

## **Annotation to discipline “Design mining industry”**

**Total work content of discipline learning** is 7,5 points of credit (270 hours).

**Purpose of discipline.** To shape students' knowledge about modern methods of designing, acquiring skills to create project-prototype, prototype of the proposed or possible object of mining, during the execution of the technical and economic calculations expedient variant of the technological object.

**Tasks of discipline.** Determine the nature of mining engineering; familiar with basic concepts, structure and phases of design work; describe the main types of design work, count the cost parameters for the design of mines to develop fragments of economic-mathematical model of the mine and to calculate the corresponding figures for the criteria of efficiency and optimality; rational design options disclosure system, training and development Systems coal seams geomechanical and value criteria, to justify the parameters of preparatory and cleaning works, transport, ventilation and drainage; design intensive technology of mining.

**Main didactic units (parts).**

- Definition of the terms "design" and "project". The role of design in the mining industry. Organization design in Ukraine.
- Structure, planning and financing of the project organizations. Stage of technological design.
- Key policy and regulatory instruments.
- Methods of design problems.
- Economic-mathematical modeling. Cost parameters for the design of the mine.
- Design of a rational variant of the system of opening and training schemes of a mine field on the geomechanical and value criteria.
- Design of sustainable development version of the system at work on the horizon, geomechanical and value criteria.
- Justification of the parameters of preparatory and cleaning works, transport, ventilation and drainage.
- Research and methodological foundations of computer aided design (CAD).
- The main environmental aspects of the negative impact of underground mining on the environment.