



EU4Dual

The European Dual Studies University

EUROPEAN JOINT MASTER in *DIGITAL* and *SUSTAINABLE* MANUFACTURING ENGINEERING

Why study the European Master in *DIGITAL SUSTAINABLE MANUFACTURING ENGINEERING?*



EUROPEAN MASTER'S DEGREE

The Master's degree is endorsed by Mondragon Unibertsitatea (*Spain*) Koszalin University of Technology (*Poland*) and FH Joanneum University of Applied Sciences (*Austria*).



INTERSHIP IN ANOTHER COUNTRY

Receiving a competitive salary during your studies and gain valuable experience for your future career.



A BIP (*Blended Intensive Programme*) IN THE FIRST SEMESTER

Two mobilities to carry out interdisciplinary group projects related to the great challenges: *Digitalization and Environment*.



4 SPECIALITIES TO CHOOSE

Simulation-Driven Innovation in Smart Manufacturing (*Mondragon Unibertsitatea, Spain*).

Additive Manufacturing Technologies (*Koszalin University of Technology, Poland*).

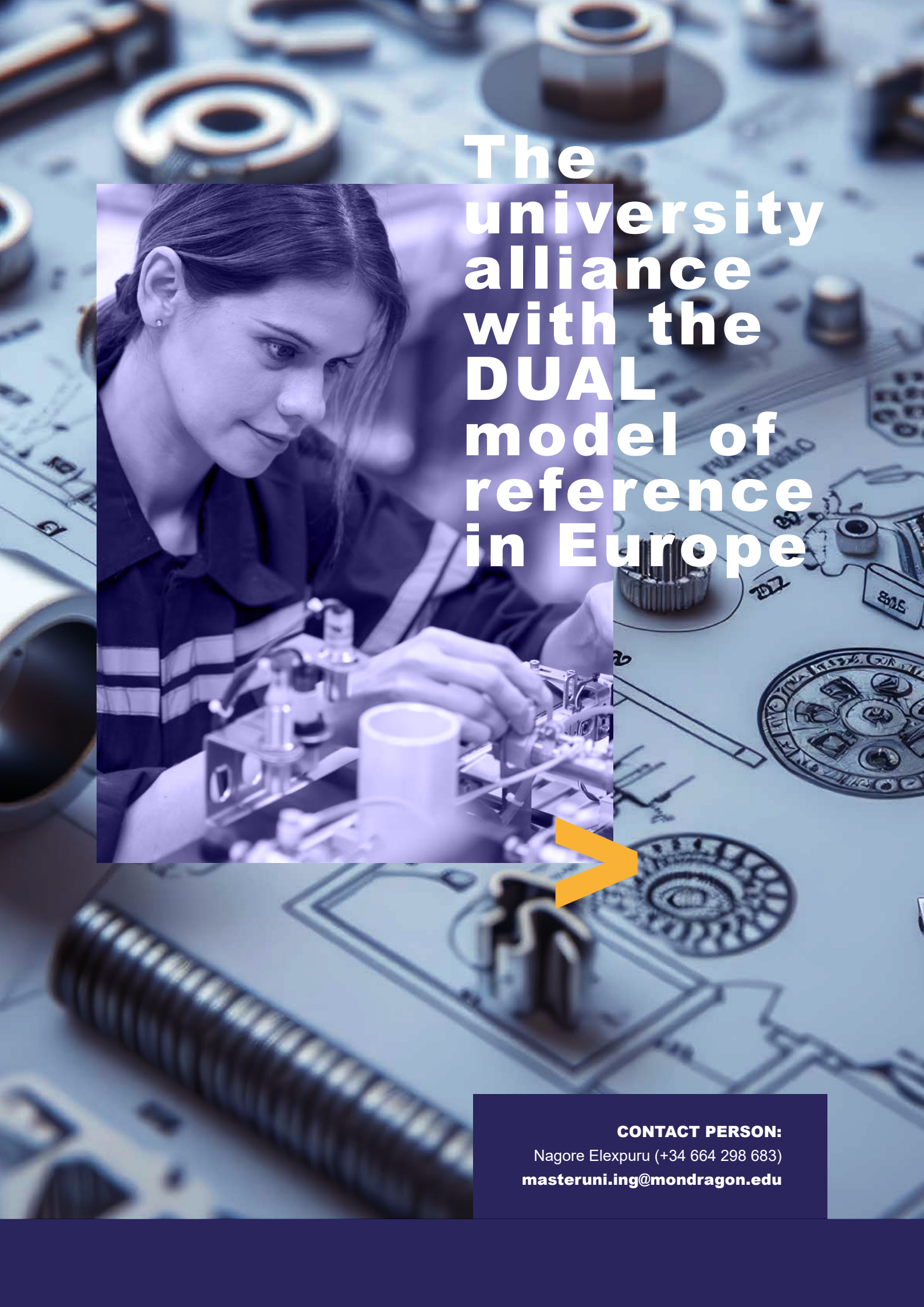
Smart Production Engineering (*FH Joanneum University of Applied Sciences, Austria*).

