Master’s degree in Petroleum Engineering Reinforcement

Geosciences - Reservoirs - Production

Admission requirements

ENGLISH LANGUAGE REQUIREMENTS
Minimum required score CECRL B2 level in English

ACADEMIC REQUIREMENTS
Applicants must hold a Master of Engineering in fields such as petroleum engineering, geosciences and/or physics. Note that a background in chemistry is not recommended for this master.

ADMISSION REQUIREMENTS
Students must have a Master Degree and must be ranked in the top 20%.

Contact
For any supplementary information or questions related to application, please contact: charles.aubourg@univ-pau.fr

More information:
http://formation.univ-pau.fr/m-petroleum

International Welcome Desk:
http://univ-pau.fr/en/welcome-desk

Detailed Program Facts

ACADEMIC YEAR: Our full academic year runs from September to June
APPLICATION DEADLINE: Applications are opened from November to April
HOW TO APPLY: The application documents must be uploaded on the website: https://aap-e2s.univ-pau.fr
PROGRAM INTENSITY: Full-time
DURATION: 1 year
CREDITS: 60 ECTS
LANGUAGE: Fully taught in English
LEVEL OBTAINED: Master
HEAD OF THE MASTER PROGRAM: Professor Charles AUBOURG
LOCATION: College of Sciences and Technology for Energy and Environment on the Pau campus (Pau, France)
Overview

The Master of Petroleum Engineering offers a classical two-year training in French and a one-year training in English for graduate students. The one-year class “Petroleum Engineering Reinforcement” (~350 h lecture and 5-6 month internship) will be particularly appreciated by foreign students who wish to reinforce their background in different fields of Petroleum Engineering. This Master benefits from a particularly rich environment in geosciences and energy.

The Master is part of the Faculty of Sciences and Technologies for Energy and Environment (STEE). The STEE Faculty has been founded within the framework of the prestigious label I-SITE which granted the project Energy Environment Solutions (E2S). The master also benefits from the immediate surroundings of Carnot ISIFOR (Sustainable Engineering of Georesources) and a national pole for Geosciences and Innovation (Avenia). In addition, Pau hosts dozens of Petroleum companies, including Total, Terega, Modis, etc... Pau has therefore one of the highest concentration of petroleum engineers and scientists in France.

Student Learning Outcomes

At the end of this program, according to their optional choices, the students in the “Petroleum Engineering Reinforcement Master” will be able to:

Geosciences path:
• Acquire, process and interpret geological and geophysical data

Reservoirs path:
• Contribute to the operational development and production of traditional reservoirs (simulation of reservoirs) and unconventional reservoirs (enhanced recovery).

Production path:
• Select subsurface and surface facility equipment to produce oil and gas well fluids,
• Optimize oil and gas production, in petrochemical laboratories to study and characterize the produced fluids
• Use new technologies related to production of unconventional oils.

Prospects for employment or further study

SECTORS:
• Petroleum companies
• Energy companies
• Geosciences companies
• Environmental companies
• Geothermy

POSITIONS:
• PhD student
• R&D Engineer

FIELDS:
• Research
• R&D structures

Program objectives

The Petroleum Engineering Reinforcement training program aims to complete the initial training of petroleum engineers with specific competences in geosciences, reservoir engineering and oil and gas production. This personalized one-year training program is composed of courses selected from the three tracks of the 2 year Master program:

The geosciences track offers an integrated approach, which includes:
• Geological characterization (basin analysis, reservoir characterization, structural and sedimentological)
• Geophysical characterization (acquisition, processing and interpretation of seismic data)
• Well Analysis (well logging and seismic)

The reservoir track proposes:
• To evaluate the deposits discovered
• To optimize their development as well as their production

The production track aims to train specialized executives in the field of oil and gas production and in the evaluation of the associated processing needs.

SEMESTER 1

MANDATORY - 10 ECTS
• Unconventional Resources 4 ECTS
• Health, Safety & Environment 2 ECTS
• Project Management 2 ECTS
• French as a foreign language 2 ECTS

OPTIONAL - 20 ECTS
• Field case Geosciences (or) Reservoirs (or) Production 4 ECTS
• Seismic Interpretation 4 ECTS
• Sedimentary Systems 4 ECTS
• Basin Deformation 2 4 ECTS
• Inversion and optimization 4 ECTS
• Numerical upscaling 4 ECTS
• Enhanced Oil recovery 4 ECTS

SEMESTER 2

RESEARCH INTERNSHIP - 30 ECTS

This internship is intended to allow students applying a scientific approach and project management methodologies for an academic or industrial research project (of a duration from 5 to 6 months). Note that a minimum grant of ~550€/month is provided if the student is doing his internship in France.
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