Université Paris-Saclay

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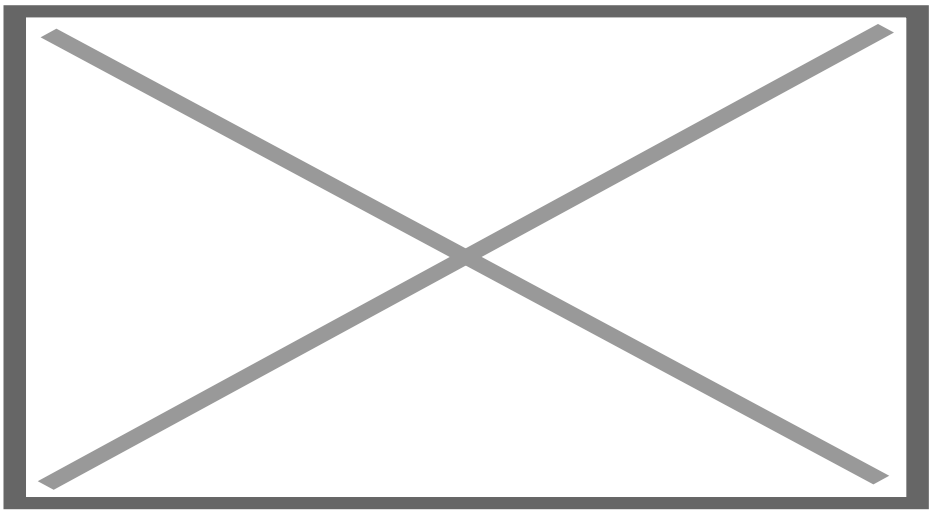
# M2 Ingénierie de la Conception et de la Modélisation en Mécanique

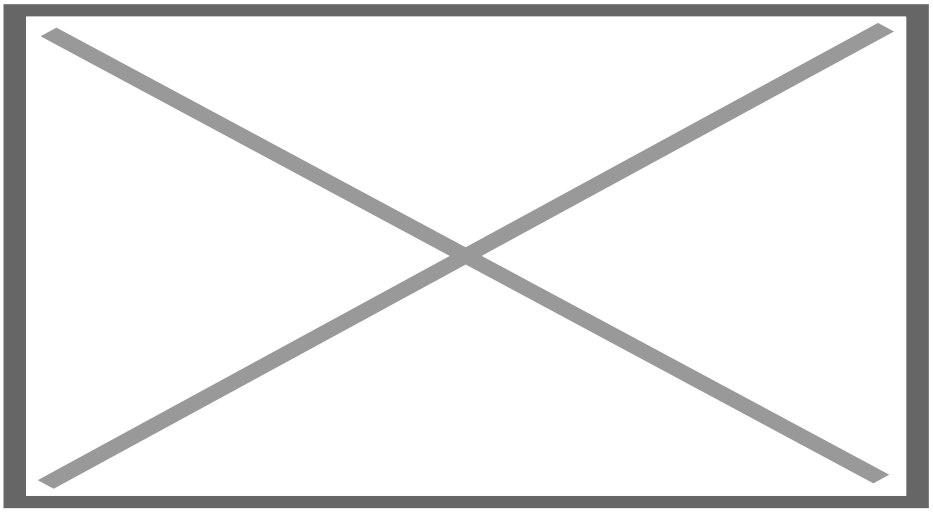
Master's degree
Specialisation Mechanics
Enrolment type
Formation initiale
Formation continue
Language(s) of instruction
French

