

CURRICULUM DETAILS

I TECHNOLOGICAL COURSES

Design, construction and management of gas distribution networks
Design, construction and management of gas transport networks
Liquefied natural gas
Underground storage of gas
Life Cycle of Energy Systems
Gas Thermodynamics
Biogas and gas vehicles
Alternative fuels : H₂, biomass, synthetic fuels
Data and Smart grids
CO₂ emissions treatment : capture, recovery and storage
MOOC Energy transition
MOOC Gas experience
MOOC Global energy Challenges

II COURSES IN ECONOMY AND MANAGEMENT

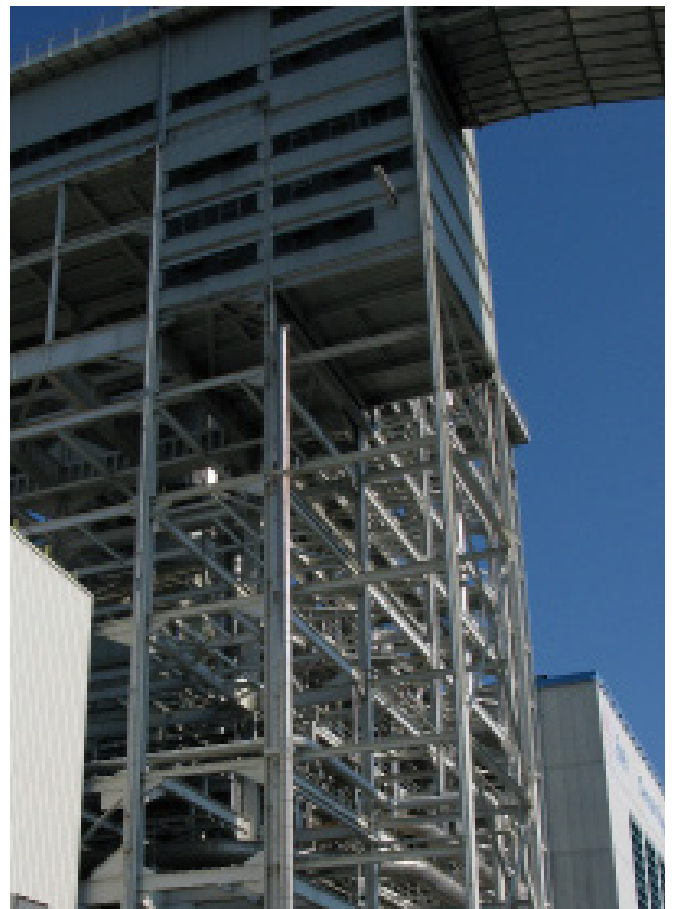
Energy markets : Negotiation and Trading
Innovative Energy - Financing projects
Innovative projects management
Management and legislation
Change management

III OTHER COURSES

Gas seminar in a foreign country
PSL weeks (Paris Sciences et lettres)
Technological or economic survey

IV INDIVIDUAL TECHNICAL CASE STUDIES

Technical case studies
Mini projects
Professional thesis



migaz.minesparis.psl.eu

www.minesparis.psl.eu

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Theoretical courses take place at:

MINES ParisTech
60, Boulevard Saint-Michel
75006 - PARIS
RER : Luxembourg

Post Master's Degree In **GAS** Engineering and Management



AND MANAGEMENT OF GAS

ENGINEERING

THE **POST MASTER DEGREE** (PMD) IS A LABEL ATTRIBUTED SINCE 1985 BY THE "CONFERENCE DES GRANDES ECOLES" TO A ONE-YEAR SPECIALIZED VOCATIONAL COURSE ORGANIZED BY A GRANDE ECOLE.

Created in 1987, the PMD aims at ensuring the training of high-level engineers holding a Post Master Degree. The covered fields are transport, storage, distribution, negotiation and trading, and the uses of natural gas.



OBJECTIVES

In a rapidly changing energy and political world, and with new corporate company cultures, the Gas Post Master Degree will enable future decision-makers in the gas field to:

Integrate:

- a complete and concrete vision of the gas valorization chain, its stakes at the heart of the energy transition with respect to renewables and digital data
- a global understanding of the stakes and constraints of different stakeholders: gas companies in France and abroad, digital stakeholders, policy makers, agricultural world...
- the trend evolution of the gas economic model, integrating greater complementarities of energy networks

Handle and control:

- new gas technologies : Bio methane, Bio NGV, Hydrogen injection, Decentralized ener-

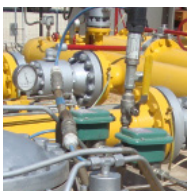
gy management and smart grids, Power to Gas, ..., as well as injection to / consumption from the networks

This curriculum will also allow future decision-makers in the gas field to integrate project management methodologies :

- plan, organize, evaluate
- legal, financial, technical, political, ... dimensions of a project
- know how to deploy innovation and change
- master the rules of the game of a win / win negotiation

Finally this Master will promote the position towards openness:

- have the culture of the technological innovations
- check the progress of research and cultivate the entrepreneurial attitude
- Develop creativity and dare to deviate from standard solutions



TEACHING STAFF

To reach the stated objectives, the courses are organized partly around a series of modular sessions proposed by numerous specialists from the French gas industry, and academic staff from MINES Paris-Tech and other practising engineers.

Numerous technical visits and practical activities are organized to complete the theoretical training.



EDUCATION SCHEDULE

This one-year post graduate diploma is divided into two parts:

- Courses

From early September to the end of March

During this period, each student undertakes the program of courses they have chosen, which requires, at least 12 to 13 weeks before the internship; a total of 45 ECTS.

Different projects:

Integration:

The Master begins by a one week technical seminar in a foreign country.

Case studies:

Each student must write a report on a subject related to the courses, which will be imposed. This work will have to be carried out in a strictly limited time (1 week).

A "Technological or economical survey":

Each student will propose a topic for a project at the beginning of the course. The period between the submission of the project and the end of the session is devoted to investigating the project and compiling a bibliographical study.

It forms the subject of a written report and a viva in front

ADMISSION CONDITIONS

Selection is based on qualifications. Admission is pronounced by a jury composed of professors and gas industry representatives. The first selection is on the candidates profile and their knowledge of the French language. A series of interviews is then organized for those who have been pre-selected.

The orientation and the evolution of the PMD are ensured by the Council of Orientation which includes gas industry representatives and the principal professors in this specialization.

of a panel composed of gas industry experts. This assessment takes place before the students leave for their internship at the end of the course.

- An internship

Which takes place from beginning of April to end of September

This internship must be carried out in a company involved in the gas industry. It's supposed to last six months.

During their internship, the students must write a professional thesis and defend it in front of a jury.

