

COORDINATORS AND DIRECTORS

Master Applied and Fundamental Physics
Géraud BOUWMANS
+33 3 62 53 15 39
geraud.bouwmans@univ-lille.fr

MME Condensed Matter
Philippe CARREZ
+33 3 20 43 48 61
philippe.carrez@univ-lille.fr

MME Condensed Matter/BIOPHAM
Frédéric AFFOUARD
+33 3 20 43 68 15
frederic.affouard@univ-lille.fr

MME Dilute Matter and Spectroscopy
Manuel GOUBET
+33 3 20 43 49 05
manuel.goubet@univ-lille.fr

MME Atmospheric Sciences
Odran SOURDEVAL
+33 3 20 43 41 71
odran.sourdeval@univ-lille.fr

APPLICATIONS

First year applicants: Bachelor of Science and Technology (Licence, i.e. 180 ECTS) or an equivalent Diploma in Physics, Applied Physics or Physical Chemistry or Chemical Physics

Second year applicants: First year of a Applied and Fundamental Physics.

Good English skills (minimum score for Toefl paper test 550 ; IELST: 6.5; CEF Europass: B2).

International students must complete the Campus France procedure as soon as possible (campusfrance.org/en) for application to the Master and Student Visa.

Students with no Campus France agency and Europeans have to go through the university's application program e-candidat <https://ecandidat-univ-lille.fr/>

INTERNATIONAL RELATIONSHIP

- The University of Lille has a policy of supporting international access to its courses. That's why it has introduced special procedures to make international students feel welcome and form collaborations.

<https://www.univ-lille.fr/home/international-student/>

- Practical information for your stay at the University of Lille

Responsable de la rédaction : Vice-présidence Formation - Coordination : SUAIO - Maquette et réalisation : Service Communication - Impression : Imprimerie Université de Lille - Document non contractuel - Imprimé en décembre 2023

Master

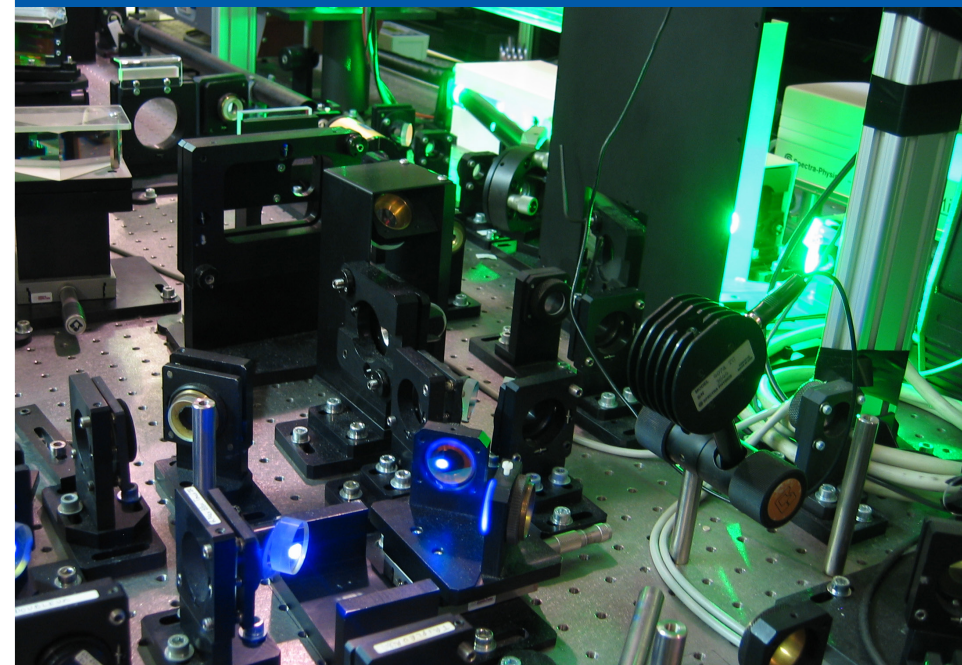
MASTER 1 / MASTER 2

Mention

Applied and Fundamental Physics

Parcours

Matter, Molecules and their Environments (MME)



MENTION APPLIED AND FUNDAMENTAL PHYSICS - MME

MASTER 1 – PHYSICS FOR THE 21ST CENTURY OR PHYSIQUE FONDAMENTALE

MASTER 2
Atmospheric
Sciences

MASTER 2
Dilute Matter &
Spectroscopy

MASTER 2
Condensed
Matter

MASTER 2
Condensed
Matter
(BIOPHAM)

The master is a 2 years course (120 ECTS credits).
Three semesters (30 credits each) of integrated courses delivered in English.

