Third Academic Term:

11. Elective in Manufacturing II
12. Degree completion in Manufacturing Process

→ **Master's in Manufacturing engineering and management**

Subjects with practical – experimental Learning hours

Electives in manufacturing I

- Industrial robotics for manufacturing
- Plant design

Electives in Manufacturing II

- Integration of CAD CAM technologies
- Production planning and control systems

Curriculum Flexibility: We provide students with the opportunity to tailor their learning based on their professional background. A student with a stronger focus on engineering can opt for courses related to manufacturing management, while those with a more administrative profile can take technical courses thanks to the flexibility of the curriculum.

Our **Faculty:**

Jorge Luis Amaya, Ph.D.

Industrial consultant in sustainable manufacturing, remanufacturing, and life cycle analysis. Winner of INÉDITA funding for projects on sustainable manufacturing.

Ph.D. in Industrial Engineering, Design and Production, **Environmental Engineering Technology from Université Grenoble-Alpes.**

Andrés Rigail, Ph.D.

Technical consultant for companies such as **Codemet and Kotra**, among others. Member of the **Society of Plastics Engineering (SPE) and the Polymer Processing Society (PPS).**

Ph.D. in Plastics Engineering from the **University of Massachusetts Lowel**. Coordinator of the International Diploma in Technological Innovation in Plastics.

Carlos Saldarriaga, Ph.D.

Former industrial experience at **La Fabril** in the area of electronic instrumentation, sensors, actuators, PLCs, and programming.

Ph.D. in Mechanical Engineering from **Stony Brook University (NY, USA)**. Expert in robotics and human-robot physical interaction.

Fausto Maldonado, M.Sc.

ESPOL faculty member since 2018, teaching courses such as Engineering Drawing, Mechanical Workshop, Machining Processes, and Computer-Aided Design and Manufacturing in Mechanical and Mechatronics Engineering programs.

Master's in Materials and Manufacturing Processes from **Universidade Estadual de Campinas, Brazil.**

Galo Durazno, M.Sc.

ESPOL professor since 2018, teaching courses such as Engineering Drawing, Solid Mechanics, Statics, Machinery Mechanics, and Finite Elements (at the master's level).

Master's in Industrial Design Engineering from **Universidad Politécnica de Madrid.**

Meet your **coordinator**

Carlos Gabriel Helguero, Ph.D.

Ph.D. in Mechanical Engineering from Stony Brook University (NY, USA).

M.Sc. in Mechanical Engineering from Stony Brook University (NY, USA).

Certified in Additive Manufacturing for Design and Production by the Massachusetts Institute of Technology (MIT).

Certified in Additive Manufacturing by the American Society of Mechanical Engineers (ASME).

Professional **Experience:**

Part of the team that installed and manufactured the first 3D-printed model in the country.

TEDx speaker and founder of local startups offering additive manufacturing services for the medical sector.

Admission information and requirements:

Registration open - January 2025

1. Admission Test
2. Apply Online
3. Interview
4. Admission results
5. Educational Agreement
6. First Payment
7. Welcome to ESPOL

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:

Copy of the ID card and current voting certificate in color

For foreign applicants:

Copy of the ID card in color.

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
up to
25%

20% ESPOL Alumni.
Full payment.

15%

Economic status.
Employee of ESPOL or a public company affiliated with ESPOL.
Early application (up to 15%)

10%

Disability.
Alumni from other public universities in Ecuador.

5%

Graduate of a certification or diploma program from FIMCP

Alumni from other private universities in Ecuador.

Family member of an employee of FIMCP.

Our Scolarships

15% For a group of 3 or more students.
10% For a group of 2 students.
5% Worker or active member of institution with an agreement with ESPOL

**The requirements and conditions outlined in the scholarship guidelines for FIMCP professional 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:

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