

## Numerical methods for incompressible flows



Component École Nationale Supérieure d'Électrotechnique d'Électronique

#### In brief

#### >Code: N9EM05A

> Open to exchange students: No

# Presentation

### Objectives

Present the main algorithms used for the numerical simulation of incompressible flows, in particular those to be found in major industrial codes.

### Description

After recalling the particularities of the incompressible Navier-Stokes equations, we will detail the 2 main families of algorithms used to solve these equations numerically by volume or finite difference approaches: projection methods and segregation methods. We will then present the most efficient techniques for solving large linear systems obtained after discretization of the equations.

### Pre-requisites

1st year course on numerical methods

