

Manufacturing



Level
BAC +3



ECTS
6 credits



Component
INSTITUT
NATIONAL
DES SCIENCES
APPLIQUEES
TOULOUSE



Number of
hours
64h

Presentation

Description

Theory of cutting

Cutting tools

Optimization of cutting conditions

High speed machining

Chatter

Shaping of plastics and composites

Production management : Types of manufacturing, inventory management, lean manufacturing and associated tools.

Casting : Presentation of the processes of shaping of crudes / mechanical parts by plastic deformation, with technologies and associated calculations. The processes discussed are mainly forging, stamping, folding and stamping.

Presentation of Additive Manufacturing processes and intervention of specialized industrialists.

Method of implementing a 3D printing process.

Organization:

The teaching sessions are divided down into Courses, Lectures and Practical work.

6 x 1h15 of course in HSM + 6 x 1h15 of lectures

3 x 1h15 of course in Production Management course + 3 x 1h15 of lectures

2 x 1h15 of course in plastic deformation course + 4 x 1h15 of lectures

4 x 1h15 of course in casting course + 3 x 2h5 of lectures

5 x 1h15 of course in Additive Manufacturing +3 x 1h15 of lectures

3h of practical work on the implementation of means of Additive Manufacturing

9h of practical work on plastic injection, cutting forces and HSM

Objectives

The student will be able to :

- Define the influencing parameter on cutting material, optimize a machining operation in HSM.
- Define a Production Management Approach.
- Design parts by casting.
- Define the advantages and limitations of additive manufacturing processes.
- Design and produce plastic parts using an additive manufacturing process.
- Know the different ways to get rough part and their costs and performance, define a range of rough part and design the necessary tools.

Written exam in the different subjects.

Useful info

Contacts

Education manager

SEBASTIEN SEGUY

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Place

➤ Toulouse

Pre-requisites

CAM manufacturing technology

Tolerance Manufacturing analysis

Mechanical characteristics of materials

Resistance of materials : elasticity

Digital production chain : CAD, CAM, Post-processing, use of means of production, control

Knowledge check