

“GHEORGHE ASACHI” TECHNICAL UNIVERSITY OF IAȘI
 ”CRISTOFOR SIMIONESCU” FACULTY OF CHEMICAL ENGINEERING AND ENVIRONMENTAL PROTECTION

Field of study: *Chemical Engineering*

Programme of study: *Chemistry and Engineering of Organic Compounds, Petrochemistry and Carbochemistry*

Title of the graduated: *Engineer*

Period of studies: **4 years**

Learning program: *full-time*

CURRICULUM

1st year of study

No	Discipline Name	Discipline Code	No. hours for individual study	1 st Semester (14 weeks)					2 nd Semester (14 weeks)										
				No.hours/ week/ discipline				Exams.	ECTS	No.hours/ week/ discipline				Exams.	ECTS				
				C	S	L	P			C	S	L	P						
ID	101	Mathematical Analysis and Linear Algebra	FD ID	69	2	2	-	-	E	5									
	102	Physics 1	FD ID	69	2	-	2	-	E	5									
	103	Applied Informatics 1	FD ID	80	2	-	3	-	C	6									
	104	Inorganic Chemistry	FD ID	113	4	-	4	-	E	9									
	105	Numerical Methods and Mathematical Statistics	FD ID	44							2	2	-	-	E	4			
	106	Physics 2	FD ID	69							2	-	2	-	E	5			
	107	Analytical Chemistry 1	FD ID	91							2	-	4		E	7			
	108	Computer Assisted Graphics	FD ID	33							1	-	2	-	C	3			
	109	Applied Informatics 2	FD ID	58							1	-	2	-	E	4			
	110	Physical Trening	CD ID	22	-	-	1	-	-	-	-	-	1	-	A/R	2			
OD	111	1. English Language	CD OD	22+22	-	2	-	-	PE	2	-	2	-	-	PE	2			
		2. French Language																	
		3. German Language																	
	112	1. Coordinative Compounds Chemistry	DID OD	33							2	-	1	-	C	3			
		2. Bio-inorganic Chemistry																	
113	1. Culture, Civilization and European Institutions	CD OD	47	2	-	-	-	C	3										
	2. Science Communication																		
FCD	114	Fundamental Concepts in Chemistry	FD FCD	22	2	-	-	-	PE	2									
	115	Fundamental Concepts in Mathematics	FD FCD	22	2	-	-	-	PE	2									
	116	European Integration	CD FCD	22							2	-	-	-	PE	2			
	117	Communication Ethics	CD FCD	22							2	-	-	-	PE	2			
				Total hours on week, total tests and credits on semester, at ID (imposed disciplines) and OD (optional disciplines)				12	4	10	-	3E 2C 1PE	30	10	4	12	-	4E 2C 1PE 1A/R	30

Legende: ID – imposed discipline; OD – optional discipline; FCD – free choice disciplines; GE – graduation exam; FD – fundamental discipline; CD – complementary discipline; DID – discipline in the field studies; SD – specialization discipline; C – course; S – seminar; L – laboratory; P – project; E – exam; C – colloquium; PE – periodical evaluation; A/R – admitted rejected.

RECTOR,
 Professor Dan CAȘCAVAL, Ph.D. Eng.

DEAN,
 Professor Nicolae Hurduc, Ph.D.Eng.

Field of study: *Chemical Engineering*Programme of study: *Chemistry and Engineering of Organic Compounds, Petrochemistry and Carbochemistry*Title of the graduated: *Engineer*Period of studies: **4 years**Learning program: *full-time*

CURRICULUM

2nd year of study

No	Discipline Name	Discipline Code	No. hours for individual study	3 rd Semester (14 weeks)						4 th Semester (14 weeks)					
				No.hours/ week/ discipline				Exams.	ECTS	No.hours/ week/ discipline				Exams.	ECTS
				C	S	L	P			C	S	L	P		
ID	201 Organic Chemistry 1	DID ID	91	3	-	3	-	E	7						
	202 Analytical Chemistry 2	DID ID	91	2	-	4	-	E	7						
	203 Physical Chemistry 1: Thermodynamics	DID ID	80	3	-	2	-	E	6						
	204 Electrotechnics	DID ID	58	2	-	1	-	C	4						
	205 Organic Chemistry 2	DID ID	52							4	-	3	-	E	6
	206 Transfer Phenomena, Unit Operation and Equipments 1	DID ID	55							3	-	2	-	E	5
	207 Physical Chemistry 2: Kinetics	DID ID	44							2	-	2	-	E	4
	208 Electrochemistry and Corrosion	DID ID	33							2	-	1	-	E	3
	209 Fundamentals in Mechanical Engineering	DID ID	22							2	-	-	-	C	2
	210 Fundamentals in Mechanical Engineering – Project Design	DID ID	47							-	-	-	2	PE	3
	211 Physical Training	CD ID	22	-	-	1	-	-	-	-	-	1	-	A/R	2
	212 Practical Trening	DID ID	0							3 weeks * 30				C	3
OD	1. English Language	CD OD	22+22	-	2	-	-	PE	2	-	2	-	-	PE	2
	2. French Language														
3. German Language															
214	1. Materials Science	DID OD	58	2	-	1	-	C	4						
	2. Industrial Catalysis and Catalysts														
FCD	215 Discoveries of Concepts in Chemistry and Chemical Engineering	CD FCD	22	2	-	-	-	PE	2						
	216 Stimulating Creativity	CD FCD	22							2	-	-	-	PE	2
	217 Work Policies, Healt and Safety in the Workplace	CD FCD	22	2	-	-	-	PE	2						
	218 Safe Operation of Chemical Plants	DID FCD	22							2	-	-	-	PE	2
	219 Reaction Mechanisms in Organic Chemistry	SD FCD	22							2	-	-	-	PE	2
	220 Educational Elements of Innovation	SD FCD	22							2	-	-	-	PE	2
Total hours on week, total tests and credits on semester, at ID (imposed disciplines) and OD (optional disciplines)				12	2	12	-	3E 2C 1PE	30	13	2	9	2	4E 2C 2PE	30

