<table>
<thead>
<tr>
<th>Study course:</th>
<th>Master’s Program Computational Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module name:</td>
<td>CE-WP12: Computational Plasticity</td>
</tr>
<tr>
<td>Abbreviation, if applicable:</td>
<td>-</td>
</tr>
<tr>
<td>Sub-heading, if applicable:</td>
<td>-</td>
</tr>
<tr>
<td>Module Coordinator(s):</td>
<td>Prof. Dr. rer. nat. K. Hackl</td>
</tr>
</tbody>
</table>
| Classification within the Curriculum: | Master’s Program Computational Engineering: compulsory optional course, 3rd Semester  
Master course “Maschinenbau”: optional course, 2nd Semester. |
<p>| Courses included in the module, if applicable: | Computational Plasticity |
| Semester/term: | 3rd Semester / Winter term |
| Lecturer(s): | Dr.-Ing. U. Hoppe |
| Language: | English |
| Requirements: | Basic knowledge of continuum mechanics (CE-P07) is required. |
| Teaching format / class hours per week during the semester: | Lectures including exercises: 3h |
| Study/exam achievements: | Written examination / 90 minutes |
| Workload [h / LP]: | 120 / 4 |
| Thereof face-to-face teaching [h] | 45 |
| Preparation and post processing (including examination) [h] | 75 |
| Seminar papers [h] | - |
| Homework [h] | - |
| Credit points: | 4 |</p>
<table>
<thead>
<tr>
<th>Learning goals / competences:</th>
<th>Fundamentals of the computational modeling of inelastic materials with emphasis on rate independent plasticity. A sound basis for approximation methods and the finite element method. Understanding of different methodologies for the discretization of time evolution problems, and rate independent elasto-plasticity in particular.</th>
</tr>
</thead>
</table>
| Forms of media: | Lecture: Blackboard and beamer presentations  
Programming Exercises: Computer Lab |
| Literature: | Lecture notes  
J. C. Simo and T. J. R. Hughes, Computational Inelasticity, Springer, 1998  
F. Dunne, N. Petrinic, Introduction to Computational Plasticity, Oxford University Press, 2005  