

III-1. Curriculum Timeline & Mobility Scheme

Joint selection procedure

Integration period

Welcome meeting, intercultural team-building course, administrative issues, intensive language courses

semester S1

common core

30 ECTS, compulsory



semester S2

pre-orientation

15 ECTS compulsory
(common for all centers)

15 ECTS to choose
(varying in each center)



Internship

choice between industry and academic laboratory

semester S3

specialization

30 ECTS, to choose



Spectroscopy and Imaging of Nanomaterials;
Bioimaging and Bioanalytical Chemistry



Spectroscopy for Solid-state Chemistry;
Spectroscopy & Catalysis;
Atmospheric Chemistry



Spectroscopy for Fluid and Condensed Phases;
Sustainable Chemistry



Spectroscopy for bioorganics;
Surface Science & Catalysis



Physical Chemistry & Laser Spectroscopy;
Green Chemistry;
Computational Chemistry

Joint event: Winter School

One venue, all students gathered, associated partners, guest lecturers, ASC coordinators, one scientific theme

semester S4

professionalization

Master's thesis, 30 ECTS




Joint event: Graduation

Coupled to Alumni Association event

towards
3rd Cycle Higher Education
(Ph.D.)


towards
Labour Market


III-2. Course Offer – Semester S1 – Common Core (30 ECTS)


 Université de Lille	
Quantum Chemistry and Chemical Bonding	5 ECTS
Magnetic Resonance Spectroscopies	5 ECTS
Optical Spectroscopies	5 ECTS
X-ray diffraction	5 ECTS
Mass Spectrometry	5 ECTS
English and Professionalisation	5 ECTS

 compulsory modules (30 ECTS)

III-3. Course Offer – Semester S2 – Pre-Orientation (30 ECTS)

 Université de Lille	
Synchrotron radiation and its applications	5 ECTS
Structural Inorganic Chemistry	5 ECTS
Physical Organic Chemistry	5 ECTS
Advanced chemical kinetics and catalysis	5 ECTS
Imaging and Chemometrics	5 ECTS
Experimental Methods in Environmental Sciences	5 ECTS
Spectroscopy for Biology	5 ECTS
Applied Molecular Spectroscopy	5 ECTS

 UNIVERSITÄT LEIPZIG	
Synchrotron radiation and its applications	5 ECTS
Structural Inorganic Chemistry	5 ECTS
Physical Organic Chemistry	5 ECTS
Homogeneous Catalysis in Industry, Synthesis and Nature	5 ECTS
Spectroscopy at Liquid Interfaces	5 ECTS
Receptor Biochemistry	5 ECTS
Highlights in Natural Products Synthesis	5 ECTS
Surface Spectroscopy: Methods and Applications	5 ECTS
Modern Concepts in Catalysis	5 ECTS

 ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA	
Synchrotron radiation and its applications	5 ECTS
Structural Inorganic Chemistry	5 ECTS
Physical Organic Chemistry	5 ECTS
Operando Spectroscopy and Microscopy	5 ECTS
Catalysis and Sustainability	5 ECTS
Applied Electrochemistry	5 ECTS
Environmental Chemistry	5 ECTS

 compulsory modules, common to the 3 centres (15 ECTS)

 optional modules, 3 to choose (15 ECTS)

III-4. Course Offer – Semester S3 – Specialization (30 ECTS)

semester 3 specialization courses



Characterization of Disordered and Nanostructured Solids	10 ECTS
Molecular Modeling	5 ECTS
Organic Photochemistry	5 ECTS
Physics and Chemistry of the Atmosphere	5 ECTS
Advanced Spectroscopic Techniques for Environmental Analysis	5 ECTS
Internship and Transferable Skills	10 ECTS



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Protein Crystallography	5 ECTS
Bioorganic Chemistry	5 ECTS
NMR on Biosystems	5 ECTS
Methods and Procedures for Trace Analysis	5 ECTS
Surface Analysis of Solids	5 ECTS
Physical Chemistry of Clusters	5 ECTS
Nano Structured Catalytic Systems	5 ECTS
Internship and Transferable Skills	10 ECTS



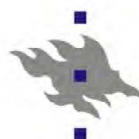
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Spectroscopy of Condensed Phases	4 ECTS
Sustainable Industrial Chemistry and Polymers	4 ECTS
X-ray Methods of Analysis	4 ECTS
High Resolution Molecular Spectroscopy	4 ECTS
Spectroscopic Methods in Coordination Chemistry	4 ECTS
Organic Chemistry for Nanotechnologies	4 ECTS
Physical Chemistry of Condensed Phases	4 ECTS
Internship and Transferable Skills	10 ECTS



JAGIELLONIAN UNIVERSITY
IN KRAKOW

Quantum-Chemical Molecular Modeling	10 ECTS
Forensic Chemistry	5 ECTS
Multivariate Analysis in Chemistry	5 ECTS
Spectroscopy of Hydrogen-bonded Systems	5 ECTS
Advances in Spectroscopic Characterisation of Nanomaterials	5 ECTS
Spectroscopic Methods for Characterization and Imaging of Biomaterials	5 ECTS
Internship and Transferable Skills	10 ECTS



UNIVERSITY OF HELSINKI

Separation Techniques	5 ECTS
Green Chemistry – Renewable Materials and Sustainable Energy	5 ECTS
Sampling and Sample Preparation	5 ECTS
Aqueous Polymers	5 ECTS
Light Scattering	5 ECTS
Laser Spectroscopy	5 ECTS
Computational Chemistry	5 ECTS
Internship and Transferable Skills	10 ECTS