

## Thermodynamics

### Energy conversions

#### IDENTIFICATION

CODE : GM-5-S1-EC-MSCEN  
ECTS : 3.0

#### HOURS

Lectures : 0.0 h  
Seminars : 14.0 h  
Laboratory : 16.0 h  
Project : 0.0 h  
Teacher-student  
contact : 30.0 h  
Personal work : 12.0 h  
Total : 42.0 h

#### ASSESSMENT METHOD

2 Final Exam (2x2h) + oral speech

#### TEACHING AIDS

#### TEACHING LANGUAGE

French

#### CONTACT

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#### AIMS

- Describe and analyze thermodynamically the operating principles of energy conversion systems in sectors such as transport, industry or energy production.
- Identify the different components of a turbomachine and explain the role of each element.
- Modeling and analyzing, from the point of view of fluid mechanics, the performance of a turbomachine.
- Identify the different components of an internal combustion engines, know the different way to control and to optimise an internal combustion engine

#### PRE-REQUISITE

Thermodynamics, Fluid mechanics