	UNIVERSITY OF EAST SARAJEVO Faculty of Technology Zvornik	
	Study programme: *Chemical Engineering and Technology*	
	Cycle I / Year IV	

Course title	ORGANIC CHEMICAL TECHNOLOGY 1
Department	Department for Chemical Technologies– Faculty of Technology Zvornik

Course code	**Course status**	**Semester**	**ECTS**
04-1-037-7	Compulsory	VII	7

Teacher	Zoran Petrović, PhD, Assoc. Prof.
Teaching assistant	Nebojša Vasiljević, MSc, Senior Teaching Assistant

Number of classes/ teaching workload (per week)			**Individual student workload (in hours per semester)**			**Student workload coefficient S_o**
Lectures	**Auditory exercises**	**Laboratory exercises**	**Lectures**	**Auditory exercises**	**Laboratory exercises**	**S_o**
3	1	2	60	20	40	1.33
3*15+1*15+2*15=90 hours			(3*15*1.33+1*15*1.33+2+15*1.33)=120 hours			
Total course workload 90 + 120=210 hours per semester						

Learning outcomes	After finishing the course, students will be able to: 1. demonstrate and utilize fundamental knowledge in the technologies of processing coal, oil and petrochemical products, and the characterization and application of the obtained products 2. demonstrate and utilize fundamental knowledge in the technologies of production, processing and application of polymers, rubber, surface-active substances, detergents, soaps and coatings 3. master the material and energy balances of the mentioned technologies 4. demonstrate and utilize skills in controlling and managing the optimal parameters of given technological processes 5. master the process simulation of some of the mentioned technologies in laboratory conditions.
Prerequisites	
Teaching methods	Lectures, auditory exercises, experimental exercises, industrial visits, seminar paper
Syllabus outline per week	1. Introduction to organic chemical technology. Basic raw materials (coal, oil and gas). The importance of organic chemical technology and obtained products). Ecology. 2. Coal technology. General facts about solid fuels. Calorific value of coal. Chemical composition and coal refining methods, and characterization of the obtained products. 3. Coking, gasification, underground gasification and liquefaction of coal. 4. Oil refining technology. Origin and chemical composition of oil. Primary processing of oil, products obtained by these processes, and their characterization. 5. Secondary oil refining processes (thermal and catalytic cracking, reforming, alkylation, isomerization and refining). 6. Oil processing products (liquefied petroleum gas, gasoline, diesel fuel, lubricating oils, fuel oil, etc. bitumen). Lubricating oils and fats. 7. Technology of petrochemical products. Syntheses based on carbon monoxide and saturated hydrocarbons. Acetylene-based syntheses. 8. Technology of ethylene-based products (ethyl alcohol, acetic acid, acetaldehyde). Technology of products based on aromatic hydrocarbons. 9. Concept, characteristics and practical methods of obtaining synthetic polymer materials. 10. Technology of obtaining synthetic polymers by polymerization (polyethylene, polypropylene, polyvinyl chloride, polystyrene and expanded polystyrene). Processing of obtained polymers, polymerization. 11. Technology of obtaining synthetic polymers by polycondensation (phenolaldehyde and aminoaldehyde polymers, polyesters, polyurethanes, epoxy resins). 12. Technology of obtaining composite polymer materials, nanomaterials, their characterization and application. 13. Technology of surfactants and their application. 14. Technology of soaps and detergents. 15. Technology of rubber. Technology of coating agents.
Obligatory reading	

Author	Title, publisher	Year	Pages
Sadadinović, J.	Organska tehnologija, Ars grafika, Tuzla	2008	1-154, 212-313
Ilišković, N.	Organska hemijska tehnologija, Svjetlost, Sarajevo	1992	5-98, 198-225, 287-334,335-384, 417-452
Cerić, E.	Nafta, procesi i proizvodi, IBC, Sarajevo	2012	39-50, 79-221, 258-356
Petrović, Z., Dugić, P., Aleksić, V.	Fizičko-hemijska ispitivanja u procesima organske industrije, Tehnološki fakultet Zvornik	2011	
Additional reading			
Author	**Title, publisher**	**Year**	**Pages**
Jovanović. S.M., Đonlagić. N.	Hemija makromolekula, Tehnološko-metalurški fakultet Beograd	2004	
Stevančević, D.	Petrohemija I i II, Tehnološki fakultet Novi Sad	1980	
Vrhovac, Lj, i saradnici	Zbirka zadataka iz organske hemijske tehnologije, Tehnološko-metalurški fakultet Beograd	1982	

	Type of student evaluation	Grade points	Percentage
Obligations, assessment methods and grading system	Pre-exam obligations		
	Attendance	6	6 %
	Mid-term test (colloquium)1 exercises	10	10 %
	Mid-term test (colloquium) 2 exercises	10	10 %
	Mid-term test (colloquium) 1	10	10 %
	Mid-term test (colloquium) 2	10	10 %
	Laboratory exercises	20	20 %
	Seminar paper	4	4 %
	Final examination		
	Final examination (oral)	30	30 %
	Total	100	100 %
Web page	www.tfzv.ues.rs.ba		
Date	2023		