

MASTER ENERGY

IN BRIEF

Type of diploma : Master degree
Ministry field : Science and Technology
Mention : Energie

PRESENTATION

Why SIMOS?

Due to the complexity of current industrial processes, the development and improvement of the operations of these facilities is possible only with rigorous optimization methods.

The International Master's SIMOS (SIMulation and Optimization of energy Systems) offers specialized training in the field of Energy and more specifically, the optimization of energy systems.

This training is of high interest for students from around the world.

OBJECTIVES

The International Master's SIMOS (SIMulation and Optimization of energy Systems) offers specialized training in the field of Energy and more specifically, the optimization of energy systems.

SKILLS

The graduates of the Master's degree will be able to analyze and estimate a complex installation of production, conversion, transport, storage and energy consumption to insure the management. They will also may design new units.

TRAINING CONTENT

Semester 1

ACCREDITED ESTABLISHMENTS

* Université de Pau et des Pays de l'Adour

MORE INFO

ECTS credits : 120

Education language :
English

Internship : Mandatory

LEARN MORE

[ENSGTI, Ecole Nationale Supérieure en Génie des Technologies Industrielles](#)

* **Linguistic preparation - Level I**

100h

8 ECTS Credits

* **Computer tools**

100h

8 ECTS Credits

* **Mathematics**

50h

4 ECTS Credits

* **Process Engineering and Energy**

150h

10 ECTS Credits

Semester 2

Mid-September – mid-January

* **Linguistic preparation - Level II**

100h

8 ECTS Credits

* **Programming and numerical methods**

100h

7 ECTS Credits

[Read more...](#)

* **Fundamentals of Engineering Thermodynamics**

50h

4 ECTS Credits

[Read more...](#)

- * **Worldwide energy supply issues**

60h

4 ECTS Credits

[Read more...](#)

- * **Energy conversion**

90h

7 ECTS Credits

[Read more...](#)

Semester 3

mid-January – June

- * **Energy efficiency and reuse**

100h

7 ECTS Credits

[Read more...](#)

- * **Modelling of energy systems**

100h

7 ECTS Credits

[Read more...](#)

- * **Numerical tools for optimization**

100h

7 ECTS Credits

[Read more...](#)

- * **Projects**

100h

9 ECTS Credits

[Read more...](#)

Semester 4

July – December

Project or internship conducted in a company or research laboratory in France or abroad, the main objective being related to the professional project of the student. *30 additional ECTS credits*

[Read more...](#)

ORGANIZATION

- Master SIMulation and Optimization of energy Systems

ACCESS CONDITIONS

Scientific Bachelor's degree

Applications are opened from January to May each year.

Apply at: ensgti.univ-pau.fr/master-simops

Tuition fees

6000€ / year

TARGET

Foreign students

NEEDED PREREQUISITE

- * Prerequisites include strong basic knowledge in mathematics, physics, heat transfers, thermodynamics and IT.
- * Possibility to follow these courses in the framework of ERASMUS Exchanges.

PROFESSIONAL INSERTION

Research and Development or Production, Expertise in optimization of energy systems.

ORGANIZATIONAL UNIT

ENS en Génie des Technologies Industrielles

PLACES

Pau

Master SIMulation and Optimization of energy Systems

PRESENTATION

Due to the complexity of current industrial processes, the development and improvement of the operations of these facilities is possible only with rigorous optimization methods.

The International Master's SIMOS (SIMulation and Optimization of energy Systems) offers specialized training in the field of Energy and more specifically, the optimization of energy systems.

This training is of high interest for students from around the world.

SKILLS

The graduates of the Master's degree will be able to analyze and estimate a complex installation of production, conversion, transport, storage and energy consumption to insure the management. They will also may design new units.

ADDITIONAL INFORMATION

Language of teaching : English

Introduction to the French language and culture.

[International Welcome Desk](#)

TRAINING CONTENT

The program is organized in four semesters (120 ECTS credits) :

The student will spend at least 3 semesters in France, the first semester S1 (30 ECTS credits) can be obtained by acquired knowledge accreditation.

S1 : Linguistic and technical basics

S2 : Specialization in energy

MORE INFO

ECTS credits : 120

Type of education

* Foreign students

Number of students : 0

Internship : Mandatory

S3 : Optimization of energy systems

S4 : Final study project

Program : [read more](#)

CONTROL KNOWLEDGE

<http://ensgti.univ-pau.fr/master-simos/>

ACCESS CONDITIONS

Applications are opened from January to May each year.

Apply at: ensgti.univ-pau.fr/master-simos

TUITION FEES

6000€ / year

TARGET

Foreign students

NEEDED PREREQUISITE

- Scientific Bachelor's degree with prerequisites, including strong basic knowledge in mathematics, physics, heat transfers, thermodynamics and IT.
- Possibility to follow these courses in the framework of ERASMUS Exchanges.

PROFESSIONAL INSERTION

Research and Development or Production, Expertise in optimization of

energy systems.

ORGANIZATIONAL UNIT

ENS en Génie des Technologies Industrielles