Université Paris-Saclay

Share

Email destinataire :

Vous devez renseigner un email valide

Envoyer

Une erreur est survenue. Merci de réessayer ultérieurement

Le mail de partage a bien été envoyé.

Add to Compare

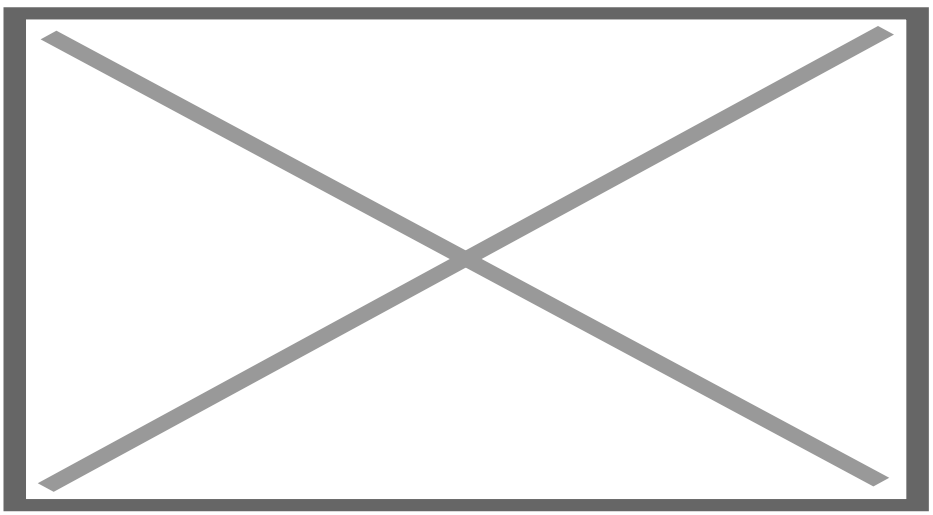
M1 Geomechanics and Construction Work

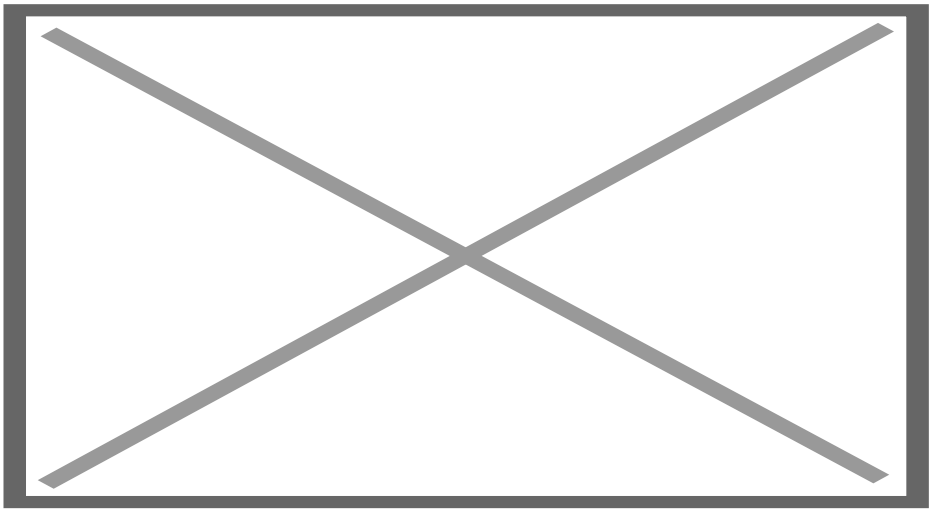
Master's degree
Specialisation Civil Engineering
Enrolment type
Formation initiale
Language(s) of instruction
English
French

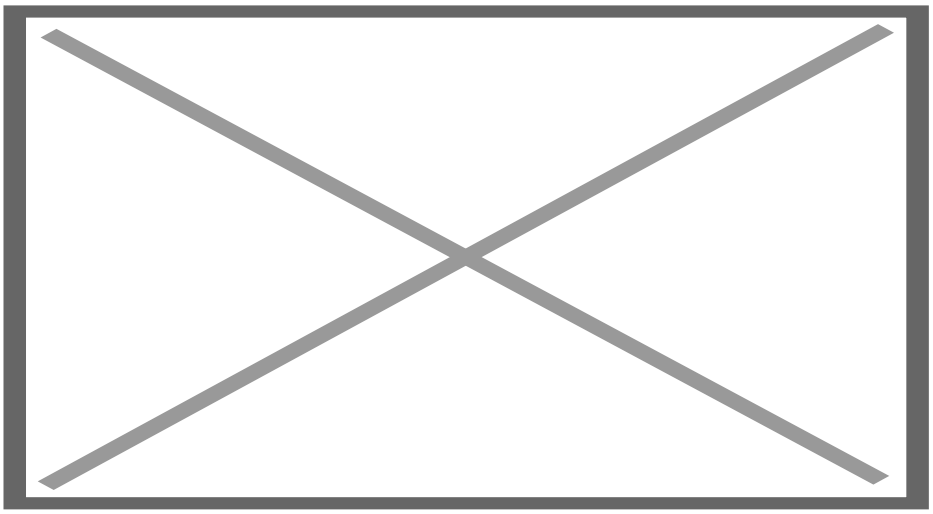
The M1 in Geomechanics and Construction Works at Université Paris-Saclay offers a solid foundation in theoretical and numerical mechanics, while introducing students to real-world engineering challenges and research practices.

