

TECHNICAL UNIVERSITY “GHEORGHE ASACHI” OF IASI
 FACULTY OF CHEMICAL ENGINEERING AND ENVIRONMENTAL PROTECTION

Profile: **Chemical Engineering**

Specialization: **Chemistry and Engineering of Organic Compounds, Petrochemistry and Carbochemistry**

Title of the graduate: *Engineer*

Period of studies: **4 years**

Learning program: **daily**

CURRICULUM

1st YEAR

No.	Discipline Name	Discipline Code	Pre-requisites	1 st Semester					2 nd Semester								
				No.hours/ week/ discipline				Fin. ev.	K	No.hours/ week/ discipline				Fin. ev.	K		
				C	S	L	P			C	S	L	P				
ID	101	Mathematics 1(Differential and Integral calculus)	FD ID		2	2	-	-	E	5							
	102	Physics 1	FD ID		2	-	2	-	E	5							
	103	Applied Informatics 1	FD ID		2	-	3	-	E	6							
	104	Inorganic Chemistry	FD ID		4	-	4	-	E	9							
	105	Mathematics 2 (Numerical Methods and Statistics)	FD ID								2	2	-	-	E	4	
	106	Physics 2	FD ID								2	-	2	-	E	5	
	107	Analytical Chemistry 1	FD ID								2	-	4		E	7	
	108	Computer Assisted Graphics	FD ID								1	-	2	-	C	3	
	109	Applied Informatics 2	FD ID								1	-	2	-	E	4	
	110	Physical Training	CD ID		-	-	1	-	-	-	-	-	1	-	A/R	2	
	111	The English/French/German/Russian Language	CD ID		-	2	-	-	PE	2	-	2	-	-	PE	2	
OD	112	1. Coordinative Compounds Chemistry	TD OD								2	-	1	-	C	3	
		2. Bio-inorganic Chemistry															
	113	1. Culture, Civilization and European Institutions	CD OD														
		2. Science Communication		2	-	-	-	C	3								
3.Philosophic values and praxeology																	
	4. History of the European construction																
FCD	114	Fundamental Concepts in Chemistry	CD FCD		2				PE	2							
	115	Fundamental Concepts in Mathematics	CD FCD		2				PE	2							
	116	European Integration	CD FCD								2				PE	2	
	117	Communication Ethics	CD FCD								2				PE	2	
Total hours on week, total tests and credits on semester, at ID (imposed disciplines) and OD (optional disciplines)					12	4	10	-	4E 1C 1 PE	30	10	4	12	-	4E 2C 1 PE	30	
					26						26						

E - exam, C - colloquium, FD - fundamental discipline, TD - technical discipline, SD - specialization discipline, ED – economics management, CD – complementary discipline, FCD- Free choice discipline, PD – project design, PE-periodical evaluation, GE- graduation exam.

DEAN,
 Prof. Eng. Nicolae HURDUC, PhD.

RECTOR,
 Prof.Eng. Dan CASCAVAL, PhD

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CURRICULUM

2nd YEAR

No.	Discipline Name	Discipline Code	Pre-requi-sites	1 st Semester						2 nd Semester					
				No.hours/ week/ discipline				Fin. ev.	K	No.hours/ week/ discipline				Fin. ev.	K
				C	S	L	P			C	S	L	P		
ID	201	Organic Chemistry 1	TD ID	3	-	3	-	E	7						
	202	Analytical Chemistry 2	FD ID	2	-	4	-	E	7						
	203	Physical chemistry 1: Thermodynamics	TD ID	3	-	2	-	E	6						
	204	Electrotechnics	TD ID	2	-	1	-	C	4						
	205	Organic Chemistry 2	TD ID							4	-	3	-	E	6
	206	Transfer phenomena, Unitary Operation and Equipments 1	TD ID							3	-	2	-	E	5
	207	Physical chemistry 2: Kinetics	TD ID							2	-	2	-	E	4
	208	Electrochemistry and Corrosion	TD ID							2	-	1	-	E	3
	209	Fundamentals in Mechanical Engineering	TD ID							2	-	-	-	C	2
	210	Fundamentals in Mechanical Engineering – Project Design	TD ID							-	-	-	2	PE	3
	211	Physical Training	CD ID			1	-	-	-	-	-	1	-	A/R	2
	212	The English/French/German/Russian Language	CD ID			2	-	PE	2	-	2	-	-	PE	2
	213	Practical training – 3 weeks								3*40			C	3	
OD	214	Materials Science	TD OD	2	-	1	-	C	4						
		Industrial Catalysis and Catalysts													
FD	215	Discoveries and Concepts in chemistry and chemical engineering	CD FD	2				PE	2						
	216	Work policies, health and safety in the workplace	CD FD	2				PE	2						
	217	Safe operation of chemical plants	TD FD							2				PE	2
	218	Reaction mechanisms in organic chemistry	SD FD							2				PE	2
Total hours on week, total tests and credits on semester, at ID (imposed disciplines) and OD (optional disciplines)				12	2	12		4E 1C 1PE	30	13	2	9	2	4E 2C 2PE	30
				26						26					

