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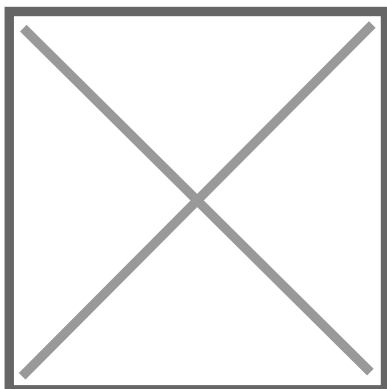
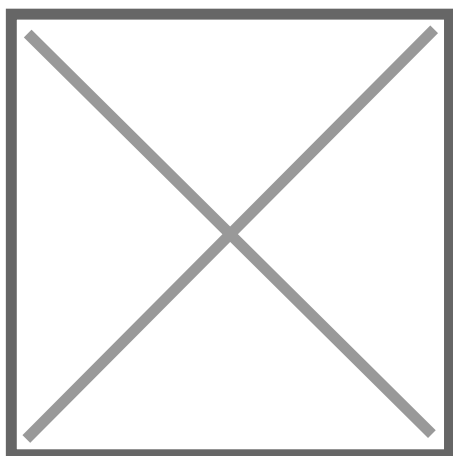
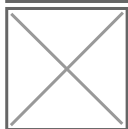
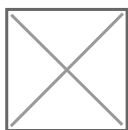
Envoyer

Une erreur est survenue. Merci de réessayer ultérieurement

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## M2 Transfert et conversion de l'énergie



Master's degree

Specialisation Energy

Enrolment type

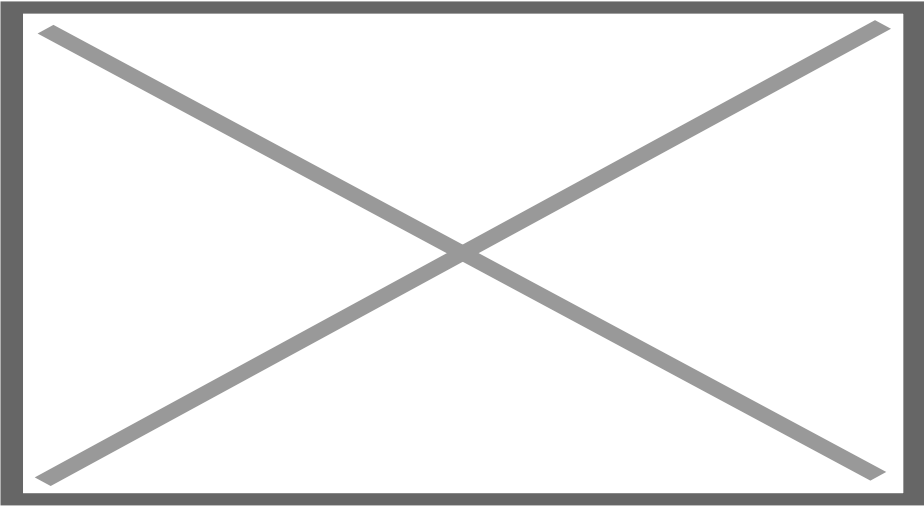
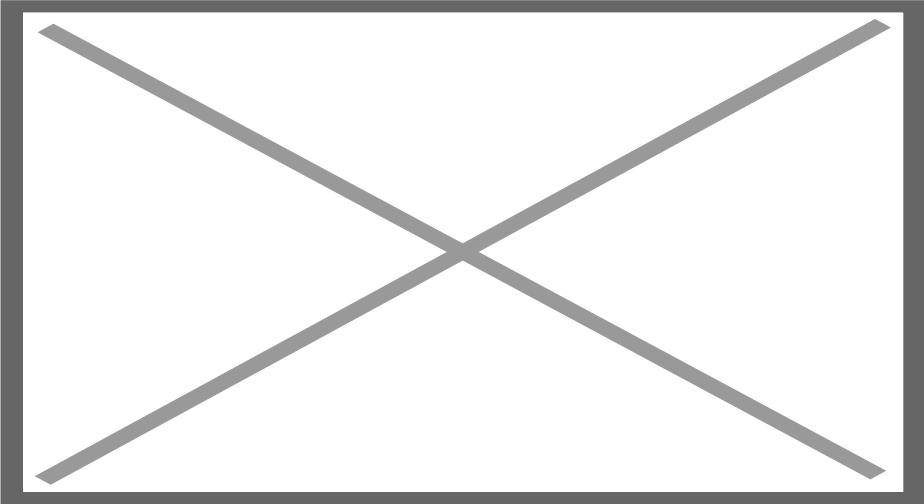
Full-time academic programmes

