

# Mécanique des Fluides 1



Component  
École Nationale  
Supérieure  
d'Électrotechnique  
d'Électronique

In brief

> **Ametys Code:** N6AM02A

## Presentation

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### Objectives

Small Re

The object of this course is to describe the particular hydrodynamic phenomena that one encounters with small Reynolds numbers . The basic equations are commented, analyzed and solved in simple geometries.

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### Description

Small Re

Introduction:  $Re \ll 1$  What is inertia? and applications  
Basic equations and different formulations  
Specific properties (linearity, reversibility, reciprocity) and consequences.  
Fundamental Solutions of Stokes Equations  
Cellule of Hele-Shaw  
Lubrication (hydraulic bearing)  
Flows in thin layers  
Calculation of the stokes force