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CURRICULUM

3rd YEAR

	No.	Discipline Name	Discipline Code	Pre-requi-sites	1 st Semester					2 nd Semester						
					No. hours/ week/ discipline				Fin. ev.	K	No. hours/ week/ discipline				Fin. ev.	K
					C	S	L	P			C	S	L	P		
ID	301	Physical Chemistry 3: Polydispersed Systems	FD ID		2	-	2	-	E	5						
	302	Transfer Phenomena, Unitary Operations and Equipments 2	TD ID		2	-	2	-	E	5						
	303	Technological Processes Optimization	TD DI		2	1	-	-	C	4						
	304	Transfer Phenomena, Unitary Operations and Equipments 3	TD ID								2	-	2	-	E	4
	305	Transfer Phenomena, Unitary Operations and Equipments - project design	TD ID								-	-	-	2	PE	3
	306	Processes Automation in Chemical Industry	TD ID								3	-	2	-	E	5
	307	Surfactants	SD ID								2	-	1	-	C	3
	308	Organic process engineering	SD ID								3	-	2	-	E	5
	309	Cosmetic products technology	SD ID								2	-	2	-	E	4
	310	Practical Training – 3 weeks	SD ID								3*40			C	3	
OD	311	Introduction in Biotechnology	TD OD		2	-	1	-	C	4						
		Bioprocesses in Chemical Engineering														
	312	Analysis and Synthesis of Chemical Process Systems	TD OD		3	-	2	-	E	5						
		General Chemical Technology														
	313	Manufacturing Systems Management and Engineering	ED OD		3	1	-	1	E	5						
		Operational Management and Quality Systems														
314	Marketing	ED OD		2	-	-	-	C	2							
	Industrial Economy															
315	Pollution Prevention and Environmental Protection	TD OD		-	-	-	-	-	-	2	-	-	1	C	3	
	Environmental Management and Sustainable Development															
FCD	316	Project Management and Scientific Communication	ED FCD		1		1		PE	2						
	317	Introduction to Intellectual Property	SD FCD		2		1		PE	3						
	318	Materials and Corrosion Protection	SD FCD								2		1		PE	3
	319	Polymers in Medicine and Pharmacy	SD FCD								2				PE	2
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	1	8	3	4E 3C 1PE	30
					26					26						

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4th YEAR

No.	Discipline Name	Discipline Code	Pre-requisites	1 st Semester					2 nd Semester							
				No. hours/ week/ discipline				Fin. ev.	K	No. hours/ week/ discipline				Fin. ev.	K	
				C	S	L	P			C	S	L	P			
ID	401	Organic Technology 2	SD ID	2	-	2	-	E	5							
	402	Catalysis in Organic Industry and Petrochemistry	SD ID	2	-	2	-	E	5							
	403	Dyes Technology	SD ID	3	-	3	-	E	6							
	404	Organic Chemical Reaction Engineering and Specific Equipments	SD ID	3	-	3	-	E	6							
	405	Pesticides Technology	SD ID	2	-	2	-	C	5							
	406	Design and Technology Project	SD ID	-	-	-	2	PE	3							
	407	Pharmaceutical Technology	SD ID							3	-	3	-	E	6	
	408	Organic Chemical Reaction Engineering and Specific Equipments – Project Design	SD ID							-	-	-	2	PE	3	
	409	Natural Products Processing	SD ID							3	-	1	-	E	5	
	410	Research and Design for Graduation Project	SD ID									6	PE	6		
OD	411	Membrane Technology and Applications	SD OD													
		Natural Extracts														
		Paints and Varnishes														
		Primary and Secondary Metabolites														
	412	Biotechnology in Environmental Protection	SD OD													
		Separation of Organic Compounds														
Natural and Biosynthetic Compounds Conditioning Biomaterials																
FCD	413	Patrimony Preservation Methods	SD FCD	2				PE	2							
	414	Structural Analysis in Organic Chemistry	SD FCD	2		1		PE	3							
	415	Chemical and Biochemical Sensors	SD FCD	2				PE	2							
		Graduation Exam Presentation												E	10	
Total hours on week, total tests and credits on semester, at ID (imposed disciplines) and OD (optional disciplines)				12	-	12	2	4E 1C 1PE	30	10	-	8	8	3E 1C 2PE	30	
				26				26								

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