Course Unit Descriptor

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| **Study Programme: Civil Engineering** |
| **Course Unit Title: Prestressed Concrete Structures** |
| **Course Unit Code: GK532** |
| **Name of Lecturer(s): Brujić Zoran** |
| **Type and Level of Studies: master** |
| **Course Status (compulsory/elective): elective** |
| **Semester (winter/ summer): summer** |
| **Language of instruction: english** |
| **Mode of course unit delivery (face-to-face/distance learning): face-to-face** |
| **Number of ECTS Allocated: 5** |
| **Prerequisites: none** |
| **Course Aims:**.<br>Enabling students for design, application of principles, construction and maintenance of prestressed concrete structures. |
| **Learning Outcomes:**<br>Knowledge and application of principles and methods for designing prestressed concrete elements and structures of various purposes, according to Eurocodes. |
| **Syllabus**.<br>Basic concepts of design of prestressed elements and structures. Methods of prestressing. Loss of prestressing.<br>Design of pre-tensioned elements.<br>Design of post-tensioned elements. External prestressing.<br>Analysis of cracked sections. Calculation of crack widths.<br>Statically indeterminate prestressed structures.<br>Ultimate limit states design of prestressed elements: bending, sheer and torsion.<br>Design of prestressed slabs. Punching of flat slabs.<br>Design of prestressed precast hollow cores. |
| **Required Reading:**<br>Relevant literature in English, tbd |

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| **Weekly Contact Hours:2** | **Lectures: 2** | **Practical work: 2** |

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| **Teaching Methods:**<br>Lectures, exercises, consultations, preparation and defense of the project. |
| **Knowledge Assessment (maximum of 100 points):** |

| **Pre-exam obligations** | points | **Final exam** | points |
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| Attendance | | | |
| Computer exercises | | | |
| Tests (4x) | | | |