Université de Strasbourg

MASTER - Chimie

École universitaire de recherche de la chimie des systèmes complexes

Pré-requis obligatoires

La soumission du dossier de candidature se fait entre début janvier et début mars intégralement en ligne sur https://syschem.unistra.fr/csc-graduate-school/

Les conditions d'admission sont les suivantes :
en M1 uniquement:

- être titulaire d'une licence de chimie ou des disciplines voisines
- d'avoir des connaissances solides en Anglais

Langue du parcours			Anglais
ECTS			120 ECTS
Volume horaire			
TP : 0h	TD : 0h	CI : 0h	CM : 0h
Formation initiale			Oui
Formation continue			Non
Apprentissage			Non
Contrat de professionnalisation			Non
Stage : (durée en semaines)			56

Objectifs du parcours

The University of Strasbourg started new international integrated MSc/PhD program " Complex Systems Chemistry" (CSC) in September 2018. This graduate school welcomes outstanding students from all over the world.
The overall aim of this program is to prepare a new generation of researchers for the profound changes that CSC will induce so that it can be used as a tool for innovation, thereby creating the leaders of tomorrow for both academia and industry.
In contrast to the current trend of hyper-specialization, the students in this graduate school will acquire a solid background in various topics that CSC requires, ranging from synthesis to control theory. The program is designed to include much more hands-on laboratory experience during the Master years in order to strengthen the student's autonomy. Through our close ties to industry, the students will be exposed to the latest developments in industrial R&D through courses given by industrial partners.

Code ROME

- K2108 - Enseignement supérieur

Contacts

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EUR année 1

Semestre 1 - EUR CSC

	ECTS	CM	CI	TD	TP	TE	Stage
Organic chemistry	3 ECTS						
Heterocyclic Chemistry		10.5 h					
Inorganic chemistry	3 ECTS						
Bioinorganic chemistry		12 h					
Supramolecular chemistry	3 ECTS						
Supramolecular chemistry (introduction)			24 h				
Supramolecular chemistry of complex systems		16 h					
Conferences (JM Lehn, JP Sauvage, MW Hosseini)		4 h					
Systems chemistry	3 ECTS						
Systems chemistry			16 h				
Spectroscopy	3 ECTS						
Advanced optical spectroscopies			21 h				
Thermodynamics	3 ECTS						
Thermodynamics			24 h				
Molecular Modelling 1	3 ECTS						
Basics of electronic structure calculations and introduction to DFT		18 h			9 h		
Molecular modelling		10 h			8 h		
Surfaces and interfaces	3 ECTS						
Surfaces and interfaces			24 h				
Lab session	3 ECTS						
Lab session					30 h		
English and french courses	3 ECTS						
Language course FLE (for foreign students)				100 h			
English language course (for all students)			10 h				
Management et Leadership 1							
Management et Leadership 1		25 h					

Semestre 2 - EUR CSC

	ECTS	CM	CI	TD	TP	TE	Stage
Complex systems and non-equilibrium kinetics	3 ECTS						
Complex systems and non-equilibrium kinetics			24 h				
NMR Spectroscopy	3 ECTS						
NMR spectroscopy		16 h		8 h			
Molecular Modelling 2	3 ECTS						
Electronic structure and DFT		26 h					
Modeling of supramolecular architectures			16 h				
Lab on chip	3 ECTS						
Lab on chip			24 h				
Synthesis of biologically relevant molecules	3 ECTS						
Synthesis of biologically relevant molecules			14 h	9 h			
Training period	15 ECTS						16 sem
Training period							
Management et Leadership 2							
Management et Leadership 2		25 h					

EUR année 2

Semestre 3 - EUR CSC

	ECTS	CM	CI	TD	TP	TE	Stage
Innovation courses (S3)	3 ECTS						
Innovation courses (S3)			36 h				
4-month advanced lab session	27 ECTS						16 sem
Management et Leadership 3							
Management et Leadership 3		25 h					

Semestre 4 - EUR CSC

	ECTS	CM	CI	TD	TP	TE	Stage
Training period	27 ECTS						24 sem
Innovation courses (S4)	3 ECTS						
Innovation courses (S4)			10 h				