Academic vacancy in the field of internal combustion engines

**Start date:** 01/01/2021

**Vacancy Reference:** FSA2021-1

Description of the course load:

A part-time (0.05 FTE), indivisible position in the area of **internal combustion engines**.

The position is within the *Aerospace & Mechanical (A&M) Department*. It essentially comprises teaching activities aimed at developing students’ skills in relation to current practices and approaches in the business world.

**Teaching activities:**

The main objective of this post is to contribute to training students in the field of internal combustion engines through:

**MECA0041-1: Internal combustion engines:**
- **Part 1: Fundamental aspects** (15h Th, 15h Pr, 15d Proj, 1 JTT)
- **Part 2: Application to propulsion** (10h Th, 10h Pr, 10d Proj, 0.5 JTT)

Course aimed at students in the Master of Civil Mechanical Engineering (block 1 - compulsory for the advanced option “sustainable automotive engineering” - 5 credits)

This course also forms part of the Master’s programme in Electromechanical Civil Engineering with two “Partims”:

**MECA0041-2: Internal combustion engines: Part 1 Fundamental aspects**, block 1 - mandatory in the advanced energy option - 3 credits

**MECA0041-3: Internal combustion engines: Part 2 Application to propulsion**, Block 2 - optional in the Power generation, transmission and distribution list - 2 credits

The course, delivered in English, will present different piston engine technologies, cycle modelling, performance characterisation, internal fluid mechanics and intake and exhaust systems, combustion processes and emission control systems. Depending on the opportunities that arise, other topics may be developed such as engine dynamics and balancing, mechanical and thermal design, the use of alternative fuels and alternative combustion processes. The practical part of the course will consist of exercises, computer work and laboratory sessions.

In addition, the holder will be responsible for some limited interventions in the courses *APRI0003-2 Integrated energy project, APRI0010-1 Integrated automotive design project and CNAV0022-1 Ship Equipment and Propulsion Systems* within the framework of the civil electromechanical engineering and civil mechanical engineering courses (advanced options on “sustainable automotive engineering” and “advanced ship design”).
The post-holder may also be involved in supervising final projects and placements related to their specialism.

The teaching will be based on the post-holder’s industrial experience and will be illustrated with real cases demonstrating the solutions and approaches implemented within companies.

Research Activities:

At the post-holder’s initiative and depending on opportunities.

Community-related activities:

At the post-holder’s initiative and depending on opportunities.

Qualifications required:

- Strong industrial expertise and experience in the relevant field;
- Ability to teach in English;
- A PhD in engineering sciences is an advantage.

Selection procedure:

Applications will be subject to a pre-selection on the basis of a dossier by a selection commission created by the Faculty of Applied Sciences. Successful candidates will then be invited to an interview which may include the presentation of a sample lesson.

Applications:

Candidates are requested to send their applications electronically to the following address: Postesacademiques@uliege.be with a copy to Ms. Aurélie Lecca - Aurelie.Lecca@uliege.be by 31 August at the latest.

Required documents:

- A letter of application;
- A complete curriculum vitae;
- A teaching plan presenting the way in which the candidate intends to transmit their professional expertise and experience in their teaching and highlighting the opportunities for developing collaborations between the academic and industrial worlds provided by the applicant.

Conditions of recruitment:

The post will be appointed for an initial renewable period of three years.

Information:

Any further information can be obtained from the Faculty of Applied Sciences, Ms Aurélie Lecca - tel: +32 4 366 94 68 – Aurelie.Lecca@uliege.be

Salary scales and application procedures are available from the human resources department of the University: Ms Ludvine Depas - tel: +32 4 366 52 04 – Ludvine.Depas@uliege.be