



Référence : 39D

Durée : 24 heures (4j)

Lieu : INSTN de Saclay

Méthodes et outils pédagogiques :



Advanced manufacturing for the development of materials for energy transition

EN BREF

Technological and digital innovation are very important drivers in the implementation of a circular economy. In this context, this professional training will focus on describing processes whose methodology has a considerable impact on the acceleration of Materials Science and Engineering. The integrated approach of additive manufacturing, the synthesis and safe integration of nano-objects into devices and cutting edge surface engineering processes will be more specifically studied; the contribution of digital technologies, both for design and development using Artificial Intelligence approaches will also be discussed. Finally, many applications in the low-carbon energy field will be highlighted.

À QUI S'ADRESSE CETTE FORMATION ?

PHD students, post-docs, engineers or process technicians.

COMPÉTENCES VISÉES

Understand emerging processes such as advanced surface engineering processes, the integrated approach to additive manufacturing and nanofabrication Cite examples of process optimization using AI Identify the contribution of emerging processes to the recycling, minimization and substitution of critical materials within the framework of a circular economy

PRÉREQUIS

Master's degree in materials science, solid state chemistry or physic.

LES PLUS

Access to emerging process platform for practical work

CONTENU

- Technological and digital innovation in a circular economy
- Processes: The integrated approach to additive manufacturing, the secure synthesis and integration of nano-objects and surface engineering processes
- Correlation between process parameters and usage properties
- Contribution of artificial intelligence to process optimization
- Platform visits