

# SCHEDULE OF MASTER DEGREE – APPLIED CHEMISTRY

from the academic year 2024/2025

Symbols used in the tables: L – lecture; S – seminar; LAB - laboratory; E-exam; Z - pass with a grade

<b>I year</b>								
<b>Semester 1</b>								
<b>Obligatory subject</b>								
No.	Subject	Hours				Z/E	ECTS points	COURSE USOS CODE
		L	S	LAB	Total			
1.	Inorganic & metalloorganic coordination chemistry	10		20	30	E	3	<b>310-CS2-1IMC</b>
2.	Advanced analytical chemistry	10		20	30	E	3	<b>310-CS2-1AAC</b>
3.	Advanced organic chemistry	10		20	30	E	3	<b>310-CS2-1AOC</b>
4.	Physical aspects of advanced techniques & processes	10		20	30	E	3	<b>310-CS2-1PAT</b>
5.	Molecular spectroscopy	10		20	30	Z	3	<b>310-CS2-1MSP</b>
6	Electives subject from block I - specialization	40		110	150	Z	15	<b>310-CS2-1SBI</b>
	<b>Total</b>	<b>90</b>		<b>210</b>	<b>300</b>		<b>30</b>	

### Block I electives subject

No.	Subject	Hours				Z/E	ECTS points	COURSE USOS CODE
		L	S	LAB	Total			
<b>Specialization: Chemistry of materials</b>								
1.	Materials for energy storage	10		20	30	Z	3	<b>310-CS2-1SBI - 1</b>
2.	Advanced instrumental methods for material analysis			30	30	Z	3	<b>310-CS2-1SBI – 2</b>
3.	Chemistry of nanomaterials	10		20	30	Z	3	<b>310-CS2-1SBI - 3</b>
4.	Structural Chemistry	10		20	30	Z	3	<b>310-CS2-1SBI - 4</b>
5.	Polymers	10		20	30	Z	3	<b>310-CS2-1SBI - 5</b>
6.	Current methods in the chemistry of materials			30	30	Z	3	<b>310-CS2-1SBI - 6</b>
<b>Specialization: Chemical analysis</b>								
1.	Sampling and sample preparation	10		20	30	Z	3	<b>310-CS2-1SBI – 7</b>
2.	Atomic spectrometry	10		20	30	Z	3	<b>310-CS2-1SBI – 8</b>
3.	Process analysis in chemistry	10		20	30	Z	3	<b>310-CS2-1SBI – 9</b>
4.	Toxicological analysis	10		20	30	Z	3	<b>310-CS2-1SBI – 10</b>
5.	Methods for surface analysis			30	30	Z	3	<b>310-CS2-1SBI – 11</b>
6.	Current methods in the chemical analysis			30	30	Z	3	<b>310-CS2-1SBI - 12</b>

<b>Semester 2</b>								
<b>Obligatory subject</b>								
No.	Subject	Hours				Z/E	ECTS points	COURSE USOS CODE
		L	S	LAB	Total			
1.	Chromatography and electrophoresis	10		20	30	E	3	<b>310-CS2-2CEL</b>
2.	Sustainable chemistry and technology for the circular economy	10			10	Z	1	<b>310-CS2-2SCT</b>
3.	Good laboratory practice	10		20	30	E	3	<b>310-CS2-2GLP</b>
4.	Specialization laboratory			150	150	Z	10	<b>310-CS2-2SL1</b>
5.	Foreign language		30		30	Z	2	<b>310-CS2-2FLA</b>
6.	Electives subject from block II - specialization	20		40	60	Z	6	<b>310-CS2-2SBII</b>
	<b>Total</b>	<b>70</b>	<b>30</b>	<b>210</b>	<b>310</b>		<b>25</b>	

### Block II electives subject

No.	Subject	Hours				Z/E	ECTS points	COURSE USOS CODE
		L	S	LAB	Total			
<b>Specialization: Chemistry of materials</b>								
1.	Catalytic processing	10		20	30	Z	3	<b>310-CS2-2SBII - 1</b>
2.	Nanostructural materials in chemical analysis	10		20	30	Z	3	<b>310-CS2-2SBII – 2</b>
3.	Conducting polymers	10		20	30	Z	3	<b>310-CS2-2SBII - 3</b>
<b>Specialization: Chemical analysis</b>								
1.	Bioanalysis	10		20	30	Z	3	<b>310-CS2-2SBII – 4</b>
2.	Ecoanalysis	10		20	30	Z	3	<b>310-CS2-2SBII – 5</b>
3.	Environmental chemistry	10		20	30	Z	3	<b>310-CS2-2SBII - 6</b>

## II year

<b>Semester 3</b>								
<b>Obligatory subject</b>								
No.	Subject	Hours				Z/E	ECTS points	COURSE USOS CODE
		L	S	LAB	Total			
1.	Entrepreneurship			10	10	Z	1	<b>310-CS2-3ENT</b>
2.	Subject in humanities or social sciences		30		30	E	3	<b>310-CS2-3HUM</b>
3.	Specialistic linguistic workshop		30		30	Z	2	<b>310-CS2-3SLW</b>
4.	Master seminar		30		30	Z	4	<b>310-CS2-3MS1</b>
5.	Specialization laboratory			150	150	Z	10	<b>310-CS2-3SL2</b>
	<b>Total</b>		<b>90</b>	<b>160</b>	<b>250</b>		<b>20</b>	

<b>Semester 4</b>								
<b>Obligatory subject</b>								
Subject	Hours				Z/E	ECTS points	COURSE USOS CODE	
	L	S	LAB	Total				
Monographic lecture	15			15	E	1	<b>310-CS2-4MLE</b>	
Introduction to intellectual property management	10			10	Z	1	<b>310-CS2-4IPM</b>	
Master seminar		30		30	Z	3	<b>310-CS2-4MS2</b>	
Specialization laboratory			150	150	Z	10	<b>310-CS2-4SL3</b>	
<b>Total</b>	<b>25</b>	<b>30</b>	<b>150</b>	<b>205</b>		<b>15</b>		