



Institut Universitaire de Technologie (IUT)

FIELD Sciences, technologies, santé

Course suitable for

Initial Education

Continuing Education

Recognition of prior learning

Apprenticeship

• How to apply :

Procédure Parcoursup pour la rentrée de septembre et dossier de candidature pour la rentrée de janvier.

• Course venue :

IUT Champs-sur-Marne,  
Champs-sur-Marne

• Calendar :

September to september over two years 4 week operator training period at the end of semester 1 10 week technician training period in semester 4 January to January over two years 4 week operator training period at the end of semester 1 10 week technician training period in semester 4 or in apprenticeship in semester 4

• Contacts :

- Academic coordinator : JOLY Cecile  
- Academic secretary : Sabine GILLET FROT (DUT1-DUT2)  
Building : IUT de Marne la Vallée - Site de Champs sur Marne  
Office : 151  
Phone number : 01 60 95 85 93 / Fax: 01 60 95 85 55  
Email : [Sabine.Gilletfrot@u-pem.fr](mailto:Sabine.Gilletfrot@u-pem.fr)  
- Academic secretary : PORTE Christel  
Building : IUT de Marne la Vallée - Site de Champs sur Marne  
Office : 151  
Phone number : 01 60 95 85 12 / Fax: 01 60 95 85 55  
Email : [Christel.Porte@u-pem.fr](mailto:Christel.Porte@u-pem.fr)

For further details :

Information, Career guidance and Professional integration  
Department  
(SIO-IP) : [sio@u-pem.fr](mailto:sio@u-pem.fr) / +33 1 60 95 76 76



# UNIVERSITY TECHNICAL DIPLOMA



## GENIE THERMIQUE ET ENERGIE

DUT1-DUT2

### ENTRY REQUIREMENTS

High School Diploma in Science or Science and Technology in Industry and Sustainable Development.

### ACQUIRED SKILLS

Knowledge of the basics in energy engineering. - Technological skills in the field of energy and the environment. Scientific and operational skills. Our goal is to train men and women to be specialists capable of finding the best technical solution for designing and setting up energy-efficient systems, monitoring field operations and optimising energy design in energy-efficient buildings and their facilities. Energy is one of the most pressing environmental issues and also affects our daily lives. How can we improve thermal, visual, olfactory and acoustic comfort in gyms, restaurants, shops, theatres or schools while complying with current regulations ? By choosing the most appropriate energy systems (heating, cooling, air treatment, etc.) and by deciding on the best technical solution through network calculation (water, air and electricity).

### YOUR FUTURE CAREER

With a DUT in Thermal Engineering and Energy, you will be able to provide energy-efficient and sustainable energy solutions which are environmentally-friendly and comply with regulations in the industry, construction and transport sectors, whilst optimising investment and operating costs. Career opportunities in: - Energy production and distribution. - Industry and construction (manufacturing-operation-inspection-maintenance). - HVAC engineering consultancy firms. - Assessment agencies and consultancies. - Laboratories, test sites, etc. - Manufacturers and distributors (design technician, project manager, technical sales). Further studies possible: professional degree (energy efficiency of buildings, sale of energy products and services, management and maintenance of energy facilities), Bachelor's - Master's degree in Engineering Sciences, physical sciences - Engineering School (INSA, UTT, UTC, ESIFE, ISUPFERE, ENSAM, ESTP, CEFIPA...).

### BENEFITS OF THE PROGRAM

A general and scientific foundation enabling you to move on to further studies. Possibility to start the course in september or february (one in September and one in January). Laboratories and platforms tailored to technological training. Teaching methods which enable you to develop independence (supervised projects during the 4 semesters, learning of working methods). A multi-disciplinary team of energy engineering researchers, teachers and professionals. Differentiated modules for continuation of studies (further technology, enhancement of professional skills, scientific openness). Preparation for the TOEIC (Test of English for International communication).

• APPRENDRE • INVENTER • COMPRENDRE

## STUDY PROGRAM

### SEMESTER 1 Undergraduate Technological Degree in Thermal and Energy Engineering

UE 1.1 General elementary studies - Applied Mathematics - Informatics:spreadsheets - Expression-communication: elementary communication - English - Adaptation to differentiated study routes - UE 1.2 Elementary Energy Engineering - Thermodynamics - Electricity - Energy and Environment - Mechanics - UE 1.3 Elementary professional practice - Measurement,metrology - Technology of Thermic Systems - Engineering departments - Personal and professional project -

### SEMESTER 2 Undergraduate Technological Degree in Thermal and Energy Engineering

UE 2.1 Applied General Studies - Applied Mathematics - Automatic systems and electric circuits - Expression-communication:communication, information and arguing case - English - Differentiated teaching - Project management - tutor-supervised project - UE 2.2 Mechanics and Energy Engineering - Thermodynamics - Fluid mechanics:hydraulics - Physics of interior spaces : lighting, acoustics, air quality - Material Properties - UE 2.3 Thermics - Heat transfert - Thermics of premises - Techniques in Thermic Engineering - Electrothermy - Personal and Professional Project - Internship -

### SEMESTRE 3

UE 3.1 : General Training And Project - Applied Mathematics - Expression Communication - English - Informatique : programmation - Tutor-supervised project - UE 3.2 : Transferts et fluides - Thermic Transfer - Fluids Mechanics : aerodynamics - Combustion and furnaces - Technical studies - UE 3.3 : Thermodynamic Systems - Régulation - Refrigerating machines - Air treatment, air conditioning, ventilation - Aeraulic sizing - Personal and Professional Project -

### SEMESTRE 4

UE 4.1 : Vocational Preparation - Expression Communication - English - Fluids and networks - Energy management - Professional software - Technical studies - UE 4.2 :Industrial Energy Engineering And Project - Thermic machines - Heat exchangers - Tutor-supervised project - UE 4.3 :Finding A Job - Internship -

### SEMESTRE 3

UE 3.1 : General Training And Project - Applied Mathematics - Expression Communication - English - Informatique : programmation - Tutor-supervised project - UE 3.2 : Transferts et fluides - Heat Transfer - Fluids Mechanics : aerodynamics - Combustion and furnaces - Technical studies - UE 3.3 : Thermodynamic Systems - Régulation - Refrigerating machines - Air treatment, air conditioning, ventilation - Aeraulic sizing - Personal and Professional Project -

### SEMESTRE 4

UE 4.1 : Vocational Preparation - Expression Communication - English - Compressible flows - Mathématiques for Engineer - Numerical modeling - Initiation to scientific experimentation - UE 4.2 :Industrial Energy Engineering And Project - Thermodynamics and engine cycles - Heat exchangers - Tutor-supervised project - UE 4.3 :Finding A Job - Internship -