Faculty of Power Engineering & FILS announce the opening in the academic year 2016-2017 of the new interdisciplinary master program Energy Engineering in cooperation with T. U. Darmstadt

INTERDISCIPLINARY ENGINEERING

A MASTER PROGRAM FOR EXCELLENCE

APPLIED SCIENCE AND RESEARCH IN ENERGY

A MASTER PROGRAM INTEGRATED IN EU

A FIRST STEP TO PHD PROGRAMS

A new master program in English at University Politehnica of Bucharest

ENERGY ENGINEERING

- Supply, Storage and Conversion of Energy;
- Modelling Energy Processes;
- Design of Materials and Technologies for Energy Applications;
- Sustainability and Environmental Protection

Energy for a better life!

The master program Energy Engineering is organized and planed to be compatible, in curriculum and scientific research directions, with the master program Energy Science and Engineering from T. U. Darmstadt, Germany.

CONTACT

www.energ.pub.ro
ing.pub.ro

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contact: **corneliu.balan@upb.ro**

together since 1974

Master Program
Energy Engineering
at
University Politehnica of Bucharest

Faculty of Power Engineering

Faculty of Engineering in Foreign Languages

Academic year 2016 - 2017

The guiding principles of the present Master program is to offer an interdisciplinary and high education in Energy Engineering.

The master program Energy Engineering is organized and coordinated by the Power Engineering (Energetics) Faculty and the Faculty of Engineering in Foreign Languages (FILS) from the University Politehnica of Bucharest (UPB), with support and participation of the following faculties from UPB: Applied Chemistry and Materials Science, Mechanical Engineering and Mechatronics, Electronics, Telecommunications and Information Technology.

The focus of the program is to produce technically versatile graduates capable to tackle independently new problems and today challenges of scientific research, industrial applications and management in various fields of energy engineering, including:

(i) flow, heat and mass transfer phenomena in energetic systems,

(ii) material science for energy applications and the environmental impact of energy production.

Admissions Requirements

General information at **http://ing.pub.ro/en/education/master** and **http://www.upb.ro/studenti-internationali.html**

Admission to the Master Program **Energy Engineering** requires a **Bachelor degree** in engineering from University Politehnica of Bucharest.

Graduates with **Bachelor degree** in engineering or related scientific fields from other universities can also enter the program if they obtained during the studies at least:

- **20 CP** in mathematics/ applied mathematics/ numerical calculus, **and**
- **40 CP** in general engineering and/or material science and/or chemistry and/or physics

Competence in English is required as criterion for acceptance

Details and contacts:

www.energ.pub.ro
ing.pub.ro

MODULE PLAN - CURRICULUM

Year I - Semester I: GENERAL EDUCATION – Identic curriculum with TU Darmstadt

Discipline

- **I1. Renewable Energies, Energy Scenarios and Climate Protection**
- **I2. Energy Technologies in Mechanical Engineering**
- **I3. Chemistry and Material Science for Energy Engineering**
- **I4. Electrical Engineering and Information Technologies**
- **I5. Energy Finance**
- **I6. Continuum Mechanics and Thermodynamics**
- **I7. Scientific research**

Year I - Semester II: ENERGY SYSTEMS AND ENVIRONMENT– FLOW , HEAT and MASS TRANSFER PHENOMENA (research direction)

Discipline

- **II1. Modelling turbulent flows and heat transfer**
- **II2. Energy technologies in buildings – Smart Buildings**
- **II3. Energy systems I (classical energy and low emissions)**
- **II4. Energy systems II (regenerative energy)**
- **II.5 Energy supply and eenvironmental protection**
- **II.6 Environmental and economical aspects of energy conversion**
- **II.7 Interdisciplinary research project**

Year II - Semester I: MATERIALS SCIENCE FOR ENERGY APPLICATIONS (research direction)

Discipline

- **III1. Electrochemistry**
- **III2. Chemical kinetics**
- **III3. Electro-chemistry in energy applications – storage devices**
- **III4. Electro-chemistry in energy applications – converter devices**
- **III5. Material science of thin films and Rheology**
- **III6. Scientific research**

Year II – Semester II – SCIENTIFIC RESEARCH DIPLOMA