COURSE DESCRIPTION

1. **Course title:** Structural Mechanics
2. **Course code:** RB-S1-15-W2C
3. **Validity of course description:** 2015
4. **Level of studies:** BSc programme
5. **Mode of studies:** intramural studies
6. **Field of study:** Civil Engineering
7. **Profile of studies:** general
8. **Programme:** SE
9. **Semester:** 5
10. **Faculty teaching the course:** Department of Mechanics and Bridges (RB5)
11. **Course instructor:** Ryszard Walentyński
12. **Course classification:** common subjects
13. **Course status:** obligatory subject
14. **Language of instruction:** English
15. **Pre-requisite qualifications:** Mechanics (sem. 1), Mechanics of Materials (sem. 2), Structural Mechanics (sem. 3 & 4)
16. **Course objectives:** The aim of the subject is to get knowledge, skills and competences in Structural Mechanics.
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>Knows principles of dynamics of rod structures.</td>
<td>oral defence of project</td>
<td>project</td>
<td>K1A_W04+ K1A_W05+++ K1A_W06+</td>
</tr>
<tr>
<td>2</td>
<td>Has skills on dynamic analysis of simple rod structures.</td>
<td>written project</td>
<td>project</td>
<td>K1A_U04+++ K1A_U03+++ K1A_U05+</td>
</tr>
<tr>
<td>3</td>
<td>Can work on the given task autonomically and cooperate in a team.</td>
<td>written project</td>
<td>project</td>
<td>K1A_K02++</td>
</tr>
<tr>
<td>4</td>
<td>Is responsible for accuracy of the work results and their interpretation.</td>
<td>written project</td>
<td>project</td>
<td>K1A_K02++</td>
</tr>
</tbody>
</table>
18. **Teaching modes and hours:**
lecture: 10, classes: 2, project: 18,
19. **Syllabus description:**
**Lecture:** Dynamic analysis of simple rod structures.
**Classes:** Dynamic analysis of simple rod structures.
**Project:** Dynamic analysis of simple rod structures.
20. **Examination:** no
21. **Primary sources:**
• A. Ghali et al.: „Structural Analysis: The Unified Classical and Matrix Approach”. Taylor & Francis
• I. Karnowski and O. Lebed: „Advanced Methods of Structural Analysis”. Springer
22. **Secondary sources:**
23. **Total workload required to achieve learning outcomes:**

<table>
<thead>
<tr>
<th>No</th>
<th>Teaching mode</th>
<th>contact</th>
<th>student workload</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Participation in lectures</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Participation in exercises</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Participation in project classes</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>Participation in additional consultations</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Own work of student on preparatory to exam, colloquium, etc.</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Own work of student on preparatory to project</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>7</td>
<td>Participation of the student in knowledge checking (exam, test, etc.)</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Summary:</strong></td>
<td>41</td>
<td>69</td>
</tr>
</tbody>
</table>

**24. Total hours:** 81  
(1 ECTS = 27 h, PO 19/14/15)

**25. Number of ECTS credits:** 3

**26. Number of ECTS credits allocated for contact hours:** 2

**27. Number of ECTS credits allocated for in-practice hours:** 3

**28. Comments:**

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1) shortened form of a specialty for the Civil Engineering: SE - Structural Engineering

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