**Course Syllabus**

**Academic year: 2020-2021**

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| Institution | University of Petroşani |
| Faculty | of Mechanical and Electrical Engineering |
| Field of study | Mechanical Engineering |
| Level | Bachelor |
| Program of study | Mining Machinery and Equipment |

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| Course | **Safety in the Mining Industry** |
| Code | 2MM6OS44 |
| Year of study  (semester) | III  (VI) |
| Number of hours | 56 |
| Number of credits | 4 |
| Professor | Lecturer. Ph.D. POPESCU-STELEA Mihai |

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| **No.** | **Topic** |
|  | The structure of the legislative system and the main normative acts that regulate safety and health at work |
|  | Accidents at work and occupational diseases. Definition, classification, communication, research, registration and evidence. |
|  | Basic principles and concepts regarding the analysis of industrial risks. Danger, risk, acceptable risk, Farmer's diagram |
|  | Techniques and methods for assessing the risks of occupational injury and illness in the mining industry |
|  | Gaseous explosive environment. Methane. Multi-component explosive mixtures. Classification of mines in terms of gas emissions |
|  | Underground fires and endogenous fires as major risk phenomena. The mechanism of the self-ignition process of coal, early detection, techniques and means of prevention and control |
|  | Dusty explosive environment. Explosive coal dust, generation sources, factors and parameters influencing the explosiveness, the mechanism of the explosion process. |
|  | Prevention of formation and control of industrial pneumoconiotic powders. Silicon dust control on mining operations |
|  | Methods and technical, organizational and hygienic-sanitary means and prevention of the risks of occupational injury and illness in underground mining |
|  | Minimum safety and health requirements for temporary or mobile construction sites. Occupational safety and health requirements for underground mining |