Language(s) of instruction

French

[Télécharger la fiche détaillée](#)

[Apply Now](#)





■ ■

## Information

- [Overview](#)
- [Application requirements](#)
- [Schedule](#)

Présentation

## Objectives

The Master's program in "Energy Transfer and Conversion" aims to train scientists capable of working at the highest level in the energy sector. The curriculum is designed to meet the growing and significant needs of this field by educating scientists with solid knowledge and skills in the various modes of energy transfer and conversion in its electrical and thermal forms. The program seeks to develop professionals who can meet the energy challenge by mastering complex techniques and advancing in their careers at all levels of responsibility.

The program consists of a core curriculum covering the fundamentals of mass and heat transfer, reactive media, and electrical energy conversion. Students can then choose a specialization track. The "Fluids and Heat" track offers courses on turbulent and two-phase flows, with an in-depth focus on heat transfer. The "Electrical Conversion" track offers courses on advanced electrical systems. In each specialization, students

will approach scientific problems through theoretical, experimental, and numerical methods.

Admission

## **Capacity**

### **Available Places**

10

## **Target Audience and Entry Requirements**

Cours fondamentaux en sciences de l'ingénieur dans les domaines mécanique et/ou électrique

## **Période(s) de candidature**

Inception Platform

From 30/01/2026 to 15/06/2026

## **Supporting documents**

### **Compulsory supporting documents**

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.

Curriculum Vitae.

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

### **Additional supporting documents**

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

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

Sous parcours "Fluide et chaleur"

| Subjects                                                                | ECTS | Semester | Lecture      | directed study | practical class | Lecture/directed study | practical class | directed study/practical class |
|-------------------------------------------------------------------------|------|----------|--------------|----------------|-----------------|------------------------|-----------------|--------------------------------|
| <a href="#">Transferts thermiques et mécaniques des fluides avancés</a> | 4    |          | Annualisé 24 |                |                 |                        |                 |                                |
| ■                                                                       |      |          |              |                |                 |                        |                 |                                |

## Transferts thermiques et mécaniques des fluides avancés

ECTS : 4

Semester: Annualisé

Detail

Lecture: 24

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Turbulence](#) 2 Annualisé 15

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | practical class | directed study/practical class |
|----------|------|----------|---------|----------------|-----------------|------------------------|-----------------|--------------------------------|
|----------|------|----------|---------|----------------|-----------------|------------------------|-----------------|--------------------------------|

■

## Turbulence

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[écoulement  
diphasique](#)

2

Annualisé 15

■

## écoulement diphasique

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Milieux  
poreux](#)

2

Annualisé 15

■

## Milieux poreux

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Rayonnement](#)

2

Annualisé 15

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | class |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|-------|
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|-------|

■

## Rayonnement

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Turbomachine](#) 2 Annualisé 15

■

## Turbomachine

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Combustion  
décarbonée](#) 2 Annualisé 15

■

## Combustion décarbonée

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Plasma](#) 2 Annualisé 15

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class |  |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|--|
| ■        |      |          |         |                |                 |                        |                         |                                |  |

## Plasma

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

Tronc commun

| Subjects                            | ECTS | Semester   | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class |   |
|-------------------------------------|------|------------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|---|
| <a href="#">Sciences numériques</a> | 2    | Semestre 1 | 12      |                | 12              |                        |                         |                                | ■ |

## Sciences numériques

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 12

Practical study : 12

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[Production](#)

[d'énergie:](#)

[nucléaire,](#)

[fossile,](#)

[renouvelable,](#)

[solaire,](#)

[matériaux](#)

[pour l'énergie](#)

3 Semestre 1 48

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | other |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|-------|
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|-------|

## Production d'énergie: nucléaire, fossile, renouvelable, solaire, matériaux pour l'énergie

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 48

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[Langues](#) 2 Semestre 1 20

## Langues

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 20

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[Gestion de  
Projet -  
Bureau  
d'Etude](#) 4 Semestre 1 36

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | c |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|---|
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|---|



## Gestion de Projet - Bureau d'Etude

ECTS : 4  
Semester: Semestre 1  
Detail  
Lecture: 36  
Language(s) of instruction  
Français  
Remote teaching  
non  
Type of assessment  
Evaluation Continue non Intégrale  
[Cycle de Conférences](#) 1 Semestre 1 6