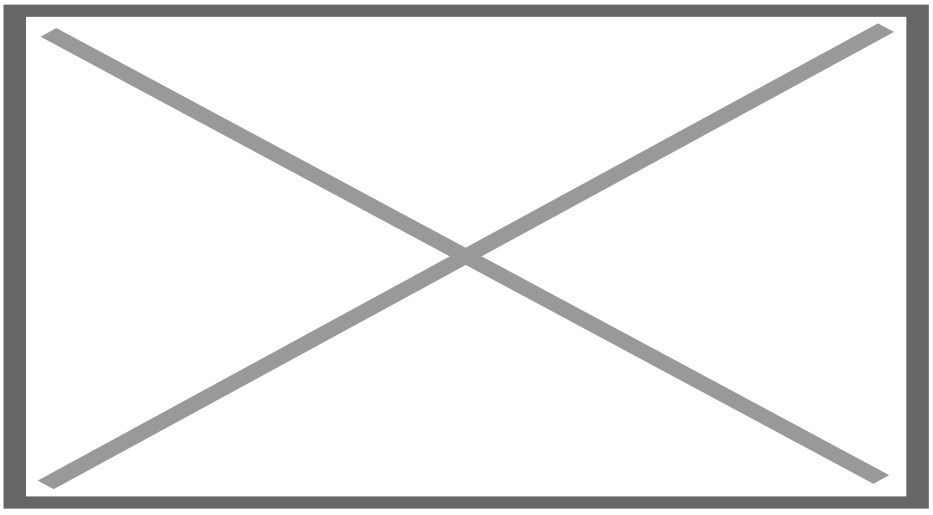
The M1 program is structured in two semesters. Classes are taught both in English and in French. The English language tests accepted are IELTS (minimum average score of 7), TOEFL (minimum 94). Shortlisted applicants will be interviewed before being further processed. The first semester introduces the theoretical background of solid, granular, and fluid mechanics, the principles of mass, heat, and energy transfer, the theoretical foundations of vibration and acoustics, the non-linear material mechanics, and an introductory class in geotechnical engineering. The second semester is devoted to numerical analysis and finite element analysis of multiphysics problems. Students can choose whether to deepen their knowledge in thermodynamics or focus on structural systems and building renovation. Two semestral projects are proposed to further investigate topics out of personal curiosity and discover the engineering and R&D practice.

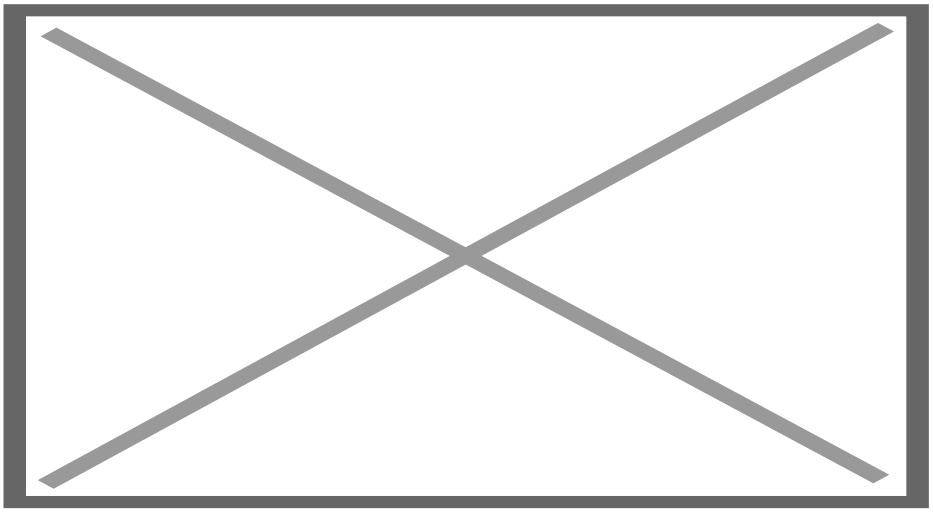
Télécharger la fiche détaillée
Apply Now











Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

Model, simulate, and experiment to address scientific and technological challenges.

