



The Erasmus Mundus Joint Master's Degree «Advanced Spectroscopy in Chemistry» (ASC EMJMD) is a two year (120 credits) programme within 5 european universities, providing students with a cross cultural education and expertise in state of the art spectroscopic techniques in a broad range of modern Chemistry applications [www.master-asc.org](http://www.master-asc.org)

## A CONSORTIUM OF 5 UNIVERSITIES

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For more information:



## ERASMUS MUNDUS JOINT MASTER DEGREE

### Advanced Spectroscopy in Chemistry



With the support of the Erasmus+ Programme of the European Union



## TARGETED STUDENTS

### Candidates holding:

- A BSc in chemistry, or equivalent education in the field of chemistry, biochemistry, physical chemistry or physics.
- Relevant theoretical knowledge in chemistry or related professional experience.
- Good English skills (minimum score for Toefl paper test 550; IELST: 6.5; CEF Europass: B2).
- A strong interest in spectroscopic techniques and their wide range of applications
- Motivation to study in a multicultural environment in at least two European universities



## OBJECTIVES

The ASC EMJMD is a programme of excellence which has been awarded the **Erasmus Mundus label** three times since 2008. The five European universities of the ASC network offer state of the art equipment and expertise covering applications of spectroscopic techniques to chemistry in a broad sense (from material sciences, environmental sciences, biomedical/health sciences *etc.*). Mobility within this network prepares students to become experts and develop international skills towards doctoral studies, and/or professional industrial careers in chemical analysis and characterization of the structure of materials.

## CONTENTS

The curriculum consists of three semesters (30 credits each) of integrated courses.

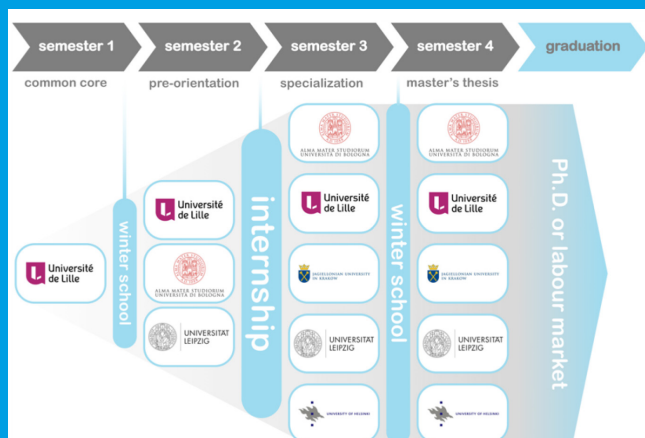
The **first semester** provides all students with a common platform in advanced spectroscopic methods, including magnetic resonance, mass spectrometry, optical spectroscopy and diffraction techniques. In the **second and third semesters**, more specialized instruction is provided with applications in molecular synthesis, material sciences, biology, nanotechnologies, modeling, “green chemistry”, new energy sources. 10 credits are devoted to transferable skills (internship, intercultural communication, bibliographical research, project management, norms and regulations in chemistry).

**One semester for the Master thesis** (30 credits) in a research Laboratory

The ASC network offers a broad range of opportunities for internships in research laboratories within the ASC institutions, and associated partners (industry, large research facilities or research institutions). The master thesis can be based on a collaborative project between two institutions.

### A winter school

A winter school is organized each year in a different location on a chosen topic to deepen one specific field of spectroscopy. This joint social event gathers students, members of the ASC institutions as well as industrial and research associated partners, and ASC alumni.



## PROSPECTS

### ASC graduates

- Are experts in chemical analysis, structural characterization, characterization of fast reactions, molecular imaging;
- Are well prepared for R & D careers in industry or research institutes;
- Develop high skills in project management, intercultural communication, and are at least bilingual;
- 80 % continue onto funded Ph.D. programs.

## TYPE OF DEGREE

Master of Science with thesis diploma in «Advanced Spectroscopy in Chemistry» accredited in each partner university.

ASC graduates are awarded multiple degree certificates from each partner university where they have successfully attended at least one semester (30 credits).

## ERASMUS MUNDUS SCHOLARSHIPS

A scholarship scheme funded by the European Union provides 60 scholarships for 4 student intakes (2021 to 2024) ; 15 scholarships for EU residents of up to 35 000 € each ; 45 scholarships for non-EU residents of up to 49 000 € each.

A scholarship scheme is also available for inviting highly qualified lecturers (1200 € / week) .

## APPLICATION

Apply online: [www.master-asc.org](http://www.master-asc.org)

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