

## OILFIELD CHEMISTRY.

Development paths and application of oilfield chemistry for production, treatment,  
transportation of oil and enhanced oil recovery

The Program “Enhanced oil recovery methods”

№	Name of study units and subjects of the Program “ <b>Methods of enhanced oil recovery</b> ”	Total hours	Including		
			lectures	Practical sessions	Lab practicum
<b>1.</b>	<b>World oil-and-gas resources.</b>	<b>2</b>	<b>2</b>		
1.1	Importance of hydrocarbon resources. Fuel and energy balance of Russia and the World. Conventional and unconventional hydrocarbon resources. Offshore oil and gas resources.	2	2		
<b>2</b>	<b>Modern methods of oil and gas production stimulation and enhanced oil recovery.</b>	<b>20</b>	<b>16</b>		
	Classification of enhanced oil recovery methods	2	2		
	Stimulation technique for operating procedure of oil and gas treatment.	2	2		
	Surfactants used in operating procedures for enhanced oil recovery.	2	2		
	Thermal methods, microbiological methods for enhanced oil recovery.	2	2		
2.1	Stimulation technique for producing layers (water flooding method, bottom hole treatment). Examples of effective operating procedures.	2	2		
2.2	Workover fluid. Cementing slurry. Impact assessment of invert emulsion solutions on filtration properties of reservoirs during well killing operation.	4	4		
2.3	Stimulation of oil and gas production by method of formation hydraulic fracturing. Fracking fluids.	2	2		
	Acid treatment as a means of well performance stimulation.	2	2		
2.4	Operating procedures and compositions for treatment of bottomhole formation zones with hard to recover reserves.	2	2		
<b>3.</b>	<b>Oil field processing</b>	<b>10</b>			
3.1	Mechanisms of oil-water emulsions building and destruction. Formation of interlayer oil-water emulsions.	2	2		

3.2	Modern reagents used in oilfield practice. Methods for determining the effectiveness of reagents, used in oil production and treatment.	6	4		2
3.3	Metrological assurance for crude oil and oil products quantity and quality control systems.	2	2		
<b>4</b>	<b>Economic value of innovation.</b>	2	2		
5	<b>The Round Table “Development paths and application of oilfield chemistry for enhanced oil recovery”</b>	2	2		
	<b>In total:</b>	36			