SENAT,

"GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IAŞI
"CRISTOFOR SIMIONESCU" FACULTY OF CHEMICAL ENGINEERING AND ENVIRONMENTAL PROTECTION

Field of study: ***Chemical Engineering***
Programme of study: ***Chemical 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	1st Semester (14 weeks)						2nd 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 2. French Language 3. German Language	CD OD	22+22	-	2	-	-	**PE**	**2**	-	2	-	-	**PE**	**2**
	112	1. Coordinative Compounds Chemistry 2. Bio-inorganic Chemistry	DID OD	33							2	-	1	-	**C**	**3**
	113	1. Culture, Civilization and European Institutions 2. Science Communication	CD OD	47	2	-	-	-	**C**	**3**						
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 26	4	10	-	**3E** **2C** **1PE**	**30**	10 26	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;
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RECTOR,
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DEAN,
Professor Nicolae Hurduc, Ph.D.Eng.

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Field of study: ***Chemical Engineering***
Programme of study: ***Chemical 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	3nd Semester (14 weeks)						4nd 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								3 weeks * 30				**C**	**3**
OD	213	1. English Language 2. French Language 3. German Language	CD OD	22+22	-	2	-	-	**PE**	**2**	-	2	-	-	**PE**	**2**
	214	1. Materials Science 2. Industrial Catalysis and Catalysts	DID OD	58	2	-	1	-	**C**	**4**						
FCD	215	Descoveries 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	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**
					26						26					

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Learning program: ***full-time***

CURRICULUM

3nd year of study

	No	Discipline Name	Discipline Code	No. hours for individual study	5nd Semester (14 weeks)						6nd 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	Mechanical Operations*)	SD ID	33							2	-	1	-	**C**	**3**
	308	Hydrodynamic Operations	SD ID	44							2	-	2	-	**E**	**4**
	309	Chemical Processes Engineering *)	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**
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	Surface Processing and Finishing	SD FCD	22							2	-	-	-	**PE**	**2**
	319	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**
					26						26					

*) Common courses with *Inorganic Products Engineering and Environmental Protection* programme of study.

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Learning program: ***full-time***

CURRICULUM

4nd year of study

	No	Discipline Name	Discipline Code	No. hours for individual study	7nd Semester (14 weeks)						8nd 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	Thermal Operations	SD ID	80	2	-	2	1	**E**	**6**						
	402	Anticorosion Protection in Chemical Industry*)	SD ID	33	2	-	1	-	**C**	**3**						
	403	Mass Transfer Operations	SD ID	55	3	-	2	-	**E**	**5**						
	404	Mass Transfer Operations – Project Design	SD ID	47	-	-	-	2	**PE**	**3**						
	405	Engineering of Physical Processes	SD ID	69	2	-	2	-	**E**	**5**						
	406	Modeling and Design of Chemical Reactors 1*)	SD ID	83	2	-	2	-	**E**	**5**						
	407	Modeling and Simulation of Processes in Chemical Industry	SD ID	33	2	-	1	-	**C**	**3**						
	408	Rheology	SD ID	44							2	-	2	-	**E**	**4**
	409	Modeling and Design of Chemical Reactors 2*)	SD ID	55							2	-	2		**E**	**5**
	410	Modeling and Design of Chemical Reactors– Project Design	SD ID	47							-	-	-	2	**PE**	**3**
	411	Modern Systems of Automatic Control for Chemical Processes	SD ID	69							2	-	2	-	**E**	**5**
	412	Development and Finalising of Graduation Project	SD ID	44							-	-	-	6	**PE**	**4**
	413	Practical Training for Graduation Project	SD ID	15							2 weeks * 30				**C**	**2**
OD	414	1. Experiment Programming and Data Statistical Analysis 2. Modern Techniques of Separation for Homogeneous Systems	SD OD	58							2	-	1	-	**E**	**4**
	415	1. Automatic Synthesis of Chemical Systems 2. Chemical Process Scale-Up	SD OD	33							2	-	1	-	**C**	**3**
FCD	416	Techniques for Protection of Cultural Heritage	DID FCD	22	2	-	-	-	**PE**	**2**						
	417	Inorganic Products Engineering	SD FCD	22	2	-	-	-	**PE**	**2**						
	418	Conventional and Advanced Oxide Materials	SD FCD	33							2	-	1	-	**PE**	**3**
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	-	10	3	**4E 2C 1PE**	**30**	10	-	8	8	**4E 2C 2PE**	**30**
					26						26					
															GE	**10**

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