

# INTERNATIONAL MASTER'S DEGREE IN HYDRAULIC AND CIVIL ENGINEERING (HCE)



## BOOSTING YOUR SKILLS

By joining our program you will gain the scientific and engineering knowledge required to implement projects for the sustainable use of water, learning about the design and modeling of earth structures, hydraulic structures and the modeling of flows in rivers and networks.

<https://ense3.grenoble-inp.fr/en/study-at-ense3/masters-in-english>



## WHY CHOOSE THE PROGRAM

- **Grenoble is the motherland of hydraulics**
- **Mastering water is a major concern world wide**
- **Small classes that promote good learning and high quality of the teaching.**
- **The program gives a great opportunity of six months internship in close connection with industry, or research.**
- **A unique learning experience on outstanding practical lab works**
- **Cutting edge research environment**

## TESTIMONIES

- « *Personal and professional rewarding experience. High-standard challenging program mainly focused on hydraulic engineering works. It opens the doors to the industrial sector abroad.* » (Veronica, Venezuela)
- « *Course content completely conforms the industrial needs. It's an amalgam of comprehensive lectures designed/delivered by highly qualified professors, practical lab works and industrial internships. No doubt, this master rattles the mind and builds a coherent understanding.* » (Nayyar, Pakistan)
- « *A well oriented course, intended to introduce foreign students into the French Civil Engineering market, by providing high skilled training and satisfying the highest educational standards. Highly recommended.* » (Aristeidis, Greece)

The master in Hydraulic and Civil Engineering offers, for the most able undergraduate students, a 20 month full time 120 ECTS state-of-art technical training in hydraulics, civil engineering, hydraulic works and infrastructures, hydrology, and water resources management. Every module includes hours for tutorials.

<b>SEMESTER 1</b>	French culture language Scientific course of newcomers Continuum mechanics and Finite Element Method Applied structural analysis Materials and structures Engineering hydrology Pressurized flow hydraulics	30
<b>SEMESTER 2</b>	French culture language Soil and rock mechanics Free surface hydraulics Team project Training period (internship) Ground water hydraulics and ground water work	30
<b>SEMESTER 3</b>	Compulsory courses <ul style="list-style-type: none"> <li>• French Language</li> <li>• Mechanical structure design</li> <li>• River dynamics</li> <li>• Flood propagation and mitigation</li> </ul> Elective courses (1 among 6) <ul style="list-style-type: none"> <li>• Asset Management for Civil Engineering Works and Networks</li> <li>• Natural Hazard and Soil improvement</li> <li>• Water Management in a Non Stationnary Environment</li> <li>• Water quality and treatment</li> <li>• Advanced Simulation Tools for Machanics and the Environment</li> <li>• Maritime &amp; Urban Hydraulics</li> </ul>	30
<b>SEMESTER 4</b>	Master thesis (5 months internship)	30

## ADMISSION REQUIREMENTS

Selection is made 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 English test scores.

- You can apply at the 1st year of the master if you have a Bachelor degree in either Science (BSc) or Engineering (BEng) including courses in hydraulic, mechanical and civil Engineering
- You can apply directly at the 2nd year of the master if you have a Master degree or a 4 years of higher education level

### Application deadline and form

Explore our website.

**Tuition fees :** Please visit our website : <http://master-hydraulic.grenoble-inp.fr>

Grants are available and training period in companies are paid.

## MASTER THESIS

### Master thesis

During the last semester, the students prepare their Master thesis. The internship takes place from the beginning of February to the end of June either in an industrial firm or in a research laboratory, in France or abroad.

**Research Laboratories :** 3SR, LEGI, IGE, INRAE...

**Companies :** EDF, ENGIE, Suez, Veolia



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