

Erasmus Mundus Master of Science in Theoretical Chemistry and Computational Modelling (120 credits)

* Year one

Compulsory Courses (28 credits)

All courses are compulsory.

Quantum Chemistry	3 credits
Chemical Applications of Group Theory	6 credits
Electronic Structure of Molecular Materials	3 credits
Reactive Systems	6 credits
Density Functional Theory	4 credits
Dynamics of Chemical and Biochemical Systems	6 credits

Levelling Courses (0-6 credits)

Students choose a maximum of 6 credits, depending on their background.

Quantum Physics	3 credits
Computational Chemistry	3 credits

Language Course (3 credits)

This course is compulsory and is intended to improve the knowledge of a second European Language. Language courses (G0V59A – 3 credits) for international students and outgoing Erasmus students are presented by the ILT Leuven.

Students who don't speak Dutch can take:

H06B4A: Dutch language and Cultures	3 credits
H06U6A: Dutch language and Culteres	3 credits

Elective Courses (9-15 credits)

Students choose 9 to 15 credits.

Courses are devoted to complement the training in different areas of chemistry, where the application of theoretical chemistry is useful or required.

Advanced computational chemistry	3 credits
Biomolecular recognition	6 credits
Chemistry at Nanometre Scale	6 credits
Computational Methods in Solid State Physics	3 credits
Electrochemical Methods of Inorganic Chemistry	3 credits
Nanostructured Bio-Macromolecules	6 credits
Molecular Spectroscopy	6 credits
Physical Chemistry of Biological Systems	6 credits
Physical Chemistry of Polymers	3 credits

Research internship (14 credits)

*** Year two**

International intensive Course (24 credits)

A 4-week international Intensive Course and 10 weeks of tutorial-related home work.

Research Internship 2 (6 credits)

Master Thesis (30 credits)

Research activity associated with a co-tutored thesis, part of which (a minimum of 18 cts) is to be developed abroad, in a laboratory of a partner university.