

Branch : Mechanical and Production



Code : FOUNDR

Option : Foundry

Level : Bac Pro

Prerequisites:

Opportunities:

Description :

Holders of this vocational training certificate manufacture metal parts. Preparing an alloy, melting it in a melting furnace and casting it in a mould are the operations to be carried out. Once the part has been obtained, the finishing, heat treatment and surface treatment operations must be carried out. These technicians produce parts individually or in series, combining manual know-how and high-performance technologies (automation, robotics, digital chain, simulation, etc.) and are involved in the organisation and improvement of production, control, maintenance and safety. They can work in foundry companies that produce mechanical parts for the aeronautics, automotive, space and naval industries.

Quality and competences :

The bac pro foundry trains professionals specialising in the manufacture of metal parts by casting an alloy in a mould.

The student acquires a good knowledge of the various alloys and their production. The alloys studied are: cast iron, cast steel, aluminium, magnesium, copper and zinc alloys.

He or she learns the characteristics of the sands used to make moulds and cores, and the evolution of their properties according to the proportion of components introduced and the mixing time.

This involves mastering the various moulding and core-making processes: sand casting, lost wax casting, gravity die casting, pressure die casting; manual core making, serial core making, self-hardening sand core making, gas setting sand core making, thermal setting sand core making.

Alloy melting processes, finishing techniques, i.e. finishing the part, are added to this know-how.

He or she is also introduced to the controlled operation of an automated production system. Quality control applied to materials (sand, alloy) in their various states and to the final part completes the training.