

# CURRICULUM

“AL. I. CUZA” UNIVERSITY OF IASI

FACULTY OF CHEMISTRY

UNDERGRADUATE STUDIES: *CHEMISTRY*

SPECIALIZATION: *CHEMISTRY*

Duration: 3 years

## Structure of the academic year (in weeks)

	Didactic activities		Examinations		Holidays		
	I <sup>st</sup> sem.	II <sup>nd</sup> sem	I <sup>st</sup> sem.	II <sup>nd</sup> sem	Dec-Jan	Feb	Summer
I <sup>st</sup> year	14	14	2	2	3	2	12
II <sup>nd</sup> year	14	14	2	2	3	2	12
III <sup>rd</sup> year	14	14	2	2	3	2	-

## The disciplines contained in the curriculum

### I<sup>st</sup> YEAR

No.			<i>Course name</i>	I <sup>st</sup> Semester				II <sup>nd</sup> Semester				Evaluation form	
				C	S	L	ECTS credits	C	S	L	ECTS credits		
1.	M_1101	M	Mathematics (Mathematical analysis; Linear algebra and differential equations)	2	2		5	2	1		5	E	E
2.	P_1101; P_1202	Ph	Physics (Mechanics. Molecular physics; Waves (electric, optical))	4		2	5					E	
3.	CN1101	CG	Fundamentals of chemistry	2		4,5****	5					E	
4.	CN1102	CA	Fundamentals of inorganic chemistry	2		3	5					E	
5.	CF1101	CF	Communication techniques and programming languages	1		1	5					C	
6.	L_1101; L_1202	L	Modern languages (optional)	1	0,5		5	1	0,5		5	C	C
7.	CO1201	CO	Basic organic chemistry					1,5		3	5		E
8.	CN1203	CA	Nonmetal chemistry					2		2	5		E
9.	CF1202	CF	Chemical thermodynamics					3		3	5		E
10.	CA1201	Ana.	Fundamentals of analytical chemistry (practical skills)					3		3	5		E

**Elective courses**

1.	SP1101; SP1202		<i>Physical education</i>			1	5			1	5	C	C
2.	CF1103	CF	<i>Computer use in chemistry (practical skills)</i>	1		1	5					V.P.	
3.	M_1102	M	<i>Complements in mathematics</i>						1		5		V.P.
4.	CA1202	Ana.	<i>Practical skills in analytical chemistry</i>							1	5		V.P.
5.	L_1103; L_1204	L	<i>Modern languages</i>	1	0,5		5	1	0,5		5	C	C
Hours per week / ECTS credits				2	0,5	2	15	1	1,5	2	20		
				4,5			4,5						

\*\*\* 1.5 h CA + 2 h CO + 1 h CF

**II<sup>nd</sup> YEAR**

No.			Course name	I <sup>st</sup> Semester				II <sup>nd</sup> Semester				Evaluation form	
				C	S	L	ECTS credits	C	S	L	ECTS credits		
1.	CO2302	CO	Chemistry of hydrocarbons and single functional group compounds	4		3	5					E	
2.	CF2304	CF	Chemical kinetics	3		2,5	5					E	
3.	CN2304	CA	Chemistry of s- and p- block metals	2		1.5	5					E	
4.	CA2303	Ana	Practical skills in instrumental analysis	2		1.5	5					E	
5.	CB2301	B	Biochemistry	2		2	5					C	
6.	L_2305; L_2406	L	Modern languages (optional)	1	0,5		5	1	0,5		5	C	C
7.	CN2405	CA	Chemistry of d-block metals					3		2	5		E
8.	CF2405	CF	Quantum chemistry and structure					3		3	5		E
9.	CM2401	CM	Materials chemistry					2		2	5		E
10.	CO2403	CO	Organic chemistry of multiple functional group compounds					3		3	5		E
11.	CA2404	Ana	Instrumental analysis					1.5		1	5		E
Hours per week / ECTS credits				14	0,5	10,5	30	13,5	0,5	11	30		
				25			25						

