

Skills

Master/Engineering

- Implement strategies in molecular engineering within the field of functional materials
- Collect, analyse, and interpret chemical or physicochemical data for their exploitation
- Solve interdisciplinary problems in chemistry and related fields (societal issues)
- Share knowledge on organic materials (photonics and electronics) and applications
- Give a scientific presentation in English

PhD

- Demonstrate critical thinking in an experimental or theoretical approach to propose improvements and take initiatives
- Develop leadership and project management skills within a national or international research team (academic/R&D)
- Applying knowledge of green synthesis to the design of innovative materials

Career opportunities

- Chemical engineer
- Research and development engineer
- Chemical engineer in analytical development
- Process chemistry engineer
- Project manager
- Research fellow
- Environmental health and safety engineer
- Industrial property consultant
- Production manager
- Quality manager in laboratory
- University lecturer and researcher



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Contact

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Light, Molecules, Matter



lumomat

Engineering, Master and PhD courses

Presentation

The University Research School **LUMOMAT** (**LU**mière, **MO**lécules, **MAT**ière) offers **training in chemistry** in interaction with scientific research and technological innovation, in the fields of **molecular chemistry and materials**.

This course is part of the high-potential field of **organic electronics and photonics** and aims to train **high-level engineers and researchers** capable of responding to major societal challenges:



ENERGY



HEALTH



ENVIRONMENT



DATA STORAGE

LUMOMAT benefits

This training, which is based on a University Research School (**EUR**), allows students to benefit from a label of excellence offering numerous advantages:

- International environment
- Mobility grant
- Attractiveness grant
- Work/study training program
- Teaching in English
- Access to the international LUMOMAT network
- Expertise and equipment from 4 laboratories of excellence
- Strong interactions with industry

Our courses programme

Engineering course (CMI)

The CMI is based on the Master's degree, with the addition of extra courses for the company's job. It can be integrated from L1 in chemistry or physics/chemistry at the University of Angers.

MASTER

The Master's programme offers a balance of lectures, practical work, tutorials, workshops, immersions in research laboratories, and team projects in close interaction with academic and industrial players.

NANTES

- MASTER 1**
- Organic, organometallic chemistry and catalysis
 - Physicochemical characterisation
 - Molecular modelling
 - Spectroscopies and fluorescence
 - Crystallography and thermal analysis
 - Electrochemistry
 - Materials
 - From molecule to solid
 - Communication tools
 - Integrating project (laboratory or industry)
 - 4- to 6-month internship, in France or abroad

RENNES

- Advanced organometallic chemistry and synthesis
- Physicochemical characterisation
- Molecular modelling
- Spectroscopies, fluorescence and solid state characterisations
- Molecular synthesis and stereochemistry
- Electrochemistry
- Sol-Gel Materials
- Coordination chemistry of d and f metals
- English or French courses
- Basics of the LUMOMAT course
- Initiation to research: 4- to 6-month stay in France or abroad

ANGERS

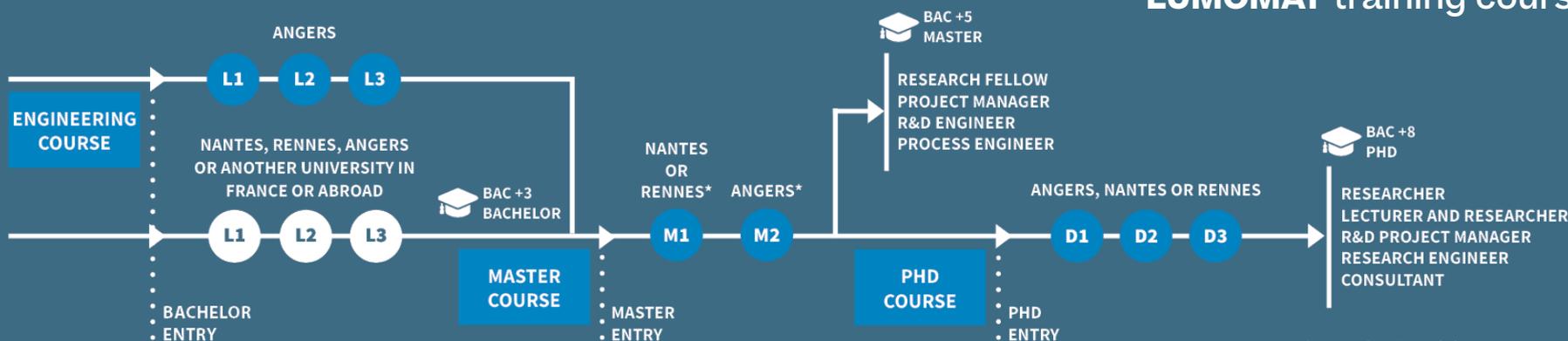
- MASTER 2**
- Supramolecular chemistry
 - Molecular modelling and formulation
 - Molecular engineering of π -conjugated systems
 - Light-molecule interactions for biology
 - Photophysics and photochemistry
 - Electrochemistry of modified surfaces
 - Molecular and hybrid materials
 - Nanomaterials
 - Organic electronics
 - Spectroscopy and microscopy techniques
 - Introduction to the planning of experiments
 - Experimental student project
 - Professional training (REACH standards)
 - 5- to 6-month internship, in France or abroad

PhD

The PhD allows you to specialise further while developing in-depth knowledge and new skills. It also facilitates taking up positions of greater responsibility in business or academia:

- Research project
- Specialised training: in-depth and advanced tools
- Mentoring of Master students
- International mobility
- Professional training (communication, mediation, ethics, innovation, etc.)
- Workshops

LUMOMAT training courses



* : Work/study training program available

Admission

Selection base on the academic file.

Recommended profile: Chemistry or Physics-Chemistry background.

Language: The student must be able to pass an interview in English.