

Field of study **Sciences and engineering**

Training available in

Initial training

Recognition of prior learning

How to apply :

<https://www.univ-gustave-eiffel.fr/en/formation/applications-and-enrolment/applications>

Course venue :

Campus Marne la Vallée - Champs sur Marne - Bâtiment
Lavoisier 5 Boulevard Descartes 77420 Champs-sur-Marne

Calendar :

Semester 1: September-January / Semester 2: February-June.
No work placement in M1

Contacts :

LEPRINCE Yamin

MALAVERGNE Valérie (M1)
Academic coordinator

SONNETTE Loren (M1-M2)
Academic secretary
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More information :

For further details :

<https://www.univ-gustave-eiffel.fr/international/etudiants-internationaux>

Service Information,

Orientation et Insertion Professionnelle (SIO-IP) :

sio@univ-eiffel.fr / Tel : +33 1 60 95 76 76



École des Ponts
ParisTech

Master's degree Science and Materials Engineering Science and Materials Engineering



Institut Francilien des Sciences Appliquées (IFSA)

Master's degree M1

TO GET THERE

The Master's degree is open at M1 level to students with a Licence degree in Sciences (Physics, Chemistry) or who come from certain engineering schools. Admission is on the basis of application. Students who have passed M1 can enrol in M2 Advanced Materials and Nanomaterials without selection. Students who have passed M1 in other subjects may be admitted to second year in one of the specialisations of the Master's programme with the agreement of the teaching committee.

ACQUIRED SKILLS

Solid foundation in Physics, Chemistry and Materials Mechanics. Matter-Radiation Interaction Electrochemical, spectroscopic and microscopic characterisation methods. Development of experimentation or modelling approaches to improve the performance of materials or to find innovative solutions. Interpretation, validation and promotion of experiment results. Technological monitoring on materials and their specific field of application. Knowledge of the company and communication with experts and users.

YOUR FUTURE CAREER

Students who have passed M1 in Science and Materials Engineering can be accepted in one of the specialisations of the Master's course (please note that the Materials Science for Sustainable Construction specialisation is selective) and can also apply to other similar M2 programmes, with a view to either carrying out a PhD and going into research or entering the professional world.

BENEFITS OF THE PROGRAM

The objective of this Master's degree is to give students a solid foundation in the physics, chemistry and mechanics of materials: from structure and properties to application. The course content in the field of functional materials can be applied in various highly promising sectors of industry and research and is underpinned by a sustainable-development-based approach.

More information



PROGRAM

SEMESTER 1

Cristallographie (ECTS:3)
Introduction à la nanoscience (ECTS:3)
Electrochimie (ECTS:3)
Analyse et outils numériques (ECTS:3)
Connaissance de l'entreprise 1 (ECTS:3)
Mini Projet (ECTS:3)
Anglais (ECTS:3)
Physique et chimie quantiques (ECTS:3)
Structure et Comportement des Matériaux 1 (ECTS:3)
Physique statistique (ECTS:3)
Structure et Comportements des Matériaux 2 (ECTS:3)

SEMESTER 2

Physique et chimie des solides (ECTS:4)
Interactions matière rayonnement (ECTS:5)
Caractérisation électrochimique (ECTS:4)
Phénomènes de transport (ECTS:3)
Propriétés Mécaniques des Matériaux (ECTS:4)
Introduction aux géomatériaux et énergies durables (ECTS:4)
Projet bibliographique en anglais (ECTS:3)
Physique des solides (ECTS:3)
Méthode d'analyse de surface (ECTS:3)
Stage (ECTS:3)