



EUROPEAN

MASTER IN **DIGITAL & SUSTAINABLE**
MANUFACTURING ENGINEERING



**Mondragon
Unibertsitatea**

FH JOANNEUM
University of Applied Sciences



**Study, work, and experience Europe with EU4DUAL.
Where engineering education meets real-world
innovation**



Co-funded by
the European Union

WHY STUDY THIS MASTER?

01

EUROPEAN MASTER'S DEGREE



A joint Master delivered across Spain, Poland, France and Austria.

02

Internship in another country



Combine paid work experience with your studies.

03

A BIP (Blended Intensive Programme)



Interdisciplinary projects through two international mobility periods.

04

DUAL STUDIES



5 months of paid professional experience integrated into the programme.

4 SPECIALITIES TO CHOOSE



Smart Manufacturing
Simulation 

Robotics for
Manufacturing 



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Smart Production 

Additive 
Manufacturing



Study programme

1st SEMESTER (30 ECTS)

MANDATORY COURSES

- TR1.** Sustainable & Lean Manufacturing (3 ECTS)
- TR2.** Product Lifecycle Management (3 ECTS)
- TR3.** Advanced Simulation & Modelling (6 ECTS)
- TR4.** Artificial Intelligence for Manufacturing Engineers (3 ECTS)
- TR5.** Industry 5.0 (3 ECTS)
- TR6.** Interdisciplinary Digital Transition (6 ECTS)
- TR7.** Interdisciplinary Sustainable Future (6 ECTS)

2nd SEMESTER (30 ECTS)

TRACK 1 (25 ECTS, MU, SPAIN):

Simulation-driven Innovation in Smart Manufacturing

- SI1.** Advanced materials characterisation and inspection technologies (5 ECTS)
- SI2.** Next-Gen Metal Forming: From Simulation to Industrial Applications (6 ECTS)
- SI3.** Applied simulation to Casting of advanced components of aeronautic parts (3 ECTS)
- SI4.** Manufacturing Composites for High-Tech Industries (3 ECTS)
- SIS.** Machining (7 ECTS)

TRACK 3 (25 ECTS, FHJ, AUSTRIA):

Smart Production Engineering

- SP1.** Analytics & Artificial Intelligence (5 ECTS)
- SP2.** Production Systems Engineering (5 ECTS)
- SP3.** Production Integration (Vertical) (5 ECTS)
- SP4.** Digital Production Logistics (5 ECTS)
- SP5.** Value & Cost Engineering (5 ECTS)

TRACK 2 (25 ECTS, KUT, POLAND):

Additive Manufacturing Technologies

- AM1:** Materials for Additive (4 ECTS)
- AM2:** Additive Manufacturing Technology from Manufacturing Polymers (5 ECTS)
- AM3:** Additive Manufacturing Technology from Metals (5 ECTS)
- AM4:** Designing for Additive Manufacturing (5 ECTS)
- AM5:** Modelling and Simulation of Additive Manufacturing Processes (5 ECTS)

TRACK 4 (25 ECTS, ESTIA, FRANCE):

Robotics for Manufacturing

- RO1.** Fundamentals of robotics (5 ECTS)
- RO2.** Industrial cells implementations (5 ECTS)
- RO3.** Enhanced robotic cells (6 ECTS)
- RO4.** Robotics application to advanced processes (4 ECTS)
- RO5.** Methods for advanced and robotized processes (4 ECTS)

3rd SEMESTER (30 ECTS)

- TR9.** Research & Innovation (5 ECTS)
- Master's thesis** (25 ECTS)

TOTAL CREDITS: 90 ECTS

Language: English

Start: September (winter semester)

First Year (60 ECTS)

European Students: 9,600 €

Non-European Students: 12,480 €

Second Year (30 ECTS)

European Students: 4,800 €

Non-European Students: 6,240 €

MASTER IN DIGITAL & SUSTAINABLE MANUFACTURING ENGINEERING

PATHWAY TO EUROPE (PRE-ARRIVAL)

- Apply
- Enrol
- Student agreement
- Visa

Mobility grants

>=450€/each

1st SEMESTER (TRANSVERSAL)

October- February

40 % Mobility / BIP
 60 % Online courses

Landing week

Bilbao

+

ONLINE
 8 WEEKS

+

Mobility weeks

Digital transition (Graz)
 Green transition (Kuopio)

2nd SEMESTER (SPECIALISATION)

February - July

80 % In-person courses
 20 % In-company work experience

150 hours work experience

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 Smart Production

Additive Manufacturing

Robotics for Manufacturing

Smart Manufacturing Simulation

3rd SEMESTER
(SPECIALISATION MASTER THESIS)

September - March

17 % Mobility / BIP
 83 % In-company work experience

6 months work experience

Research & Innovation

(Bilbao)

Career and research opportunities as an EU4Dual engineer

Occupations
 Research/ PhD
 Lifelong learning

OBJECTIVES

A master's degree for Europe's Green & Digital Transformation

Designed for engineers ready to lead Europe's industrial future.

Green & Digital transition

Sustainable
advanced
manufacturing

International experience

Collaboration across
Europe and beyond

Industry leadership skills

Labour-market oriented
soft skills

This programme focuses on advanced manufacturing, preparing engineers with **industry-driven skills** through dual study and micro-credentials.

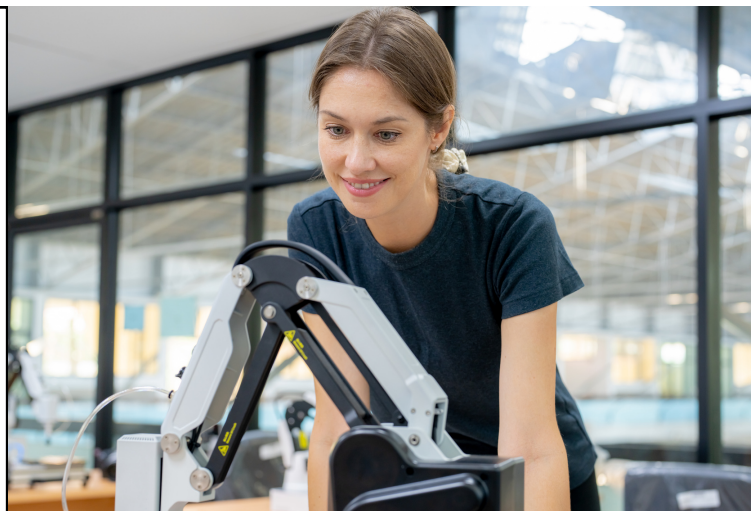
Graduates will:

- Understand the **Green and Digital Transitions**
- Develop **leadership skills** for industry and research
- **Work effectively** across borders and disciplines

ACCESS

Graduates with direct access in the following fields :

- Mechanical engineering
- Manufacturing engineering
- Materials science and engineering
- Industrial engineering
- Aerospace engineering
- Civil engineering
- Automotive engineering
- Metallurgical engineering



Professional **OCCUPATIONS**

Chief Technological Officer (CTO)

(ESCO code 1330.3)

Manufacturing engineer

(ESCO code 2141.4.1)

Calculation / simulation engineer

(ESCO code 2149.2.1)



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CONTACT US



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eu4dual.education

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REGISTRATION AND ENROLLMENT



Registration



Pre-Admission &
Place Reservation



Admission



Enrolment

INFORMATIVE SESSIONS

Join them!

20/05/2026

