



UNIVERSITY OF NOVI SAD
FACULTY OF TECHNOLOGY NOVI SAD
21000 Novi Sad, Bul cara Lazara 1



CHEMICAL ENGINEERING

Module: ECO-ENERGY ENGINEERING

No.	Course	Semester	Course Status	Active teaching			ECTS
				Lectures	Exercises	OFL	
FIRST YEAR							
1.	Calculus 1	1.	C	4	4	0	9
2.	Engineering Physics	1.	C	3	2	0	6
3.	General and Inorganic Chemistry	1.	C	4	1	2	8
4.	Elective block 1	1.	E	2	1	0	3
5.	Elective block 2	1.	E	2	0-2	0-2	4
6.	Calculus II	2.	C	4	4	0	9
7.	Organic Chemistry	2.	C	4	0	3	8
8.	Analytical Chemistry	2.	C	3	1	2	8
9.	Elective block 3	2.	E	2	0-2	0-2	5
ELECTIVE BLOCK 1 (choose 1 out of 2)							
4.1.	English Language 1	1.	E	2	1	0	3
4.2.	English Language 2	1.	E	2	1	0	3
ELECTIVE BLOCK 2 (choose 1 out of 2)							
5.1.	Chemical Laboratory Practicum	1.	E	2	0	2	4
5.2.	Calculations in Chemistry	1.	E	2	2	0	4
ELECTIVE BLOCK 3 (choose 1 out of 2)							
9.1.	Fundamentals of Engineering	2.	E	2	0	2	5
9.2.	Mechanical Engineering Elements	2.	E	2	2	0	5
Total ECTS Credits							60
SECOND YEAR							
10.	Technical Thermodynamics	3.	C	4	3	0	8
11.	Physical Chemistry	3.	C	4	1	2	8



CHEMICAL ENGINEERING

12.	Applications of Computers	3.	C	2	0	4	7
13.	Fluid Mechanics	3.	C	3	3	0	7
14.	Unit Operations 1	4.	C	3	3	1	9
15.	Heat and Mass Transfer	4.	C	3	3	0	7
16.	Microbiology	4.	C	3	0	3	7
17.	Catalysis and Catalytic Processes	4.	C	4	0	2	7

Total ECTS Credits	60
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THIRD YEAR

18.	Unit Operations 2	5.	C	3	2	1	7
19.	Chemical Thermodynamics	5.	C	3	3	0	8
20.	Energy systems and Environment	5.	C	3	3	0	7
20.	Chemical Reaction Engineering 1	5.	C	3	3	0	7
21.	Process Energy	5.	C	3	0	3	7
22.	Chemical Engineering Calculations	6.	C	3	0	3	6
23.	Sustainable Development and Industrial Systems	6.	C	3	0	2	5
24.	Elective block 4	6.	E	3	0-3	0-3	6
25.	Elective block 5	6.	E	3	0-3	0-3	7

ELECTIVE BLOCK 4 (choose 1 out of 2)

24.1	Wastewater Technology	6.	E	3	3	0	6
24.2.	Recycling of Polymeric Materials	6.	E	3	0	3	6

ELECTIVE BLOCK 5 (choose 1 out of 2)

25.1.	Chemical Reaction Engineering 2	6.	E	3	3	0	7
25.2.	Environmental Protection in Chemical Industry	6.	E	3	0	3	7

Total ECTS Credits	60
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FORTH YEAR

26.	Energy Efficiency of Technological Processes	7.	C	3	3	0	6
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CHEMICAL ENGINEERING

27.	Fundamentals of Process Design	7.	C	3	0	3	8
28.	Elective block 6	7.	E	2	0	2	5
29.	Elective block 7	7.	E	3	0-3	0-3	6
30.	Vocational Practice	7.	C	0	0	6	3
33.	Environmental Monitoring	8.	C	4	0	3	8
34.	Applied Software Engineering	8.	C	3	0	2	5
35.	Elective block 8	8.	E	3	2	0	7
36.	Elective block 9	8.	E	3	0	0	3
37.	Undergraduate thesis - Research Work	8.	C	0	0	3	3
38.	Undergraduate thesis - Preparation and Defence	8.	C	0	0	6	6

ELECTIVE BLOCK 6 (choose 1 out of 4)

28.1.	Mathematical Methods in Chemical Engineering	7.	E	2	0	2	5
28.2.	Alternative Fuels	7.	E	2	0	2	5

ELECTIVE BLOCK 7 (choose 1 out of 4)

29.1.	Solid Waste and Hazardous Waste Management	7.	E	3	3	0	6
29.2.	Environmental Protection in Food Industry	7.	E	3	2	0	6
29.3.	Bioprocess Engineering	7.	E	3	3	0	6
29.4.	Bioethanol Technology	7.	E	3	0	3	6

ELECTIVE BLOCK 8 (choose 1 out of 2)

35.1.	Circular Economy and Eco-industry	8.	E	3	2	0	7
35.2.	Industrial Ecology and Zero-Emission Concepts	8.	E	3	2	0	7

ELECTIVE BLOCK 9 (choose 1 out of 2)

36.1	English for Specific Purposes	8.	E	3	0	0	3
36.2	Innovation Entrepreneurship	8.	E	3	0	0	3

Total ECTS Credits

60



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CHEMICAL ENGINEERING

COURSE STATUS:

C – Compulsory

E – Elective

OFL – Other Forms of Lectures