

Building energy



SCHOOL

Polytech Graduate School of
Engineering



CAMPUS

Belle-Beille



LEVEL

Engineering 3rd year



OPEN TO EXCHANGE STUDENTS

Yes



SEMESTER

Spring (S2)

- > **Degree course:** Building and Safety
- > **Teaching unit:** Energy and Fluids
- > **Course language:** English
- > **Duration (hours):** 20
- > **ECTS:** 3
- > **Teacher(s):** Marie-Lise PANNIER

> Assessment:

- Continuous assessment
- Final exam

> Teaching methods:

- | | | |
|--|----------|-------------------------------------|
| <input type="checkbox"/> Lecture course | hours | <input type="checkbox"/> Case study |
| <input type="checkbox"/> Tutorial course | hours | <input type="checkbox"/> Project |
| <input checked="" type="checkbox"/> Practical work | 16 hours | |

COURSE DESCRIPTION

- Study of the operating principles of an air to water heat pump;
- Study of the performance of a solar thermal collector;
- Study of the performance of photovoltaic solar cells;
- Study of the functioning of an air handling unit;

OBJECTIVES

- o Understanding the operating principle of energy systems commonly used in buildings;
- o Determining of the efficiency of energy systems;
- o Knowing the key parameters to design efficient energy systems;

PREREQUISITES

Basic knowledge of physics

SELECTIVE BIBLIOGRAPHY

Programme RAGE, « Pompes   chaleur air ext rieur / eau en habitat individuel. Conception et dimensionnement. Recommandations professionnelles », Edition AQC, ISBN : 978-2-35443-115-0, Octobre 2013.
Programme RAGE, « Chauffe-eau solaire en habitat individuel. Conception et dimensionnement. Recommandations professionnelles », Edition AQC, ISBN : 978-2-35443-131-0, Juillet 2013.
Programme RAGE, « Syst mes photovolta que par modules rigides en toiture inclin es. Guide de conception, de mise en oeuvre et de maintenance », Edition AQC, ISBN : 978-2-35443-127-3, Mars 2013.