

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

Field of study: *Chemical Engineering*

Programme of study: *Polymer Science and Engineering*

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	Comunication 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.

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

Field of study: *Chemical Engineering*

Programme of study: *Polymer Science and Engineering*

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	213	1. English Language	CD OD	22+22	-	2	-	-	PE	2	-	2	-	-	PE	2
		2. French Language														
		3. German Language														
	214	1. Materials Science 2. Industrial Catalysis and Catalysts	DID OD	58	2	-	1	-	C	4						
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 FD	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	

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.

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

Field of study: *Chemical Engineering*

Programme of study: *Polymer Science and Engineering*

Title of the graduated: *Engineer*

Period of studies: **4 years**

Learning program: *full-time*

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	Additives for Polymer Industry ^{*)}	SD ID	47							2	-	-	-	C	3
	308	Natural and Synthetic Polymers Fundamentals ^{*)}	SD ID	44							2	-	3	-	E	4
	309	Polymer Synthesis	SD ID	55							3	-	2	-	E	5
	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
	316	Project Management and Scientific Communication	CD FCD	22	1	-	-	1	PE	2						
	317	Introduction to Intellectual Property	FD FCD	33	2	-	-	1	PE	3						
FCD	318	Operational Management and Quality Systems	SD FCD	33	2	-	-	1	PE	3						
	319	Materials and Corrosion Protection	SD FCD	33							2	-	-1	-	PE	3
	320	Polymers in Medicine and Pharmacy	SD FCD	22							2	-	-	-	PE	2
	321	Entrepreneurship	CD FCD	33	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	

*) Common courses with *Papermaking Engineering* programme of study.

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..

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

Field of study: *Chemical Engineering*

Programme of study: *Polymer Science and Engineering*

Title of the graduated: *Engineer*

Period of studies: **4 years**

Learning program: *full-time*

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	Chemical Modification of Polymers	SD ID	44	2	-	2	-	E	4							
	402	Physical and Rheological Properties of Polymers	SD ID	63	4	-	2	-	E	7							
	403	Polymer Technology 1	SD ID	77	4	-	3	-	E	7							
	404	Polymer Technology- Project	SD ID	47	-	-	-	2	PE	3							
	405	Engineering of Specific Equipment in Polymer Synthesis and Processing 1	SD ID	80	3	-	2	-	E	6							
	406	Paper and Polymeric Materials Recycling	SD ID	47	2	-	-	-	C	3							
	407	Polymer Technology 2	SD ID	102							3	-	4	-	E	8	
	408	Engineering of Specific Equipment in Polymer Synthesis and Processing 2	SD ID	66							3	-	3	-	E	6	
	409	Engineering of Specific Equipment in Polymer Synthesis and Processing – Project	SD ID	47							-	-	-	2	PE	3	
	410	Development and Finalising of Graduation Project	SD ID	44							-	-	-	6	PE	4	
	411	Practical Training for Graduation Project	SD ID	0							2 weeks * 30			C	2		
OD	412	1. Molecular Modeling and Properties Simulation	SD OD	33													
		2. New methods for Macromolecular Compounds Synthesis								2	-	-	-	C	3		
		3. Technopolymers (Thermostable polymers)															
	413	1. Polymers in Cosmetics	SD OD	58													
2. Adhesives and Coatings																	
3. Advanced Polymeric Materials																	
4. Polymeric Materials Engineering												2	-	1	-	E	4
FCD	414	Techniques for Protection of Cultural Heritage	FD FCD	22	2	-	-	-	PE	2							
	415	Structural Analysis in Organic Chemistry	FD FCD	33	2	-	1	-	PE	3							
	416	Macromolecular Networks	FD 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)					15	-	9	2	4E 2C 1PE	30	10	-	7	8	3E 2C 2PE	30	
					26						26				GE	10	

*) Common courses with *Papermaking Engineering* programme of study.

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.