

**Course offered for the PhD program  
in Civil, Chemical and Environmental Engineering  
Curriculum in Fluid Dynamics and Environmental Engineering  
a.a. 2019/2020**

(possibility of participation for students in other PhD cycles or other PhD courses)

**1. Title**

Perturbation methods 1

**2. Course Description**

The course is aimed at the description of the perturbation methods, mathematical approaches for calculating approximate solutions that are possible when in the problem under consideration appears a dimensionless parameter which is very small or very large. The course will illustrate the main perturbation techniques used for the solution of fluid dynamics problems.

**3. Course Organization**

The course consists of lectures and exercises in the classroom.

**4. Teacher**

Nicoletta Tambroni and Giovanna Vittori

**5. Duration and credits**

The course consists of 10 hours of lessons (2 credits).

**6. Activation mode and teaching period**

The course will be held on February 10-14, 2020. The minimum number of participants to activate the course is 7.

**7. Deadline for registration**

The deadline for applications is January, the 15th 2020 (please, send an e-mail confirmation to Prof.ssa N. Tambroni [Nicoletta.Tambroni@unige.it](mailto:Nicoletta.Tambroni@unige.it)).

**8. Final exam**

Written examination (solution to a simple problem) to be taken within one month from the end of the course.