## Cycle de Conférences

ECTS : 1  
Semester: Semestre 1  
Detail  
Lecture: 6  
Language(s) of instruction  
Français  
Remote teaching  
non  
Type of assessment  
Evaluation Continue non Intégrale  
[Activités expérimentales](#) 2 Semestre 1 6 18

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | distance learning course |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|--------------------------|
| ■        |      |          |         |                |                 |                        |                         |                                |                          |

## Activités expérimentales

ECTS : 2

Semester: Semestre 1

Detail

Lecture: 6

Practical study : 18

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

Projet de recherche en laboratoire

| Subjects                           | ECTS | Semester   | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | distance learning course |
|------------------------------------|------|------------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|--------------------------|
| <a href="#">Projet de synthèse</a> | 6    | Semestre 2 |         |                |                 |                        |                         |                                |                          |
| ■                                  |      |            |         |                |                 |                        |                         |                                |                          |

## Projet de synthèse

ECTS : 6

Semester: Semestre 2

Detail

Tutored project 150

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

Stage

| Subjects                                         | ECTS | Semester   | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | distance learning course |
|--------------------------------------------------|------|------------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|--------------------------|
| <a href="#">Initiation à et par la Recherche</a> | 18   | Semestre 2 |         |                |                 |                        |                         |                                |                          |

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | distance learning |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|-------------------|
| ■        |      |          |         |                |                 |                        |                         |                                |                   |

## Initiation à et par la Recherche

ECTS : 18

Semester: Semestre 2

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

OPTION

| Subjects                         | ECTS | Semester   | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | distance learning |
|----------------------------------|------|------------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|-------------------|
| <a href="#">Energie bâtiment</a> | 2    | Semestre 2 | 15      |                |                 |                        |                         |                                |                   |
| ■                                |      |            |         |                |                 |                        |                         |                                |                   |

## Energie bâtiment

ECTS : 2

Semester: Semestre 2

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[scénario de décarbonation](#)

2

Semestre 2

15

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | di |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|

■

## scénario de décarbonation

ECTS : 2

Semester: Semestre 2

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[UE libre](#)

[Catalogue S1](#)

2.5

Semestre

1

■

## UE libre Catalogue S1

ECTS : 2.5

Semester: Semestre 1

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Terminale

Sous parcours "Conversion électrique"

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | di |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|

[Conversion](#)

[électrique en](#)

[régime](#)

[dynamique](#)

4

Annualisé 24

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | di |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|

## Conversion électrique en régime dynamique

ECTS : 4

Semester: Annualisé

Detail

Lecture: 24

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Fiabilité](#) 2 Annualisé 15

## Fiabilité

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Système et composants électroniques avancés](#) 2 Annualisé 15

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | di |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|

## Système et composants électroniques avancés

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[systèmes](#)

[d'énergie](#)

2

Annualisé 15

[embarquées](#)

## systèmes d'énergie embarquées

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[stockage](#)

[d'énergie](#)

2

Annualisé 15

| Subjects | ECTS | Semester | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | di |
|----------|------|----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|
| ■        |      |          |         |                |                 |                        |                         |                                | c  |

## stockage d'énergie

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[smartgrid](#) 2 Annualisé 15

■

## smartgrid

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

[Système à vitesse variable](#) 2 Annualisé 15

■

## Système à vitesse variable

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

| Subjects                                           | ECTS | Semester  | Lecture | directed study | practical class | Lecture/directed study | Lecture/practical class | directed study/practical class | di |
|----------------------------------------------------|------|-----------|---------|----------------|-----------------|------------------------|-------------------------|--------------------------------|----|
| <a href="#">Système de conversion électronique</a> | 2    | Annualisé | 15      |                |                 |                        |                         |                                | c  |
| ■                                                  |      |           |         |                |                 |                        |                         |                                |    |

## Système de conversion électronique

ECTS : 2

Semester: Annualisé

Detail

Lecture: 15

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Détail renseigné au niveau Élément Constitutif

## Teaching Location(s)

GIF SUR YVETTE

## Contact

- **Fiorina BENOIT**  
CentraleSupélec
- **CentraleSupélec SUPPORT SCOLARITE**  
Support scolarité

<http://www.universite-paris-saclay.fr/formation/master/energie/m2-transfert-et-conversion-de-lenergie>