

# Rappels de MkF et Initiation à la turbulence (MFIT)/ Harm. A7



Component  
École Nationale  
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## In brief

- > **plugin.odf-inp:PLUGINS\_ODF\_COURSE\_NBHOURS\_TXT:** 10
- > **Ametys Code:** N9EM14B

## Presentation

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### Objectives

Reminder on local balances in fluids mechanics (mass and momentum balances)

Description of the transition to turbulence.

Write Navier-Stokes equations with Reynolds averaging.

Obtain the profile mean velocity in a turbulent channel

### Description

Differential operators and calculation with matrices

Navier-Stokes equations in cartesian, cylindrical, spherical coordinates

Couette and Poiseuille laminar flows

Transition to turbulence

Navier-Stokes equations with Reynolds averaging

Turbulent channel flow and Prandtl model

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## Pre-requisites

Basic knowledge on differential operators and matrices

Mass and momentum balances in fluids mechanics