

ASC

Master of Science: Advanced Spectroscopy in Chemistry

Duration: 2 years

Course description:

The "Advanced Spectroscopy in Chemistry" Masters course is a two-year (120 ECTS) programme within 7 European universities, providing students with state of the art spectroscopic techniques in a broad range of modern chemistry applications.

The ASC Master of Science diploma is delivered after completion of 90 ECTS (3 semesters) of courses and 30 ECTS of a Master thesis. Courses are taught in English at the seven partner universities. The network student population will be in the 60-70 brackets, with a student to teacher ratio of 2.0 or better. The ASC programme recruits students with a Eurobachelor in Chemistry, or holders of equivalent degrees, and a B2 prerequisite English level.

The selected students will study in at least 2 countries (minimum mandatory mobility: one semester):

- A 1st semester at Lille (FR) or Leipzig (DE), dedicated to provide all candidates with a common platform of core courses in advanced spectroscopic methods, including magnetic resonance, mass spectrometry, optical spectroscopy and diffraction techniques.
- A second semester at Lille (FR) or Leipzig (DE), where in addition to courses in spectroscopy, the ASC curriculum prepares students for specialisation courses and research projects to be carried out at a later date, in which spectroscopy will be the backbone.
- A 3rd semester mobility in any of the consortium institutions for specialization courses, where expansion is provided with applications in the following specialities:
 - o Univ. of Bergen (NO): Spectroscopy of natural products.
 - o Univ. of Bologna (IT): Quantum Chemistry, Catalysis.
 - o Univ. of Helsinki (FI): Spectroscopy of Environmental and Green Chemistry.
 - o Univ. of Krakow (PL): Optical Spectroscopy, Computational and Forensic Chemistry
 - o Univ. Leipzig (DE): Bioorganic NMR, Protein Crystallography.
 - o Univ. of Lille (FR): Solid State Spectroscopy - NMR, X ray diffraction.
 - o Univ. of Madrid (ES): Chemical sensors, ultrafast Lasers and femtochemistry.
- A 4th semester mobility in any of the consortium institutions upon student choice of a research topic towards the Master thesis, which will be strongly encouraged to be based on a collaborative project between two of the partner institutions.

A Summer school will be organised each year in the ASC Master programme, at the end of the first year, bringing ASC students in one location as a group.

The ASC Master aims to prepare students to become experts and develop international skills towards doctoral programs and/or professional activities in chemical analysis, characterization of the structures of materials, and measurements of fast phenomena. The joint/ multiple Masters of Science diploma in "Advanced Spectroscopy in Chemistry" is awarded by the seven universities of the consortium, with a joint Diploma Supplement.

Website: www.master-asc.org

Partners:

University of Sciences and Technologies of Lille, France (Co-ordinating Institution)

Alma Mater Studiorum University of Bologna, Italy

University Complutense of Madrid, Spain

University of Leipzig, Germany

University of Bergen, Norway

University of Helsinki, Finland

Jagiellonian University of Krakow, Poland

Contact:

Jean-Pierre Wignacourt

University of Sciences and Technologies of Lille

Bat C7, Avenue Mendeleïev

BP90108 59652 Villeneuve D'Ascq, France

jean-pierre.wignacourt@ensc-lille.fr

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