

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

Profile: **Chemical Engineering**

Specialization: **Food chemistry and Biochemical technologies**

Title of the graduate: *Engineer*

Period of studies: **4 years**

Learning program: **daily**

CURRICULUM

1st 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	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 Economic Policies of European Union															
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	TD FCD		2		1		PE	3						
	318 Materials and Corrosion Protection	TD FCD								2		1		PE	3
	319 Polymers in Medicine and Pharmacy	TD 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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CURRICULUM

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	Enzimology	SD ID	2	-	2	-	E	5							
	402	Engineering of Food Processes and Specific Equipments 1	SD ID	2	-	2	-	E	5							
	403	Fruit and Vegetable Processing	ID SD	3	-	2	-	E	5							
	404	Animal Products Processing	ID SD	3	-	2	-	E	5							
	405	Food Products Technology - Project Design	ID SD	-	-	-	2	PE	4							
	406	Additives for Food Processes	ID SD	2	-	1	-	C	3							
	407	Food Products Quality Control	ID SD	2	-	1	-	C	3							
	408	Engineering of Food Processes and Specific Equipments 2	ID SD							2	-	1	-	E	5	
	409	Engineering of Food Processes and Specific Equipments - Project Design	ID SD							-	-	-	2	PE	4	
	410	Bakery Products Technology	ID SD							2	-	2	-	E	5	
	411	Food Products Preservation	ID SD							2	-	1	-	E	3	
	412	Research, Design, Elaboration - Graduation Project	ID SD									6	PE	6		
OD	413	Membranes Technology and Applications	SD OD													
		Sensory control of food products														
		Soft and Alcoholic beverages technologies								2	-	2	-	C	4	
		Dietetic products and nutrients														
		Conditioning techniques														
	414	Packaging techniques for food products	SD OD													
		Natural extracts														
		Modern separation methods for homogeneous mixtures								2	-	2	-	C	3	
Food Safety and Toxicology																
	Biomaterials															
FCD	415	Patrimony Preservation Methods	TD FCD	2				PE	2							
	416	Structural Analysis in Organic Chemistry	SD FCD	2		1		PE	3							
	417	Chemical and Biochemical Sensors	TD 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 2C 1PE	30	10	-	8	8	3E 2C 2PE	30	
				26				26								

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