**Course Syllabus**

Academic year: 2018-2019

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| Institution | University of Petroşani |
| Faculty | of Mines |
| Field of study | Mines, Oil and Gas |
| Level | Bachelor |
| Program of study | Mining Engineering |

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| Course | **Occupational Health and Safety** |
| Code | MNIMDO703 |
| Year of study (semester) | IV (VII) |
| Number of hours | 98 |
| Number of credits | 7 |
| Professor | Prof., Ph.D. MORARU Roland |

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| **No.** | **Topic** |
|  | Structure of the law system and the main normative acts regarding the occupational safety and health |
|  | Occupational accidents and diseases. Definition, classification, communication, research, recording. Signaling and declaring the occupational diseases |
|  | Basic principles and concepts regarding the industrial risks analysis. Threat, risk, acceptable risk, Farmer diagram |
|  | Techniques and methods for assessing the occupational accident and disease risks in mining industry. Systems and techniques for instrumental measurement of the microclimate parameters and comfort degree |
|  | Gaseous explosive environments. Methane. Explosive mixtures with more components. Classification of mines from the point of view of the gas emanations. Monitoring the underground methane concentration. Placing the detection heads of the telemetry station in various categories of mining works |
|  | Underground fires and endogenous fires as major risk phenomena. The mechanism of the coal self ignition process, detection during the incipient phase, techniques and means for prevention and control. Early detection of the endogenous fires. Fire indices calculus (Indices: breathing, Graham. Trickett-Jones) |
|  | Powdery explosive environments. Explosive coal powder, sources, factors and parameters that influence the explosion capacity, the mechanism of the explosion process. |
|  | Prevention against industrial pneumoconiosis causing powders. Prevention of silicosis causing powder generated by the mining operations. |
|  | Technical, organizational and hygienic-sanitary methods and means for prevention against the occupational accident and disease risks in underground mining |
|  | Electrical safety |
|  | Minimal safety and health requirements for temporary and mobile work sites |
|  | Occupational safety and health requirements for mining underground constructions.  Rescuing, self-rescuing systems and personal protective equipment |