

Master in Mechanics

Fluid mechanics and energetics (FME)

Presentation

The Fluid mechanics and energetics program is structured as follows:

- A foundation program (over 1st + 2nd years) of 45 ECTS - including 2 x 3 ECTS in a modern language
- A specific modules (45 ECTS)
- A 5-month internship (30 ECTS) in a research laboratory

The program is open to international students. All teaching is in English.

Objectives

The main aim of this program is to train managers with solid scientific and technical skills in fluid mechanics and transfers (thermal, chemical) from theoretical, numerical and experimental perspectives.

Registration and scholarships

The master's degree in Fluid mechanics and energetics is a highly competitive academic program (duration: one year, master 2nd year level). Applicants selection is done on the basis of prior academic and/or scientific achievement as documented by academic transcripts, a cover letter, references, and standardized test scores. Students from countries where English language is not the primary language are required to provide TOEFL test scores. To get master degree, admitted students must obtain the certified level B2.

For students with a foreign degree, their registration is definitely authorised by the Committee for Academic Accreditation at Grenoble university (CVA). Several meetings are organised several times a year (february - june) to select applications from abroad.

You are strongly encouraged to apply as soon as possible. The selection of applicants is based on the following criteria :

- Administrative rules mentioned above
- One year master study (science or engineering), in the following fields : fluid mechanics, chemical engineering, physics or applied mathematics as well provided they already demonstrated a significant level in fluid mechanics.

Before you complete and send the application form by e-mail, you must absolutely subscribe to the website of Campus France, providing all necessary documents. To this purpose, click on the following links :

- <http://www.campusfrance.org/>
- <http://www.campusfrance.org/fria1004/lm/master.html>

Data to mention possibly for selecting FME master in the proposed list : master research Sciences, technology, health in Mechanics, Energetics and engineering mechanical specialty of fluids and energetics

- Application before may 13th
- Apply [online](#)

Practicals informations :

- > **School** : Grenoble INP
- > **Duration** : 2 years
- > **Course type** : Initial and Continuing Education
- > **Location(s)** : Grenoble - University campus
- > **Contacts** :

Programme director

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Programme administration

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Program

Master in Applied mechanics 1st year

Semester 7

UE Solid mechanics	3 ECTS	24,5h
UE Fluid mechanics	3 ECTS	24h
UE Research project 1	6 ECTS	30h
UE Experimental techniques and methods 1	3 ECTS	24h
UE Numerical methods in solid and fluid mechanics 1	3 ECTS	24h
UE Image and signal processing	3 ECTS	24h
1 option (s) to choose from 2		
UE English	3 ECTS	24h
UE French as a foreign language (FLE)	3 ECTS	24h
2 option (s) to choose from 9		
UE Basic geomechanics	3 ECTS	20h
UE Mechanics of material	3 ECTS	20h
UE Reinforced concrete	3 ECTS	20h
UE Physics of granular media	3 ECTS	20h
UE Multiphysical couplings (THCM)	3 ECTS	20h
UE Convection in industrial and geophysical flows	3 ECTS	26h
UE Instabilities and turbulence	3 ECTS	28h
UE Wave in fluids	3 ECTS	24h

UE Introduction of geophysical fluids dynamics 3 ECTS 30h

Semestre 8

UE Research project 2	12 ECTS	60h
UE Experimental techniques and methods 2	3 ECTS	24h
UE Numerical methods in solid and fluid mechanics 2	3 ECTS	24h
1 option (s) to choose from 2		
UE English	3 ECTS	24h
UE French as a foreign language (FLE)	3 ECTS	24h
3 option (s) to choose from 9		
UE Basic geomechanics	3 ECTS	20h
UE Mechanics of material	3 ECTS	20h
UE Reinforced concrete	3 ECTS	20h
UE Physics of granular media	3 ECTS	20h
UE Multiphysical couplings (THCM)	3 ECTS	20h
UE Instabilities and turbulence	3 ECTS	28h
UE Wave in fluids	3 ECTS	24h
UE Environmental flows	3 ECTS	30h
UE Introduction of geophysical fluids dynamics	3 ECTS	30h

Master 2nd year

Semester 9

Semester 10