Robotics For Manufacturing (*Estia Institute of Technology, France*).



DUAL STUDIES

5 months at a company.



The university alliance with the DUAL model of reference in Europe



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STUDY PLANS

1st SEMESTER

MANDATORY COURSES IN ONE OF THESE UNIVERSITIES:



2nd SEMESTER TRACK 1

Simulation-
Driven Innovation
in Smart
Manufacturing



2nd SEMESTER TRACK 2

Additive
Manufacturing
Technologies



2nd SEMESTER TRACK 3

Smart Production
Engineering



2nd SEMESTER TRACK 4

Robotics &
Manufacturin



3rd SEMESTER Master Thesis (DUAL)



3rd SEMESTER Master Thesis (DUAL)



3rd SEMESTER Master Thesis (DUAL)



3rd SEMESTER Master Thesis (DUAL)





TOTAL CREDITS: 90 ECTS

LANGUAGE: English

START: September (Winter Semestre)

PRICE: €11,100 (1st year) / €5,550 (2nd year)

DURATION: 1 year 6 months

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 2 (25 ECTS, KUT, POLAND):

Additive Manufacturing Technologies

AM1: Materials for Additive Manufacturing (4 ECTS)
AM2: Additive Manufacturing Technology from 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 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 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)

OBJECTIVES

This Master's degree focuses on a strategic industry for Europe, such as advanced manufacturing. It uses dual study and micro-credentials to train engineers. They will be fully employable from day one of their careers in a competitive global market.

Our DUAL graduates will understand the Green and Digital Transitions from a Manufacturing Engineering perspective. They will gain the skills for leadership roles in industry or research. They will be ready to work together across borders and disciplines.

Graduates will integrate principles of circularity and digitalisation into manufacturing processes. They will promote human-centred approaches and apply transformative technologies.

This programme produces a new type of graduate who has:

- » Studied international case studies;
- » Been taught by industry experts from across Europe;
- » Participated in global research projects and studied abroad;
- » Collaborated internationally using digital technologies; and/or
- » Completed an internship in another country.

ACCESS

Students who have completed the following or similar studies may access this master's degree program without the need for additional coursework.



Graduates in:

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

PROFESSIONAL OUTINGS

CTO: Chief Technological Officer

Manufacturing Engineer

Calculation / Simulation Engineer



JON AURREKOETXEA NABARTE

Doctor from Mondragon Unibertsitatea

“Engineers of the future must effectively combine advanced scientific and technological competencies with a deep understanding of social challenges from a humanistic point of view. The Digital and Sustainable Transition mobility modules, based on Blended Intensive Programmes (BIP), are essential for this development, enabling collaboration with students and companies from different countries and fields, such as sociology or economics. These courses will empower our students to become innovative leaders who drive meaningful change in the manufacturing industry, by developing holistic problem-solving skills, enhancing ethical and social awareness and improving interdisciplinary collaboration”.

INFORMATIVE SESSIONS

**Join
them!**

February 12th and May 21st at 18:00



REGISTRATION AND ENROLLMENT



Registration



Pre-Admission &
Place Reservation



Admission



Enrolment

**Register
here!**

Registration from 2024/11/04 to 2025/07/04



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