### COURSE DESCRIPTION

1. **Course title:** SPATIAL INFORMATION SYSTEMS  
2. **Course code:** SI-GG/38

3. **Validity of the course description:** 2015/2016

4. **Level of studies:** 1st cycle of higher education

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

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

7. **Profile of studies:** academic

8. **Programme:** MINE SURVEYING

9. **Semester:** VI

10. **Faculty teaching the course:** INSTITUTE OF MINING

11. **Course instructor:** dr hab. inż. Violetta Sokoła-Szewioła, prof. nzw. w Pol. Śl.

12. **Course classification:** Programme course

13. **Course status:** compulsory

14. **Language of instruction:** English

15. **Pre-requisite qualifications:** CAD Systems in Geodesy, Cartography, Geodesy. The student has the basic skill of elaborating of geodetic documents using IT tools. The student has the knowledge in the scope of elaborating and updating of a basic map and mining maps, reading these maps and other geodetic drafts. The student has the knowledge of the subject of the reference and coordinate systems used in geodesy. The student has the basic knowledge and competence in the scope of the basic geodetic situational and altitudinal measurements.

16. **Course objectives:** The purpose of education is to acquire the skills of elaborating and completion a database of Spatial Information System, particularly in the scope of contents of Land Information System and cognition of requirements concerning this type of database elaboration.

17. **Description of learning outcomes:**

<table>
<thead>
<tr>
<th>No</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 the basic knowledge in the scope of skills of the creation, obtaining and updating of data of Spatial Information Systems, using of data in the scope of spatial information in mining, geodesy and cartography. The student has the basic knowledge in the scope of obtaining of data stored in the centers of geodetic documentations.</td>
<td>Written test in the lecture, practical test in the project, elaboration of tasks of the projects.</td>
<td>Lecture, project.</td>
<td>K_W19+++</td>
</tr>
<tr>
<td>2.</td>
<td>The student is able to work individually and collectively using computers. He has the skill of self-education among others for the purpose of increasing of professional competencies.</td>
<td>Individual performance of the project tasks.</td>
<td>Project.</td>
<td>K_U02+K_U05+</td>
</tr>
<tr>
<td>3.</td>
<td>The student has the skill of using data stored in the centers of geodetic documentations. He has the skill of using of Spatial Information System.</td>
<td>Individual performance of the project tasks.</td>
<td>Project.</td>
<td>K_U19++</td>
</tr>
<tr>
<td>4.</td>
<td>The student is able to determine the priorities used for the realization of a task determined by himself and others.</td>
<td>Assessment of the tests. Elaboration of the projects.</td>
<td>Lecture, project.</td>
<td>K_K04+</td>
</tr>
</tbody>
</table>

18. **Teaching modes and hours**

<table>
<thead>
<tr>
<th>Lecture / BA / MA Seminar / Class / Project / Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 h <strong>L</strong>, 15 <strong>Proj.</strong></td>
</tr>
</tbody>
</table>
19. Syllabus description:

Lecture:

Project:
- The elaboration of the computers database in the scope of the selected contents of LIS. The input of the spatial data using the method of the raster vectorization. The input of the spatial data obtaining in the results of direct measurements. The preparation of the selected part of the geodetic and cartographic documentations. The completion of the database elaboration by data including the selected scopes of SIS contents also survey-geological documentation. Spatial analyses in SIS: buffer, SQL queries, spatial functions, thematic maps.

20. Examination: No

21. Primary sources:
1. Ustawa „Prawo geodezyjne i kartograficzne” oraz akty wykonawcze do Ustawy (in Polish).

22. Secondary sources:

23. Total workload required to achieve learning outcomes – Sem. IV

<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>15/15 – in this: acquainting with the recommended sources (literature) (10), preparing for test (3), test (2).</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>15/15 – in this: preparation of materials for project (7), preparing for test (6) , test (2).</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>30/30</td>
</tr>
</tbody>
</table>

24. Total hours: 60

25. Number of ECTS credits: 2

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

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

26. Comments:

Approved:

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