

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  
Clément Ader Boulevard Descartes 77420 Champs-sur-Marne

**Calendar :**

The course includes an optional work placement

**Contacts :**

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MALAVERGNE Valerie

Academic coordinator (L2)

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



## Bachelor's degree Physics and Chemistry Physics and Chemistry



Institut Francilien des Sciences Appliquées (IFSA)

Bachelor's degree L1 L2

**TO GET THERE**

Parcoursup Procedure Admission to second year based on application after one year of general training in Physics and Chemistry. Application via eCandidat.

**ACQUIRED SKILLS**

Solid training in general scientific theory, experimentation and digital technology.

Ability to solve theoretical problems in chemistry and physics and their applications (materials, energy, the environment), as well as in mechanics and electrical engineering.

Ability to implement an experimental method; collect, manage and present results; explain and present a project process, the knowledge concerned and the results obtained verbally and in writing.

**YOUR FUTURE CAREER**

These two years of general scientific training equip students to pursue their studies in one of the five third-year programmes of the Physics and Chemistry Licence: Chemistry and Applications; Electronics, Electrical Energy, Automation; Education; Mechanics; Physics and Applications. After third year, most students of the Physics and Chemistry Licence continue with a Master's or enrol at an engineering school.

After second year, students can also enrol in a first-year course at ESIPÉ, an apprenticeship-based engineering school, in electronics and computer science, civil engineering or mechanics, or a professional Licence in Environmental Management and Protection Professions.

**BENEFITS OF THE PROGRAM**

This Licence degree allows students to specialise gradually and only chose their final programme in the third year. This allows students to acquire a broad foundation of scientific knowledge in chemistry, physics, mechanics, electronics and applied mathematics and computer science, which are essential for fields such as energy, materials and the environment. The first year is a transitional year from high school and teaching methods are adapted accordingly (small classes and tutorials, no whole-year lectures).

More information



# PROGRAM

## SEMESTER 1

**Notions de base en analyse, complexes et trigonométrie** (ECTS:6)  
**Physique 1 optique géométrique, cinématique et dynamique** (ECTS:7)  
- Optique géométrique  
- Cinématique et dynamique du point matériel

**Chimie générale** (ECTS:5)  
**Electricité - Electronique 1** (ECTS:5)  
- Electrocinétique 1 - circuits en régime continu  
- Electronique numérique 1 - circuits combinatoires

**Informatique - C2I** (ECTS:2)  
**Anglais 1** (ECTS:2)  
**Méthodologie** (ECTS:3)  
**Anglais renforcé 1** (ECTS:5)

## SEMESTER 2

**Bases du Calcul matriciel et du Calcul vectoriel** (ECTS:6)  
**Physique 2 bases d'optique ondulatoire et de thermodynamique** (ECTS:6)  
- Optique ondulatoire 1  
- Bases de la thermodynamique

**Cinétique chimique et équilibres en solution aqueuse** (ECTS:6)  
**Electricité - Electronique 2** (ECTS:4)  
- Electrocinétique 2 - circuits en régime sinusoïdal  
- Electronique numérique 2 - circuits séquentiels

**Introduction à la mécanique des fluides et des solides** (ECTS:2)  
**Anglais 2** (ECTS:2)  
**Chimie au quotidien** (ECTS:2)  
**Cycle de vie de produits** (ECTS:2)  
**Enjeux de l'environnement** (ECTS:2)  
**Expériences de physique 1** (ECTS:2)  
**Initiation à l'électronique programmable** (ECTS:2)  
**Initiation à la science des matériaux** (ECTS:2)  
**Projet personnel de formation** (ECTS:2)  
**Stage** (ECTS:2)  
**UE libre** (ECTS:2)  
**Anglais renforcé 2** (ECTS:6)

## SEMESTER 3

**Mathématiques 3** (ECTS:5)  
**Electromagnétisme -1** (ECTS:6)  
**Mécanique du solide** (ECTS:5)  
**Thermodynamique et réactivité en chimie** (ECTS:6)  
**Electronique 1** (ECTS:4)  
**Découverte de l'entreprise et des métiers scientifiques** (ECTS:2)  
**UE libre** (ECTS:2)  
**Stage découverte** (ECTS:2)  
**Anglais - 3** (ECTS:2)

## SEMESTER 4

**Mathématiques - 4: algèbre linéaire, proba et statistique** (ECTS:4)  
**Informatique et programmation** (ECTS:3)  
**Des vibrations aux ondes** (ECTS:3)  
**Anglais-4** (ECTS:2)  
**Mécanique des fluides** (ECTS:4)  
**Chimie minérale** (ECTS:5)  
**Mécanique Quantique** (ECTS:4)  
**Thermodynamique - 2** (ECTS:3)  
**Expériences de chimie et de physique** (ECTS:3)  
**Introduction à l'élasticité** (ECTS:3)  
**Electrotechnique** (ECTS:6)  
**Introduction mécanique des systèmes de solides rigides CAO** (ECTS:3)  
**Filtrage et introduction à l'analyse harmonique** (ECTS:3)  
**UE libre** (ECTS:3)  
**Stage découverte** (ECTS:3)