



UNIVERSITY OF WARSAW

Faculty of Chemistry

1 Pasteura Str., 02-093 Warsaw, Poland

MASTER PROGRAM, Chemistry First Semester (1M)

E - exam, **Z** - pass/no pass with a grade
A - mandatory course, **B** - extended course
To accumulate ~30 ECTS (60 ECTS per year) students **have to take mandatory courses and electives.**

Mandatory Classes							
N°	Subject	Hours	Lectures	Tutorials	Prosem.	Laborat.	ECTS
1.	Quantum Chemistry A	75	15 E	15 Z	45 Z		6
2.	Instrumental Analytical Chemistry	75	30 E			45 Z	6
3.	Molecular Spectroscopy	90	45 E	15 Z		30 Z	8
4.	Crystallography A	45	15 E	30 Z			4.5
	Total (mandatory)	285					24.5

Electives							
N°	Subject	Hours	Lectures	Tutorials	Prosem.	Laborat.	ECTS
5.	Quantum Chemistry B	75	30 E	15 Z	30 Z		6.5
6.	Crystallography B	75	30 E	45 Z			7.5
7.	Physical Chemistry of New Materials*	60				60 Z	4
8.	Theoretical Chemistry - Laboratory*	60				60 Z	4
9.	Organic Synthesis - Laboratory*	60				60 Z	4
10.	Environmental Analysis*	90	30 E			60 Z	6
11.	Crystallography - Laboratory*	60				60 Z	4
12.	Industrial Wastes and Waste Management*	45	15 Z			30 Z	3
13.	Physicochemical Methods in Investigation of New Materials	30	30 Z				2
14.	Chemometrics	30	30 Z				2
15.	High Performance Liquid Chromatography (HPLC)	45	15 Z	30 Z			3
16.	Bioinorganic Chemistry	30	30 Z				2
17.	Strategy for Organic Synthesis	15	15 E				1
18.	Chemistry of Natural Products	30	30 Z				2
19.	Molecular Modeling in Organic Chemistry	30				30 Z	2
20.	Stereochemistry	45	30 E		15 Z		3
21.	Analysis of Spectra	15		15 Z			1

22.	Statistic and Crystallographic Data Bases	60	15 Z			45 Z	4
23.	Crystallochemistry and Physical Crystallography	60	30 Z	30 Z			4
24.	Structural Chemistry	30	30 E				2
24.	NMR Spectroscopy in Chemistry	30	30 Z				2
25.	Structure of Polymers and Biopolymers	30	30 E				2
26.	Bioinformatics	30	15 Z			15 Z	2
27.	Programming in Fortran	45	15 E			30 Z	3
28.	Introduction to the Chemical Reaction Theory	30	30 E				2
29.	Elements of Femtochemistry - Ultrafast Dynamics of Chemical Reactions in Femtosecond Laser Spectroscopy	30	30 Z				2
30.	General Electives*	30					6 - 8
31.	Polymers and Biomaterials	60				60 Z	6
32.	Theoretical Chemistry A	xx				45 Z	xx
33.	Theoretical Chemistry B	xx				30 Z	xx
34.	Theoretical Chemistry A' - for Bioanalytics	xx				45 Z	xx

Students should accumulate 6-8 ECTS choosing General Electives denoted *

Supervisor: [dr hab. Andrzej Kudelski](#)

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MASTER PROGRAM, Chemistry Second Semester (2M)

E - exam, **Z** - pass/no pass with a grade
A - mandatory course, **B** - extended course
To accumulate ~30 ECTS (60 ECTS per year) students **have to take mandatory courses and electives.**

Mandatory Classes							
N°	Subject	Hours	Lectures	Tutorials	Prosem.	Laborat.	ECTS
1.	Students should pass two of the Specialization Lectures	60	2 x 30 E				4
2.	Students should pass two of the Monographic Lectures	30	2 x 15 E				2
3.	Specialization Laboratory	120				120 Z	12
4.	Specialization Seminar	30			30 Z		2
	Total (mandatory)	240					20

Electives							
N°	Subject	Hours	Lectures	Tutorials	Prosem.	Laborat.	ECTS
5.	Molecular Orbitals in Chemistry	30	15 E			15 Z	2
6.	Introduction to Biophysics	30	30 E				2
7.	Introduction to Physics and Chemistry of Condensed Matter	60	30 E			30 Z	4
8.	Fundamentals of Chemical Kinetics and Catalysis	30	30 Z				2
9.	Specialization and Monographic Lectures						
10.	General Electives*						

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Faculty of Chemistry

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**MASTER PROGRAM, Chemistry
Third Semester (3M)**

E - exam, **Z** - pass/no pass with a grade
A - mandatory course, **B** - extended course
To accumulate ~30 ECTS (60 ECTS per year) students **have to take mandatory courses and electives.**

N°	Subject	Hours	Lectures	Tutorials	Prosem.	Laborat.	ECTS
1.	Master's Thesis Seminar	15			15 Z		1
2.	Master's Thesis Laboratory	300				300 Z	27
3.	Students should pass two of the Monographic Lectures	30	2 x 15 Z				2
	Total (mandatory)	345					30

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Faculty of Chemistry

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**MASTER PROGRAM, Chemistry
Fourth Semester (4M)**

E - exam, **Z** - pass/no pass with a grade
A - mandatory course, **B** - extended course
To accumulate ~30 ECTS (60 ECTS per year) students **have to take mandatory courses and electives.**

N°	Subject	Hours	Lectures	Tutorials	Prosem.	Laborat.	ECTS
1.	Master's Thesis Seminar	30			30 Z		2
2.	Master's Thesis Laboratory	280				280 Z	28
	Total (mandatory)	310					30

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