

Major: Chemistry

Master's Programme in Chemical, Biochemical and Materials Engineering

Course substitution arrangements for students who continue their studies according to the curriculum of 2022-2024 during the transitional period of 1.8.2024 - 31.12.2025, when some of the courses of the curriculum 2022-2024 are no longer taught.

Common compulsory courses (3–5 cr)			
Code	Course name	ECTS credits	Equivalence in 1.8.2024 - 31.12.2025
CHEM-E0105	Academic Learning Community	3–5	Please contact the teacher
Compulsory courses (35 cr)			
Code	Course name	ECTS credits	Equivalence in 1.8.2024 - 31.12.2025
CHEM-E4101	Laboratory Work in Inorganic Chemistry *	5	The course continues
CHEM-E4102	Laboratory Work in Organic Chemistry *	5	The course continues
CHEM-E4103	Laboratory Work in Physical Chemistry *	5	CHEM-E4119 Laboratory Work in Electrochemistry and Physical Chemistry
CHEM-E4110	Quantum mechanics and Spectroscopy	5	CHEM-C3230 Molecular Quantum Mechanics
CHEM-E4120	Quantitative Instrumental Analysis	5	CHEM-E4112 Research Techniques
CHEM-E4130	Chemistry of the Elements	5	The course continues
CHEM-E4170	Advanced Organic Chemistry	5	The course continues
Specialisation courses (30 cr)			
Code	Course name	ECTS credits	Equivalence in 1.8.2024 - 31.12.2025
Analytical Chemistry:			
CHEM-E4135	Advanced Analytical Chemistry	5	Course is discontinued, no direct equivalences. Not a compulsory course. Courses from University of Helsinki could be used as substitute.
CHEM-E4165	Chemical Instrumentation and Electroanalytical Methods	5	Course is discontinued, no direct equivalences. Not a compulsory course. Courses from University of Helsinki could be used as substitute.
Organic Chemistry:			
CHEM-E4116	Synthesis Strategies and Design	5	The course continues
CHEM-E4230	Physical Organic Chemistry	5	The course continues

CHEM-E4206	Organic Chemistry Literature Club	5	The course continues
CHEM-E4108	Modern Methods in Metal Catalysis	5	The course continues
CHEM-E8100	Organic Structural Analysis	5	The course continues
CHEM-E4102	Laboratory Work in Organic Chemistry **	5	The course continues
Inorganic Chemistry:			
CHEM-E4105	Nanochemistry and Nanoengineering	5	The course continues
CHEM-E4155	Solid State Chemistry	5	The course continues
CHEM-E4205	Crystallography Basics and Structural Characterization	5	The course continues
CHEM-E4215	Functional Inorganic Materials	5	The course continues
CHEM-E4101	Laboratory Work in Inorganic Chemistry **	5	The course continues
Physical and Computational Chemistry:			
CHEM-E4115	Computational Chemistry I D	5	CHEM-E4114 Computational Methods
CHEM-E4106	Electrochemistry D	5	The course continues
CHEM-E4107	Laboratory work in Electrochemistry D	3(-5)	CHEM-E4119 Laboratory Work in Electrochemistry and Physical Chemistry
CHEM-E4210	Molecular Thermodynamics D	5	The course continues
CHEM-E4225	Computational Chemistry II D	5	CHEM-E4126 Atomic-level Modelling Using Computational Chemistry Methods
CHEM-E4235	Transport Processes at Electrodes and Membranes D	5	No replacement
CHEM-E4255	Electrochemical Energy Conversion D	5	The course continues
CHEM-E4103	Laboratory Work in Physical Chemistry **	5	CHEM-E4119 Laboratory Work in Electrochemistry and Physical Chemistry
Common Courses:			
CHEM-E4275	Research project in chemistry I	5	CHEM-E4121, Research project in chemistry and materials science I
CHEM-E4285	Research project in chemistry II	5	CHEM-E4122, Research project in chemistry and materials science II

** If not part of your compulsory studies

For specialisation courses you can also choose courses offered by University of Helsinki (more information in wiki)

In addition, students may include MSc-level Chemistry courses from the University of Helsinki, as per the agreement on *Shared Chemistry Studies in the Helsinki Region*. This agreement is between the Aalto University and the University of Helsinki, and the shared courses are confirmed on an annual basis.