SPRING SEMESTER (M1.2/I4.8)

ENERGY

LILLE CAMPUS

Rémy VIROLLET
remy.virollet@icam.fr
+33 (0)3 20 22 36 05

Icam Lille Campus
6 rue Auber - BP 10079
59016 Lille cedex - France

Prerequisites

- Bachelor's Level - physics, electrical engineering and power electronics, mechanics, materials science, thermodynamics, heat transfer, fluid mechanics, project management, design, industrial methods and organization

Note that as lectures and case studies for industrial partners are mostly conducted in French, having a good level of French is recommended.

Assessment

- Regular Progress Reports and Consultation
- Conference and Practicals Reports
- Technical and Project Reports
- Project Oral and Written Presentation

Partners

Partner companies who deliver lectures/conferences or mentor case studies.

Total / RTE / Dalkia / Cegelec / Pôlénergie / Cohérence Energie / Ramery Energie / Synergetic / TPA (Total)

OBJECTIVES

- Acquire knowledge in renewable energy, transport and distribution of electrical energy, energy efficiency of various systems

TARGET PROFESSIONS

- Energy process engineer
- Energy production, transport & distribution
- Energy efficiency engineer
- Energy design office

PROGRAM

Lectures/Conferences

Mainly held by industry partner representatives:

- Industry insights: experiences, problem situations, economic, political, social and ethical topics

Energy production

- Oil and gas energy: exploitation
- Renewable energy: current and future sources
- Biomass: calorific values and production

Energy transport and distribution

- HV electrical network: lines and interconnection stations
- LV electrical network: HV/LV substations, customer connection, protection of people and goods
- Heating networks: general and theoretical aspects

Energy efficiency

- Improvement of energy performance of products, buildings and services
- Improvement of production and distribution efficiency

Regulations & Standards

- Energy management (NF EN ISO 50001 standard)

Practical & case studies

- Energy efficiency improvement

Typical project(s)

Mainly with industrial customers:

- Energy efficiency optimization in heat networks
- Smart building

Competencies

Carry out a scientific approach to:

- Implement renewable energy systems
- Perform energy efficiency calculations
- Understand and respond to customer needs