- First and second semesters: Fundamentals such as: advanced optics, mechanical and electromagnetic properties of the matter, solid state physics, advanced quantum mechanics, advanced spectroscopy, molecular and atomic physics & quantum information
- 3rd semester: Dedicated courses to one of the M2 options
- In addition, transferable skills (internship, bibliographical research, scientific communication, project management).
- 4th semester is dedicated to the Master thesis (30 credits) in a research Laboratory or Industry

OBJECTIVES

The specialization "Matter, Molecules and their Environments" of the master "Applied and Fundamental Physics" offers an advanced education in the field of condensed or diluted matter physics and atmospheric physics. It is organized with 3 courses:

- Condensed Matter, CM (materials sciences applications, including an optional course "Pharmaceutical Materials")
- Dilute Matter and Spectroscopy, DMS
- Atmospheric Sciences, AS (in the framework of the Labex CAPP)

TARGETED SKILLS

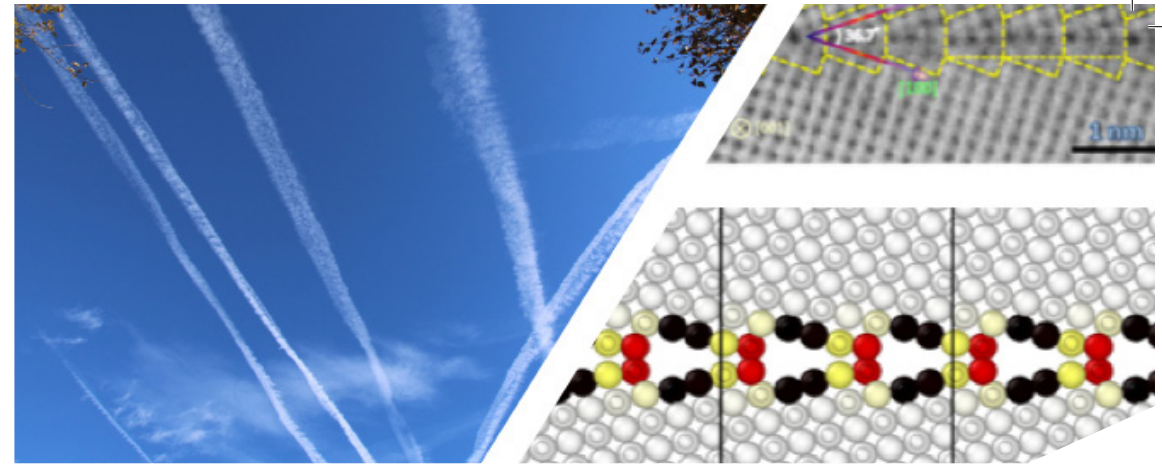
MME students will become experts in one of the fields covered by the master's courses with a common background on characterization methods from the micro to the nanoscale (diffraction methods, optical and mass spectroscopies, electron microscopy) and theoretical basis.

They will be prepared for doctoral studies as well as R&D careers in industry or in public research institutes.

They will develop high skills in project management and intercultural communication.

JOB OPPORTUNITIES & FURTHER STUDIES

The Master Applied and Fundamental Physics, specialization Matter Molecule and their Environments leads to work in either public research laboratories or in industry or business, in one of the numerous fields covered in the master. It is possible to enter the workforce directly after graduation or following further study and a PhD. This Master's degree is also appropriate for prospective teachers.



THIS MASTER DEGREE PROGRAMME IS PART OF THE GRADUATE PROGRAMME "SCIENCE FOR A CHANGING PLANET"

GRADUATE PROGRAMMES of the University of Lille offer to master students and PhD's a training environment through research-driven approach in an international, stimulating, competitive and innovative context as well as professional networking for successful career planning.

The Graduate Programme 'Science for a Changing Planet' provides them with the core competencies to address societal challenges of our time including (1) understanding and monitoring planet changes; (2) seeking alternative solutions to the exploitation of fossil resources, and (3) evaluating the impact of global changes on people, the earth and societies.

Key figures : 9 Master Degree Programmes (150 students), 1 Graduate School (70 PhDs) with more than 60% international students

Scholarship : The Graduate Programmes offer fellowships (3500 euros) and relocation (3500 euros) grants to attract bright students in their master tracks, as well as outgoing mobility grants (max 3000 euros) to its registered students.

- Fellowship and relocation grant : 1st call (31/03, results 15/04), 2nd call (15/05, results 01/07)

More information: <https://international.univ-lille.fr/en/graduate-programmes/science-for-a-changing-planet/>



STRENGTH OF THE TRAINING

- Close relationships with research laboratories involved in excellence programs in the field of material sciences and solid state physics, spectroscopy of dilute matter and atmospheric physics & chemistry.
- Strong networking with international research teams
- Benefit from high level characterization platforms: X-ray diffraction, electron microscopy, lasers, optical and mass spectroscopies, radiometry, in-situ measurements
- Scholarships from the Graduate Program potentially available for M1 and M2 courses.
- Internship in industry or lab research: 2 months during the first year and 4-5 months during the second year.