**Elective courses**

1.	CO2304	CO	<i>Practical skills in organic chemistry</i>			1*	5					V.P.	
2.	CN2306; CN2406	CA	<i>Practical skills in inorganic chemistry</i>			1	5			1*	5	V.P.	V.P.
3.	CM2402	CM	<i>Materials chemistry</i>							1	5		V.P.
4.	L_2307; L_2408	L	<i>Modern languages</i>	1	0,5		5	1	0,5		5	C	C
5.	CF2306	CF	<i>Numerical applications in physical chemistry</i>			0.5	5					V.P.	
Hours per week / ECTS credits				1	0,5	2,5	20	1	0,5	2	15		

**III<sup>rd</sup> YEAR**

No.			Course name	I <sup>st</sup> Semester				II <sup>nd</sup> Semester				Evaluation form	
				C	S	L	ECTS credits	C	S	L	ECTS credits		
1.	CF3507	CF	Electrochemistry and physical chemistry of interfaces	4		2.5	5					E	
2.	CO3505	CO	Chemistry of heterocyclic and reaction intermediates	3		2.5	5					E	
3.	CO3506	CO	Macromolecular chemistry	2		1	5					C	
4.	CN3507	CA	Fundamentals of coordination compounds chemistry	3		2	5					E	
5.	CN3508	CA	Nuclear chemistry	2		1	5					C	
6.	CA3505	Ana	Trace analysis	1		1	5					E	
7.	CO3607	CO	Structural organic analysis					2		2	5		E
8.	CN3609	CA	Reaction mechanisms in inorganic chemistry					2		2.5	5		E
9.	CA3606	Ana	Separation techniques					2		1,5	5		E
10.	CM3603	CM	Heterogeneous catalysis					2		1,5	5		C
11.	CB3602	B	Toxicology					2		1.5	5		C
12.	CF3608	CF	Computational chemistry and statistical thermodynamics					4		2	5		E
Hours per week / ECTS credits				15		10	30	14		11	30		
				<b>25</b>				<b>25</b>					

**Elective courses**

1.	CO3508	CO	<i>Reaction intermediates</i>			1	5					V.P.	
2.	CF3509	CF	<i>Colloid chemistry- numerical applications</i>			0.5	5					V.P.	
Hours per week / ECTS credits						1,5	10						
				1,5									

**Elective courses within the Department of Didactic Personnel Training**

No.		Course name				Hours per week					Evaluation form	ECTS credits
			Year	Semester	No. of weeks	C	A	C	A	Total		
1	RR1101	<i>Educational Psychology</i>	I	1	14	2	2	28	28	56	E	5
2	RR1202	<i>Pedagogy I :</i> - <i>Fundamentals of pedagogy</i> - <i>Curriculum theory and methodology</i>	I	2	14	2	2	28	28	56	E	5
3	RR2303	<i>Pedagogy II:</i> - <i>Learning theory and methodology</i> - <i>Evaluation theory and methodology</i>	II	3	14	2	2	28	28	56	E	5
4	RR3604	<i>The management of student classes</i>	III	6	14	1	1	14	14	28	E	3
5	CN2410	<i>Teaching chemistry</i>	II	4	14	2	2	28	28	56	E	5
6	RR3505	<i>Computer-aided teaching</i>	III	5	14	1	1	14	14	28	C	2
7	C_3501	<i>Teaching practicum in compulsory preuniversity education (chemistry)</i>	III	5	14	-	3	-	42	42	C	3
8	C_3602	<i>Teaching practicum in compulsory preuniversity education (chemistry)</i>	III	6	12	-	3	-	36	36	C	2
<b>TOTAL – Level I</b>			-	-	-	-	-	140	218	358	5E+3C	30
		<i>Graduation examination: Level I</i>	III	6	2	-	-	-	-	-	E	5