COURSE DESCRIPTION

1. Course title: MINE CLOSURE

2. Course code N II-EZIZO/24

3. Validity of course description: 2019/2020

4. Level of studies: MSc programme / 2nd cycle of higher education

5. Mode of studies: extramural studies

6. Field of study: MINING & GEOLOGY (FACULTY SYMBOL) RG

7. Profile of studies: general academic

8. Programme: MINING TECHNOLOGIES AND WASTE MANAGEMENT

9. Semester: III

10. Faculty teaching the course: Department of Mining Technology

11. Course instructor: Dr Eng. Grzegorz Strozik, associate professor

12. Course classification: Specialty courses

13. Course status: compulsory

14. Language of instruction: English

15. Pre-requisite qualifications:
   The main pre-requisite course is: General Mining. Student should possess overall knowledge in the field of underground and opencast mining systems, metal ore mining and quarrying.

16. Course objectives:
   Objective of the course is obtainment by the student a knowledge in the field of mines closure and liquidation of workings. Development of abilities to solve simple engineering problems related to mentioned subject.

17. Description of learning outcomes:

<table>
<thead>
<tr>
<th>Nr</th>
<th>Learning outcomes description</th>
<th>Method of assessment</th>
<th>Teaching methods</th>
<th>Learning outcomes reference code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Possess knowledge on the life-cycle of equipment and technical systems in extractive industries.</td>
<td>Written colloquium</td>
<td>Lecture</td>
<td>K_W11++ K_W17+++ K_W21++</td>
</tr>
<tr>
<td>2.</td>
<td>Is able to preliminary select an underground coal mining system in relation to conditions of a coal bed.</td>
<td>Written colloquium</td>
<td>Lecture</td>
<td>K_U05++ K_U12++ K_U13++</td>
</tr>
<tr>
<td>3.</td>
<td>Is able to adequately define priorities required to reach the objectives formulated by himself or the others.</td>
<td>Single-handedly elaborated calculations</td>
<td>Project</td>
<td>K_K04+ K_K06+</td>
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</tbody>
</table>

18. Teaching modes and hours

Lecture / BA /MA Seminar / Class / Project / Laboratory

Sem. 3: Lecture 10 h., Project - 5 h

19. Syllabus description:

Semester 3:

Lecture: Introduction - Principles of Mine Closure; Decommissioning and closure; Legislation and regulations; Time span of mine closure; Mine closure planning – surface and underground mines; Environmental and social impacts assessments. Reclamation planning and management; Site preparation, waste dumps and tailing ponds;

Project: Develop conceptual design longwall liquidation with particular emphasis on the security requirements of mining. The project includes the selection of the optimal method of preparing the wall for disposal, a method of decommissioning of using different modes of transport in relation to the closed walls of equipment (harvester, conveyor, casing mechanized), and the identification and control methods of natural hazards that occur during the liquidation of
the wall.

20. Examination: semester 3

21. Primary sources:

22. Secondary sources:

23. Total workload required to achieve learning outcomes

<table>
<thead>
<tr>
<th>Lp.</th>
<th>Teaching mode</th>
<th>Contact hours / Student workload hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lecture</td>
<td>10/10 – including literature study (5h), and preparation for the exam (5h)</td>
</tr>
<tr>
<td>2</td>
<td>Classes</td>
<td>/</td>
</tr>
<tr>
<td>3</td>
<td>Laboratory</td>
<td>/</td>
</tr>
<tr>
<td>4</td>
<td>Project</td>
<td>5 / 5</td>
</tr>
<tr>
<td>5</td>
<td>BA/ MA Seminar</td>
<td>/</td>
</tr>
<tr>
<td>6</td>
<td>Other</td>
<td>/</td>
</tr>
<tr>
<td></td>
<td>Total number of hours</td>
<td>15 / 15</td>
</tr>
</tbody>
</table>

24. Total hours: 30

25. Number of ECTS credits: 1

26. Number of ECTS credits allocated for contact hours: 1

27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 1

28. Comments:

Approved:

20.01.2020 ...........................................
(date, Instructor’s signature)

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(date, the Director of the Faculty Unit signature)