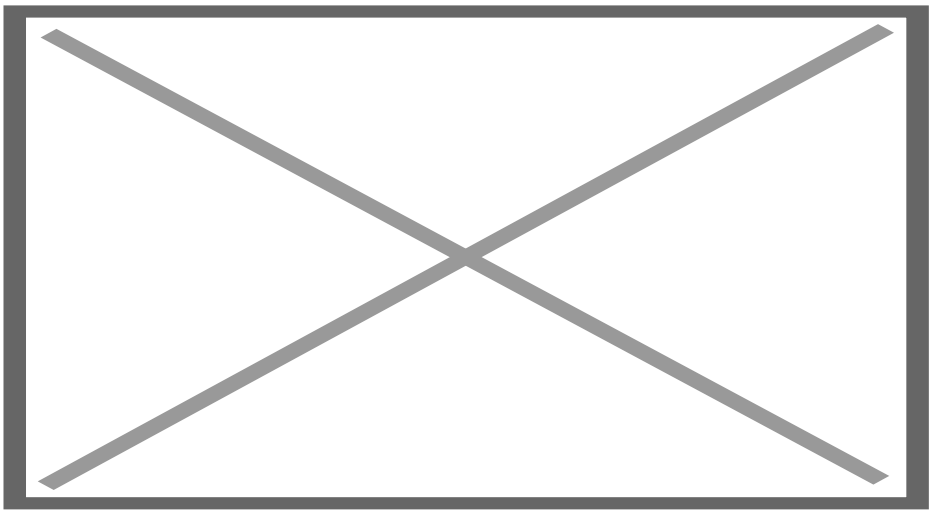
The Engineering Design and Mechanical Modeling program trains researchers and senior professionals in mechanical engineering, addressing industrial needs in innovation and research. It combines scientific knowledge, transversal skills, and specialization in advanced design or numerical simulation, with a flexible curriculum offered in both the first and second years of the Master’s program, for initial and continuing education.

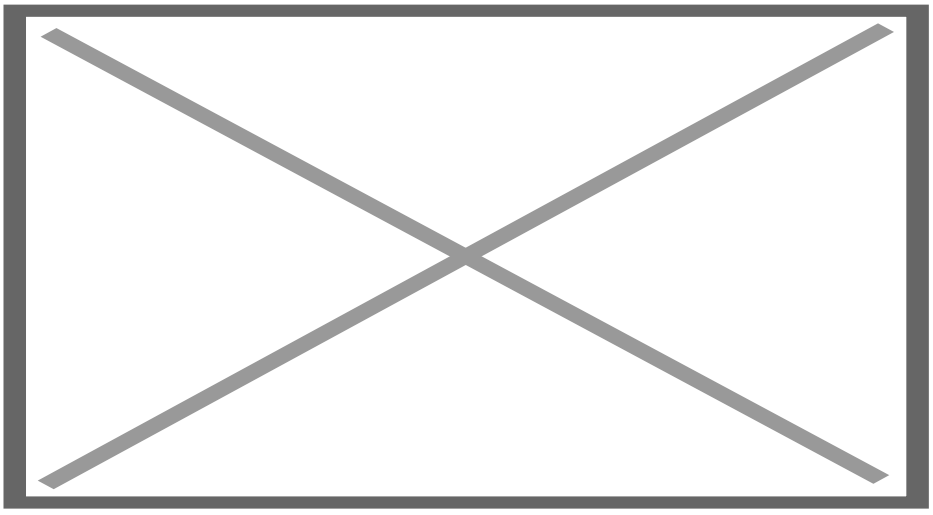
The program is structured over two semesters. The first semester includes both theoretical and practical teaching units in mechanical design and modeling, with two specialized tracks: ICSM (advanced design engineering) and IMS (numerical modeling engineering). The second semester is dedicated to a six-month professional internship, promoting immersion in industrial or academic environments.

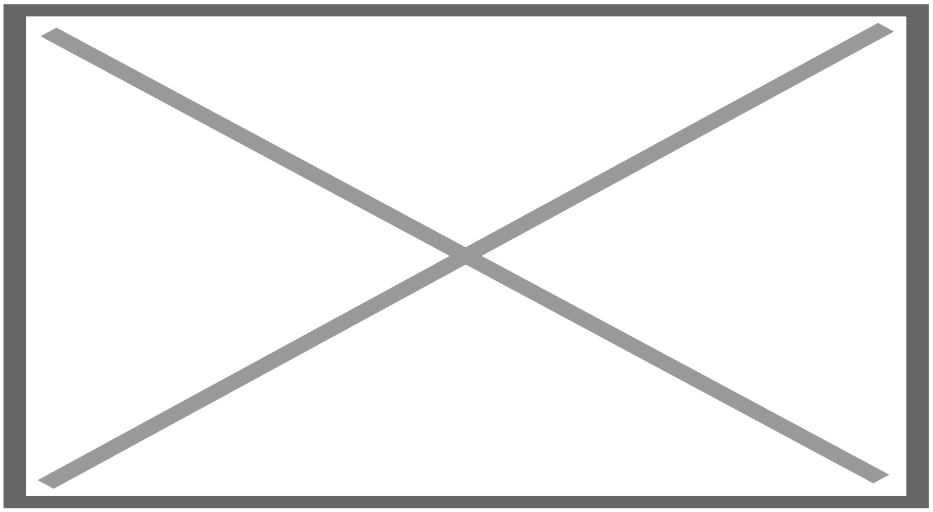
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# Information

