

INTERNATIONAL PROGRAMMES

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Master's degree



Advanced Spectroscopy in Chemistry (ASC)

Leipzig University • Leipzig

Overview

Degree	Master of Science in Advanced Spectroscopy in Chemistry
In cooperation with	Universities of Bologna, Helsinki, Krakow, and Lille (coordinating institution)
Teaching language	• English
Languages	The course is taught entirely in English.
Full-time / part-time	• full-time
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	1) FIRST APPLICATION SESSION (for admission and scholarships): Open to all students, European and non-European, seeking a scholarship Deadline for electronic submission: 15 February
	2) SECOND APPLICATION SESSION (for admission and scholarships): Open to EU students (ERASMUS+ programme countries) only, seeking a scholarship
	Deadline for electronic submission: 24 March
	3) THIRD APPLICATION SESSION (for admission – NO scholarship available): This is open to self-funded applicants. The admission decision is probably made too late to provide non-EU students with enough time to apply for a visa.
	Deadline for electronic submission: 5 May
	Independent of your status you may apply as early as possible (opening 31 October).
	For details and specific deadlines, please see website:https://master-asc.eu/
Tuition fees per semester in EUR	Varied
Additional information on tuition fees	Tuition fees amount up to 9,000 EUR per year for students from partner countries and up to 4,500 EUR per year for students from programme countries (EU plus EFTA). Scholarships that cover tuition fees are available. Tuition fee waivers may be granted upon request, based on academic performance and financial need.
	For details, please see website: https://master-asc.eu/
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Combined Master's degree / PhD programme

No

Joint degree / double degree programme

Yes

Description/content

Semester One - Obligatory courses (for all students in Lille, France):

- Quantum Chemistry and Chemical Bonds (5 CP)
- Mass Spectroscopy (5 CP)
- Nuclear Magnetic Resonance (5 CP)
- Optical Spectroscopy (5 CP)
- X-Ray Diffraction (5 CP)
- English and Professionalisation (5 CP)

Semester Two - Choice between Bologna, Leipzig and Lille:

Compulsory courses in all three universities:

- Synchrotron Radiation and its Applications (5 CP)
- Physical Organic Chemistry (5 CP); except Leipzig University
- Structural Inorganic Chemistry (5 CP)

Additional elective modules in Leipzig:

- Highlights in Natural Products Synthesis (5 CP)
- Homogeneous Catalysis in Industry, Synthesis and Nature (5 CP)
- Receptor Biochemistry (5 CP)
- Modern Concepts in Catalysis (5 CP)
- Selected Topics of NMR Spectroscopy (5 CP)
- Surface Spectroscopy: Methods and Applications (5 CP)
- Modern Methods in Theoretical Chemistry (5 CP)
- Separation Techniques and Advanced "-omics" Techniques (5 CP)

Additional modules might be offered locally.

Semester Three – Students can choose to study at one of the following universities: Bologna, Helsinki, Krakow, Leipzig and Lille.

Compulsory course at all universities: research project or internship with transferable skills (10 CP)

In Leipzig, this could be in the following areas:

- Inorganic Chemistry
- Organometallic Chemistry
- Coordination Chemistry
- Supramolecular Coordination Chemistry
- Characterisation of Liquid and Solid Interfaces
- Reaction Kinetics and Structure Elucidation
- Structural Characterisation of Solid State Catalysis
- Heterogeneous Catalysis
- Mass Spectrometry

Additional elective modules in Leipzig:

- Protein Crystallography (5 CP)
- Biochemical Approaches in Chemical Biology (5 CP)
- Bioorganic chemistry (5 CP)
- Nano Structured Catalytic Systems (5 CP)
- Analytics of Solid State Surfaces (5 CP)
- Physical Chemistry of Clusters (5 CP)
- Computational Chemistry (5 CP)
- NMR on Biosystems (5 CP)
- Function Control at Complex Surfaces (5 CP)

• Methods and Procedures for Trace Analysis (5 CP)

Semester Four - Research Project

Please see https://master-asc.eu/ for updated information and the offer of the other universities.

Course Details

Course organisation

The selected students will study in at least two countries. A standard mobility of two semesters (one academic year) is recommended, the simplest scheme being a selection of two different locations: one per academic year, according to the specialisation field of the targeted Master's thesis topic. As an exception, students can visit up to three universities. Students who wish to come back to the University of Lille for the Master's thesis in the fourth semester will have to spend the second and/or third semester at another location.

For the first semester, all ASC students will have the University of Lille as their host university. For the second semester, they can choose between the universities of Lille, Bologna and Leipzig. The institution for the second year of the Master's programme can be chosen from all partner universities, according to the scientific specialisation of the university and the students' plans for the future. We strongly recommend that the Master's thesis be based on a collaborative project between two of the partner institutions.

The above-mentioned modules comprise lectures, seminars and lab units. Details can be found in the module descriptions.

The individual mobility is discussed and organised during the first semester in Lille, France.

Please see https://master-asc.eu/ for updated information.

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A Diploma supplement will be issued

Yes

International elements

• Integrated study abroad unit(s)

Integrated study abroad unit(s)

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Please see https://master-asc.eu/ for updated information.

Integrated internships

The third semester features a research project case study at a university or an industrial laboratory as the basis for the student's Master's thesis.

Special promotion / funding of the programme

ERASMUS+

Course-specific, integrated German language courses

Yes

Costs / Funding

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Semester contribution	Semester contributions (administration fees) depend on the location. In Leipzig, for example, the semester contribution is approx. 260 EUR, which includes local public transport. For scholarship holders, the semester contribution will be paid by the consortium.
Costs of living	The cost of living in Leipzig is approx. 750 EUR per month to cover personal expenses (including rent for a room). The amount may vary for different countries.
Funding opportunities within the university	Yes
Description of the above- mentioned funding opportunities within the university	ERASMUS Mundus scholarships covering the tuition fees, partition costs, travel costs and a monthly allowance There is also the possibility for local scholarships and funding of exchange periods.

Requirements / Registration

Academic admission requirements

General formal requirement:

- Bachelor's degree in chemistry or related subject with an equivalent amount of chemistry content
- English language level B2 or better

All applications are assessed by a centralised consortium commission. The following weighting scheme is applied to the selection criteria, producing a weighted arithmetic average:

- academic records of previous studies (coefficient 6)
- scientific background of undergraduate studies (coefficient 5)
- ranking of academic institution where undergraduate studies were done (coefficient 2)
- letter of motivation (coefficient 2)
- letters of recommendation (coefficient 1)
- foreign language proficiency (coefficient 2)
- practical experience (coefficient 1)
- awards and grants (coefficient 1)

Language requirements

Applicants must provide proof of English language skills at level B2 or better according to the CEFR or an equivalent proof. The language performance is part of the admission criteria based on the results of the specific language tests (e.g. TOEFL, IELTS and others).

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Submit application to

Mandatory online application on our website: http://www.master-asc.org

Services

Accommodation

Accommodation is organised locally in student housing.

More information about accommodation and other services in Leipzig can be found at https://www.studentenwerk-leipzig.de/en.

Support for international students and doctoral candidates

- Buddy programme
- Specialist counselling

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