

# Master in Mechanics

The programme offers the following course(s) :

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- › Applied Mechanics 1st year
- › Mechanical engineering 1st and 2nd year
- › Simulation and instrumentation in mechanics 1st and 2nd year
- › Environmental fluid mechanics 2nd year
- › Fluid mechanics and energetics 2nd year
- › Turbulences : Méthodes et Applications 2nd year

## Presentation

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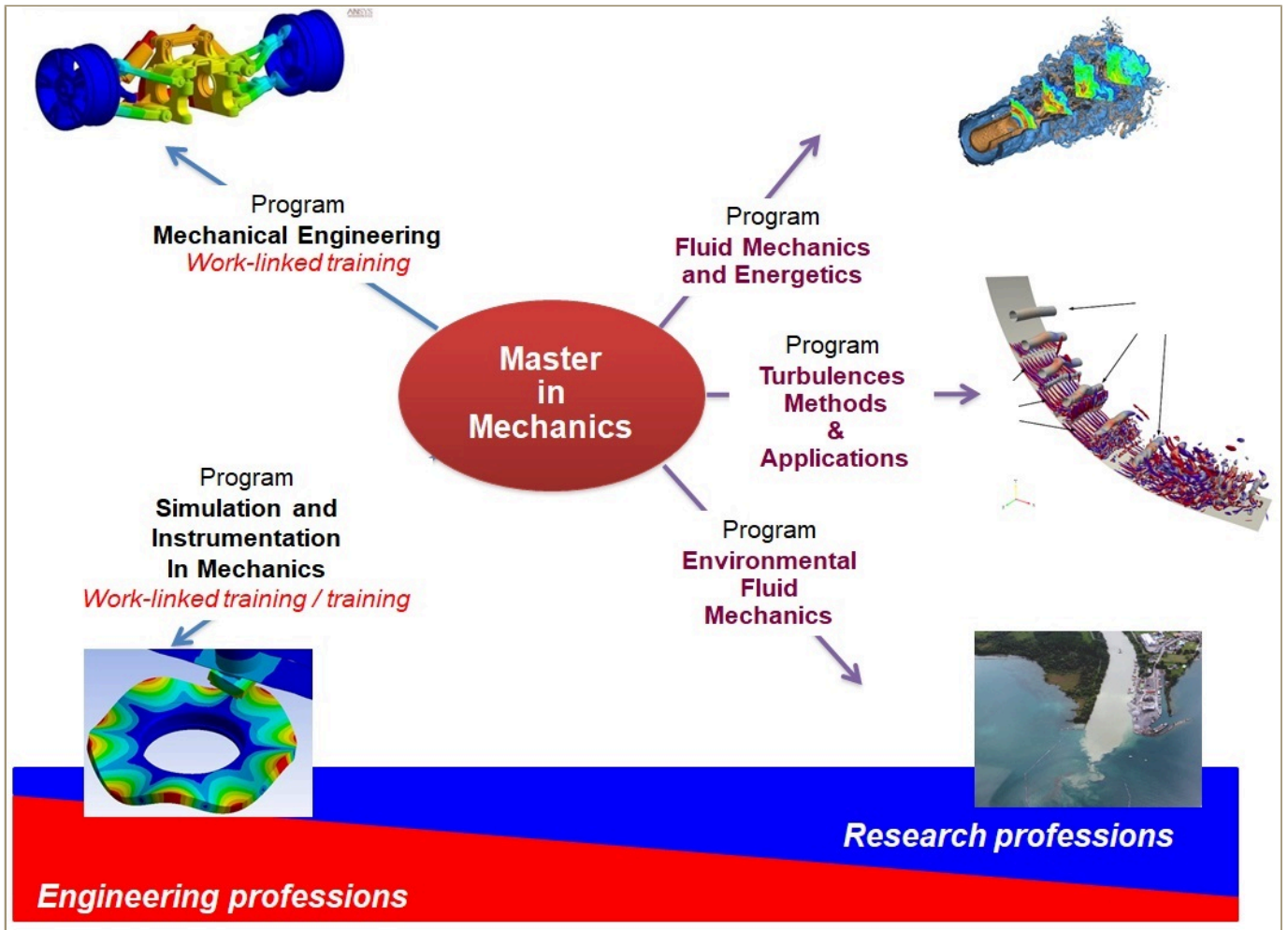
Course co-accredited by the National Polytechnic Institute of Grenoble and Université Grenoble Alpes

The master in Mechanics is structured around four programs: Simulation and instrumentation in mechanics (SIM), Mechanical engineering (GM), Environmental fluid mechanics (EFM) and Fluid mechanics and energetics (FME), Turbulence, Methods & Applications (TMA).

The second year of the SIM and GM programs involve work-linked training in a company or research laboratory. Teaching is given in French.

The EFM and FME programs welcome international students. Teaching is given in English.

The TMA program is open to an international public and is taught in French and English.

