

## **Refresher course program on "Technology of bacterial-chemical leaching of copper-containing and gold-containing ores" discipline**

Bacterial leaching is chemical elements' selective extraction from multicomponent compounds through their dissolution by microorganisms in the aqueous medium. Due to the given process, it becomes possible to extract valuable components (copper, uranium, etc.) or harmful impurities (for example, arsenic in ferrous and non-ferrous metal ores) from ores and industrial wastes and thus to increase the production of valuable metals.

Ore deposits are characterized by a variety of ongoing geochemical processes connected with the vital activity of microorganisms and changes in chemical properties of mineral deposits.

Course program:

- Visibility of world experience in polymetallic ores' bacterial leaching;
- Growing and using bacteria to leach copper and gold;
- Equipment for bacterial leaching of copper and gold;
- Calculation of heat and material balance and technological scheme modeling;
- Process control, parameters of solutions for bacterial leaching;
- Management of bacterial leaching process of copper and gold;
- Practical participation in the leaching process of copper and gold;
- Visiting a biological laboratory, participating in laboratory studies of bacterial leaching;
- Analysis of bacterial leaching process of copper and gold.