- Overview
- Application requirements
- Schedule

Présentation

# Skills

- Independently and unambiguously formulate a mechanical problem to meet a defined objective, from system modeling to the definition of loads and boundary conditions, while proposing an appropriate resolution strategy.
- Apply theoretical and practical concepts and knowledge to support the mathematical formulation of a problem.
- Implement analytical, numerical, or experimental problem-solving tools with a high level of proficiency (justified tool selection, specific adaptation if needed, and critical analysis of results).
- Design and optimize an innovative scientific and/or technological solution within a development or research context (this may concern a product or an experimental protocol).
- Communicate scientific ideas clearly, concisely, and pedagogically—both in writing and orally—ensuring they are well-argued, interpreted, and discussed for dissemination and use by the scientific community (professional or academic).
- Successfully carry out an individual or team project in both organizational (coordination, project management, strategic perspective) and interpersonal dimensions (teamwork, autonomy, responsibility, initiative, etc.).

# Objectives

The Engineering Design and Mechanical Modeling program is part of a training pathway for researchers and senior professionals specializing in mechanical engineering. It responds to a genuine industrial need for research-oriented engineering by combining two major themes: advanced design and numerical modeling-simulation.

This program, offered through both initial and continuing education, pursues two main objectives:

- To provide future research engineers with the theoretical and practical scientific knowledge required in mechanics and mechanical engineering.
- To develop and apply transversal skills essential for successful project execution, including project management, communication, and leadership.

# Débouchés

## Career prospects

### maintenance engineer
### Design engineer in the industrial sector
### Design engineer in the research / scientific sector
### Development Engineer
### Design-Production Engineer

## Further Study Opportunities

### PhD

## Calendar

Start of programme (indicative date)
07/09/2026
End of programme (indicative date)
05/09/2027
Admission

## Admission Route

Physics
Mechanics
Civil Engineering
Engineering Sciences

# Capacity

### Available Places

42

# Target Audience and Entry Requirements

Pour le parcours-type, M1 ISM de la Mention (passerelles possibles depuis M1 MIP). Hors Mention : M1 en mécanique, physique (à dominante mécanique) , Génie Mécanique

# Période(s) de candidature

Inception Platform

From 02/02/2026 to 19/07/2026

From 24/08/2026 to 03/09/2026

# Supporting documents

### Compulsory supporting documents

Rank of previous year and size of the promotion.

Copy diplomas.

Motivation letter.

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

Certificate of French (compulsory for non-French speakers).

Curriculum Vitae.

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

### Additional supporting documents

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

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

Document indicating the list of local M2 choices available here : https://urlz.fr/i3Lo.

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.

Programme

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | distanc learni cours |
|---|---|---|---|---|---|---|---|---|---|
| Stage | 30 | Semestre 2 | | | | | | | |
| Charger le détail | | | | | | | | | |

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practic class |
|---|---|---|---|---|---|---|---|---|
| Formation pour l'entreprise | | | | | | | | |
| Management et Qualité | 3 | Semestre 1 | 10 | 16 | | | | |
| Charger le détail | | | | | | | | |
| Anglais (UE optionnelle) | 3 | Semestre 1 | 10 | 10 | | | | |
| Charger le détail | | | | | | | | |
| Développement durable (UE optionnelle) | 3 | Semestre 1 | 10 | 10 | | | | |
| Charger le détail | | | | | | | | |
| Entreprenariat (UE optionnelle ) | 3 | Semestre 1 | 10 | 10 | | | | |
| Charger le détail | | | | | | | | |
| Tronc commun scientifique | | | | | | | | |
| Couplage CAO-Calcul | 1.5 | Semestre 1 | | 4 | 12 | | | |