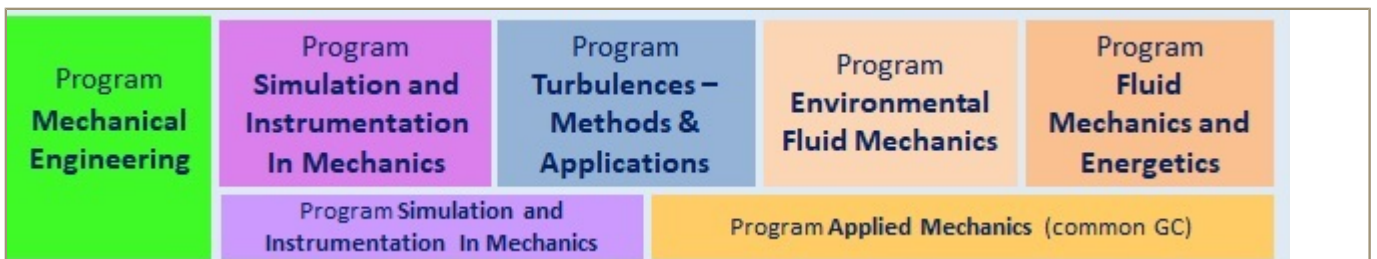


The two programs SIM and GM, consist of:

- A foundation program (over the 2 years) of 30 ECTS
- Specialised classes for each program (60 ECTS)
- Work-linked training through an internship (30 ECTS)

The 1st year Applied mechanics is entirely common to the two specialisations Civil engineering and Mechanics and leads to three international programs, including EFM and FME and also the TMA programme.

The EFM and FME programs consist of a foundation program of 45 ECTS, specialised classes for each program (45 ECTS), and an internship (30 ECTS).



[More information](#) from

The objectives of the master in Mechanics are :

- SIM program: The aim of this program is to train managers with a very high level of expertise in simulation and instrumentation applied to fluid and solid mechanics, who will be responsible for research and development in major groups and SMEs in various sectors such as aviation, automotive, rail, environment etc
- GM program: The main purpose of this program is to train managers with scientific, technical and professional knowledge in the fields of mechanical engineering, especially in the design and production of mechanical systems. The professions targeted by this program are managers responsible for developing and making industrial products (numerical simulation, R&D, production, design, quality management, project management etc) in major groups and SMEs in the engineering industry, in various sectors such as aviation, automotive, nuclear, agri-food and plastics processing
- TMA program: The objective is to offer an original training on a complex and essential scientific theme. The pedagogical approach is innovative in that it first refocuses teaching on the scientific discipline, in this case turbulence. Straddling three majors (Physics, Mathematics and Applications, Mechanics), the TMA course focuses on all methods of analysis of turbulence with a unique interdisciplinary vision: fluid mechanics, mathematics, internal and external geophysics, physics, astrophysics and chemistry. Specialisation will be achieved at the end of the course through a choice of application modules and a 5-month M2 internship in a research laboratory or R&D research centre. Students who choose this course will want to become experts in fluid mechanics and turbulence before moving on to an application in a specific field.
- EFM program: The aim of this program is to give students scientific and technical skills in environmental fluid mechanics (lakes, rivers, ocean, atmosphere etc) from theoretical, numerical and experimental perspectives. The content of each course ranges from fundamental aspects through to applications. This research program offers two main career opportunities : doctoral studies in environmental fluid mechanics, either in France or abroad, with a view to pursuing a career as teacher-researcher in a university, researcher in a large public organisation (CNRS/INRA, CEA etc), or R&D engineer within a company in the water or environmental engineering sectors
- FME program: On completion of this program, students should have acquired scientific and technical skills in fluid mechanics and transfers (thermal, chemical) from theoretical, numerical and experimental perspectives. This program is mainly intended for students wishing to prepare for doctoral studies in fluid mechanics and transfers (thermal, chemical), either in France or abroad, with a view to pursuing a career as teacher-researcher in a university, researcher in a large public organisation (CNRS, CEA etc), or R&D engineer within a company in sectors such as energy or transport

## Registration and scholarships

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- The first year of the master's degree is accessible on file (and / or interview) to candidates with a national diploma conferring the degree of license in a field compatible with that of the master or via a validation of studies or acquired according to the conditions determined by the university or training
- The 2nd year is accessible on file (and / or interview) to candidates who have validated the 1st year of a compatible path or through a validation of studies or acquired according to the conditions determined by the university or training

Public continuing education : You are in charge of continuing education :

- if you resume your studies after 2 years of interruption of studies
- or if you followed a formation under the regime formation continues one of the 2 preceding years
- or if you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training, you can undertake a [validation of personal and professional achievements \(VAPP\)](#)

Would you like to apply and register ? Be aware that the procedure differs depending on the diploma, the degree obtained, or the place of residence for foreign students. Let us guide you simply by following this [link](#)

## Job opportunities

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Occupational integration : The latest surveys (30 months after graduation) show :

- A 93% occupational integration rate
- A median duration of access to the first filling of 3 months
- A stable employment rate of 86%
- 98% are hired full time
- 99% on positions of middle management and intermediate professions

## Practicals informations :

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- > Component : UFR PhITEM (physique, ingénierie, terre, environnement, mécanique), Grenoble INP - Ense3 (Energie, eau, environnement)
- > level : Baccalaureate +5
- > Duration : 2 years
- > Course type : Education in apprenticeship, Professionalisation contract, Initial and Continuing Education
- > Location(s) : Grenoble - University campus

## Contacts

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### Program director

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### Program administration

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## Program

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