1. **Course title:** ENERGY RESOURCES MANAGEMENT  
2. **Course code:** SII-PKSiM/18

3. **Validity of course description:** 2014/2015

4. **Level of studies:** MSc programme

5. **Mode of studies:** intramural studies

6. **Field of study:** MINING AND GEOLOGY  
   **RG**

7. **Profile of studies:** general academic studies

8. **Programme:** Mineral Processing and Marketing

9. **Semester:** II

10. **Faculty teaching the course:** Department of Mineral Processing and Waste Utilization

11. **Course instructor:** dr inż. Marcin Lutyński

12. **Course classification:** specialization courses

13. **Course status:** compulsory

14. **Language of instruction:** English, Polish

15. **Pre-requisite qualifications:**
    - Introductory courses are Geology, Chemistry, Mineralogy and Petrography, Mining. The following knowledge is required:
      - Mineralogy of energy resources (fossil fuels),
      - Location of energy and mineral resources,
      - Mining technology of fossil fuels.
    - The ability of analytical thinking, graphical and oral data presentation in polish and english is required.

16. **Course objectives:**
    The aim of the course is to familiarize the student with the methods of energy management and sustainable energy resources management. The scope of classes includes energy production from both non-renewable and renewable sources.

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>The student has properly structured, based on theory, detailed knowledge of basic mineral processes</td>
<td>Test, oral exam</td>
<td>Lecture, seminar</td>
<td>K_W10++</td>
</tr>
<tr>
<td>2.</td>
<td>The student has properly structured, based on theory, detailed knowledge of energy and mineral resources management</td>
<td>Oral exam</td>
<td>Lecture, seminar</td>
<td>K_W11+++</td>
</tr>
<tr>
<td>3.</td>
<td>The student has a basic knowledge regarding management including quality and environmental management and economic activity</td>
<td>Test, oral exam</td>
<td>Lecture</td>
<td>K_W03++</td>
</tr>
<tr>
<td>4.</td>
<td>The student is able to prepare and present oral presentation regarding selected issues in the scope of mining and geology</td>
<td>Presentation, oral exam</td>
<td>seminar</td>
<td>K_U04+++</td>
</tr>
<tr>
<td>5.</td>
<td>The student is able to use foreign language at the B2+ level of Common European Framework of Reference for Languages</td>
<td>Presentation, oral exam</td>
<td>seminar</td>
<td>K_U06++</td>
</tr>
</tbody>
</table>
6. The student is aware of the importance of other than technical aspects of engineering activity including its environmental impact and responsibility for making up decisions

| Presentation, oral exam | seminar | K_K02+++ |

7. The student is able to think and act in creative and economically effective way

| Presentation, oral exam | seminar | K_K06+ |

18. **Teaching modes and hours**

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

Lecture - 30 h., Sem - 15 h

19. **Syllabus description:**

**Semester II:**

**Lecture**


**Seminar**

RETScreens software presentation for clean energy projects. Clean energy project analysis as an alternative for fossil fuels.

20. **Examination:** semester II

21. **Primary sources:**


22. **Secondary sources:**

2. BP Statistical review

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>30 / 30</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>/</td>
</tr>
<tr>
<td>5</td>
<td>BA / MA Seminar</td>
<td>15 / 45</td>
</tr>
<tr>
<td>6</td>
<td>Other</td>
<td>/</td>
</tr>
<tr>
<td></td>
<td>Total number of hours</td>
<td>45 / 75</td>
</tr>
</tbody>
</table>

24. **Total hours:** 120

25. **Number of ECTS credits:** 4

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

27. **Number of ECTS credits allocated for in-practice hours (laboratory classes, projects):** 3

26. **Comments:**

Approved:

(date, Instructor’s signature) (date, the Director of the Faculty Unit signature)