

Máster Universitario en Fabricación Digital/ Digital Manufacturing

Subject: ADDITIVE MANUFACTURING

Description of the Content:

Advanced Manufacturing has been identified as one of the key factors for sustainable economic growth, job creation and long-term competitiveness. And within this, additive manufacturing is one of its most important fields and one that is expected to have greater growth and development in the future. Additive manufacturing, frequently associated with the term 3D-Printing, is a technology with great innovative potential that is transforming the way of conceiving, designing and manufacturing products.

This course deals with the different technologies related to Additive Manufacturing and is made up of both theoretical and practical aspects. The fundamental objective is to publicize the basic principles of the process (characteristics, advantages and limitations, fields of application, manufacturing strategies and the initial aspects of the design of this type of parts). Another important part of the course will consist of the design, planning and execution of tests and practical cases.

Character: OPTIONAL

Credits: 5 ECTS

TEACHING

Teaching period: 2nd Year

Face-to-face modality

Language: English

Academic year: 2025-2026

Lecturers: Xabier Cearsolo, Maitane Gabilondo

Máster Universitario en Fabricación Digital/ Digital Manufacturing

CONTENT

- Introduction to Additive Manufacturing and Additive Manufacturing Technologies
- Scanning and reverse engineering for Additive Manufacturing
- Topology Optimization
- FDM technology
- Stereolithography SLA technology
- HP-4200 Multi Jet Fusion technology
- Metallic materials for Additive Manufacturing
- Laser Metal Deposition (LMD) technology
- Laser Powder Bed Fusion (LPBF) technology

BIBLIOGRAPHY

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Máster Universitario en Fabricación Digital/ Digital Manufacturing

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Máster Universitario en Fabricación Digital/ Digital Manufacturing

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COMPETENCES

- Know the different Additive Manufacturing technologies, the characteristics of each of them and their fields of application.

EVALUATION SYSTEM

- Final exam 100 %