

IDENTIFICATION

Course code : E5BE9ER1
ECTS : 2.5

DURATION

Lectures : 6
Tutorial classes : 18
Labs :
Total : 24

Project :
Personnal work :

ASSESSMENT

- In-class assignments - Homework assignments

TEACHING MATERIALS

- Course and tutorial handouts - Past exam papers - In-house calculation tools

LANGUAGE

English

CONTACT

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UE : Énergies

COURSE : Renewable Energies (excluding solar)

SCOPE OF THE COURSE

OBJECTIVES

Master all means of production and conversion of renewable energy.

COMPETENCE AND SKILLS

Master all means of production and conversion of renewable energy.

PROGRAM

- Energy mix and the share of renewables
- Electricity production from hydropower
 - Operating principles and technologies
 - Characteristics and sizing
 - Regulatory aspects
- Electricity production from wind energy
 - Operating principles and technologies
 - Characteristics and sizing
 - Regulatory aspects
- Ocean thermal energy conversion
 - SWAC (Sea Water Air Conditioning) : Principles and example from Réunion
 - Electricity production from OTEC : principles and Réunion example
- Wave energy systems : Principles, conversion, storage and example from Réunion
- Geothermal energy, Canadian and Provençal wells.

BIBLIOGRAPHY

- Gérard Sarlos, Pierre-André Haldi, Pierre Verstraete. *Systèmes énergétiques* (Traité de Génie Civil volume 21). EAN13 : 9782880744649
- Francis Meunier. *Les énergies renouvelables*. EAN13 : 9782846703031
- *Le livre blanc des énergies renouvelables*. Syndicat des énergies renouvelables

REQUIREMENTS

- Thermodynamics
- Fluid mechanics
- Heat transfer