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CURRICULUM

3rd year of study

No	Discipline Name	Discipline Code	No. hours for individual study	5 th Semester (14 weeks)						6 th Semester (14 weeks)					
				No.hours/ week/ discipline				Exams.	ECTS	No.hours/ week/ discipline				Exams.	ECTS
				C	S	L	P			C	S	L	P		
ID	301 Physical Chemistry 3: Polydispersed Systems	DID ID	69	2	-	2	-	E	5						
	302 Transfer Phenomena, Unit Operations and Equipments 2	DID ID	69	2	-	2	-	E	5						
	303 Technological Processes Optimization	DID ID	58	2	1	-	-	C	4						
	304 Transfer Phenomena, Unit Operations and Equipments 3	DID ID	69							2	-	2	-	E	4
	305 Transfer Phenomena, Unit Operations and Equipments – Project Design	DID ID	47							-	-	-	2	PE	3
	306 Processes Automation in Chemical Industry	DID ID	55							3	-	2	-	E	5
	307 Surfactants	SD ID	33							2	-	1	-	C	3
	308 Organic Process Engineering	SD ID	55							3	-	2	-	E	5
	309 Cosmetic Products Technology	SD ID	44							2	-	2	-	E	4
	310 Manufacturing Systems Management and Engineering	DID ID	55	3	1	-	1	E	5						
	311 Practical Trening	SD ID	0							3 weeks * 30				C	3
OD	312 1. Introduction in Biotechnology 2. Bioprocesses in Chemical Industry	DID OD	58	2	-	1	-	C	4						
	313 1. Analysis and Synthesis of Technological Processes 2. Fundamentals of Chemical Engineering	DID OD	55	3	-	2	-	E	5						
	314 1. Marketing 2. Industrial Economy 3. Economic Policies of the European Union	CD OD	22	2	-	-	-	C	2						
	315 1. Pollution Prevention and Environmental Protection 2. Environmental Management and Sustainable Development	SD OD	33							2	-	-	1	C	3
	FCD	316 Project Management and Scientific Communication	CD FCD	22	1	-	-	1	PE	2					
317 Operational Management and Quality Systems		SD FCD	33	2	-	-	1	PE	3						
318 Materials and Corrosion Protection		DID FCD	33							2	-	1	-	PE	3
319 Natural bioactive compounds		SD FCD	22							2	-	-	-	PE	2
320 Entrepreneurship		CD FCD	47	2	-	-	-	PE	3						
Total hours on week, total tests and credits on semester, at ID (imposed disciplines) and OD (optional disciplines)				16	2	7	1	4E 3C	30	14	-	9	3	4E 3C 1PE	30

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CURRICULUM

4th year of study

No	Discipline Name	Discipline Code	No. hours for individual study	7 th Semester (14 weeks)						8 th Semester (14 weeks)										
				No.hours/ week/ discipline				Exams.	ECTS	No.hours/ week/ discipline				Exams.	ECTS					
				C	S	L	P			C	S	L	P							
ID	401	Petrochemical and Carbochemical Technologies	SD ID	69	2	-	2	-	E	5										
	402	Catalysis in Organic Industry and Petrochemistry	SD ID	33	2	-	2	-	E	5										
	403	Dyes Technology	SD ID	55	3	-	2	-	E	5										
	404	Organic Chemical Reaction Engineering and Specific Equipments	SD ID	77	4	-	3	-	E	7										
	405	Pesticides Technology	SD ID	59	2	-	2	-	C	5										
	406	Design and Technology – Project	SD ID	47	-	-	-	2	PE	3										
	407	Pharmaceutical Technology	SD ID	66							3	-	3	-	E	6				
	408	Organic Chemical Reaction Engineering and Specific Equipments – Project Design	SD ID	47							-	-	-	2	PE	3				
	409	Natural Products Processing	SD ID	69							3	-	1	-	E	5				
	410	Development and Finalising of Graduation Project	SD ID	66							-	-	-	6	PE	6				
	411	Practical Training for Graduation Project	SD ID	0							2 weeks * 30				C	2				
OD	412	1. Membrane Technology and Applications	SD OD	69																
		2. Natural Extracts																		
		3. Paints and Varnishes																		
		4. Primary and Secondary Metabolites																		
	413	1. Biotechnology in Environmental Protection	SD OD	69																
		2. Separation of Organic Compounds																		
		3. Natural and Biosynthetic Compounds Conditioning																		
		4. Biomaterials																		
FCD	414	Techniques for Protection of Cultural Heritage	SD FCD	22	2	-	-	-	PE	2										
	415	Structural Analysis in Organic Chemistry	SD FCD	33	2	-	1	-	PE	3										
	416	Chemical and Biochemical Sensors	SD FCD	22	2	-	-	-	PE	2										
GE		Graduation exam – Bachelor of Science Degree														E	10			
Total hours on week, total tests and credits on semester, at ID (imposed disciplines) and OD (optional disciplines)					13	-	11	2	4E	30	10	-	8	8	3E	30				
					26				2C		26				2PE					
									1PE						GE	10				

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