Objectives

The M1 program in Geomechanics and Construction Works at Université Paris-Saclay aims to provide students with a strong theoretical foundation in solid, granular, and fluid mechanics, along with the principles of mass, heat, and energy transfer. It introduces essential concepts in structural mechanics, vibrations, acoustics, and the non-linear behavior of materials, as well as a first approach to geotechnical engineering. The program also develops students' abilities in numerical modeling and finite element analysis applied to multiphysics problems. Depending on their interests, students may choose to deepen their knowledge in either thermodynamics or building renovation. Through two semester-long projects, the program encourages independent learning, critical thinking, and exposure to real-world engineering and research challenges. Overall, it prepares students for further study at the M2 level or for professional careers in engineering, construction, or research and development.

Calendar

Start of programme (indicative date)
31/08/2026
End of programme (indicative date)
28/09/2027
Admission

Admission Route

Mechanics
Civil Engineering
Engineering Sciences

Capacity

Available Places

5

Target Audience and Entry Requirements

Engineering undegraduate students

Shortlisted applicants with satisfactory dossiers will be interviewed before being processed further. An interview entails discussion on their academic background (i.e., courses, projects), and will be done in English.

Période(s) de candidature

Inception Platform

From 21/01/2026 to 15/06/2026

Supporting documents

Compulsory supporting documents

Letter of recommendation (compulsory for candidates who have already been enrolled in higher education in France before).

Copy of passport.

Supporting documents (TOEFL, TOEIC, certificate of a teacher ...) of a level of a foreign language.

C1 of CERF level, corresponding to the average IELTS score of 6.5 or above, and a TOEFL score of 94 or above

Motivation letter.

Letter of recommendation or internship evaluation.

All transcripts of the years / semesters validated since the high school diploma at the date of application.

Certificate of English level (compulsory for non-English speakers).

English test acceptable for this M1: IELTS with a minimum average score of 7, or TOEFL with a minimum score of 94

Curriculum Vitae.

Detailed description and hourly volume of courses taken since the beginning of the university program.

Additional supporting documents

VAP file (obligatory for all persons requesting a valuation of the assets to enter the diploma).

Supporting documents :
- Residence permit stating the country of residence of the first country
- Or receipt of request stating the country of first asylum
- Or document from the UNHCR granting refugee status
- Or receipt of refugee status request delivered in France
- Or residence permit stating the refugee status delivered in France
- Or document stating subsidiary protection in France or abroad
- Or document stating temporary protection in France or abroad.

Proof of comparability of diplomas (compulsory for students who can not justify a university degree) https://www.enic-naric.net/.

Programme

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d le
Language	3	Semester 1	40						
Charger le détail									
Fluid mechanics	4	Semester 1	13.5	15					
Charger le détail									
Structural Dynamics and Acoustics	4	Semester 1	10.5	7.5	9				
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d le
Heat, Mass, Energy transfer - Thermal and Fluid	4	Semester 1	15	13.5					
Charger le détail									
Final Project (Semester 1)	3	Semester 1							
Charger le détail									
Continuum Mechanics	4	Semester 1	10	12.5	3				
Charger le détail									
Non linear behaviour of materials	4	Semester 1	12	9	9				
Charger le détail									
Ethics and Responsibility	4	Semester 2	24						
Charger le détail									
Geotechnics	4	Semester 1	7.5	7.5					
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea co
Scientific Computing	4	Semester 2	28.5						
Charger le détail									
Simulation of Coupled Multiphysics problems with the Finite Element Method	4	Semester 2	13.5	15					
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea co
Extra-disciplinary course	4	Semester 2							
Charger le détail									
Final Project (Semester 2)	6	Semester 2							
Charger le détail									
Structural Mechanics	4	Semester 1	14.5	13.5					
Charger le détail									
Materials	4	Semester 2	15	11	3				
Charger le détail									

Teaching Location(s)

ORSAY
GIF SUR YVETTE

Contact

- **Karim TARBALI**

  MCF

- **CentraleSupélec SUPPORT SCOLARITE**

  Support scolarité

http://www.universite-paris-saclay.fr/formation/master/genie-civil/m1-geomecanique-et-ouvrages-geo