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practic class |
|---|---|---|---|---|---|---|---|---|
| Charger le détail | | | | | | | | |
| Dynamique des Structures | 3 | Semestre 1 | 14 | 14 | | | | |
| Charger le détail | | | | | | | | |
| Mécanique Non Linéaire | 3 | Semestre 1 | 18 | 10 | | | | |
| Charger le détail | | | | | | | | |
| Pratique des éléments finis | 3 | Semestre 1 | 8 | 20 | | | | |
| Charger le détail | | | | | | | | |
| Thermique pour la Mécanique | 1.5 | Semestre 1 | 8 | 8 | | | | |
| Charger le détail | | | | | | | | |
| Sous-parcours Ingénierie de la Modélisation et de la Simulation | | | | | | | | |
| Développements de codes de calcul | 3 | Semestre 1 | 10 | | 30 | | | |
| Charger le détail | | | | | | | | |
| Calcul haute performance et IA | 3 | Semestre 1 | 14 | 14 | 12 | | | |
| Charger le détail | | | | | | | | |
| Couplages multiphysiques | 3 | Semestre 1 | 16 | 12 | 12 | | | |
| Charger le détail | | | | | | | | |
| Formulation avancée en éléments Finis | 3 | Semestre 1 | 12 | 12 | 16 | | | |
| Charger le détail | | | | | | | | |
| Sous-parcours Ingénierie de la Conception des Systèmes Mécaniques | | | | | | | | |
| Organisation et Gestion de la Production | 3 | Semestre 1 | 12 | 16 | 12 | | | |
| Charger le détail | | | | | | | | |
| Construction Mécanique | 3 | Semestre 1 | 18 | 14 | 8 | | | |
| Charger le détail | | | | | | | | |

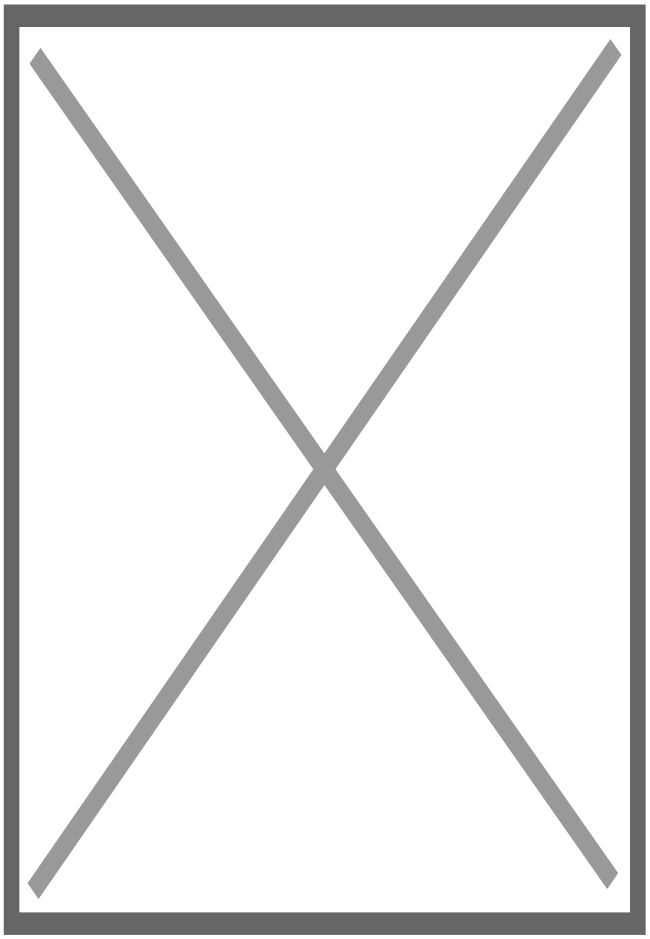
| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed | Lecture/practical | directed study/practic class |
|---|---|---|---|---|---|---|---|---|
| Méthodes avancées de conception et IA<br>Charger le détail | 3 | Semestre 1 | 18 | 14 | 8 | | | |
| Procédés et Matériaux<br>Charger le détail | 3 | Semestre 1 | 18 | 14 | 8 | | | |

# Teaching Location(s)

EVRY

# Training campus

Javascript est requis pour visualiser cette carte.



### Evry

Evry
Bus 9105, 4504
RER D Evry Courcouronnes
Voir
Student restaurant (CROUS)
Library
Student residence
Sports facilities

## Contact

- **Pierre Joli**

http://www.universite-paris-saclay.fr/formation/master/mecanique/m2-ingenierie-de-la-conception-et-de-la-modelisation-en-mecanique