



### 3.10. Laboratory Work

<b>Course:</b> Compulsory module for the master course Chemical and Energy Engineering
<b>Module:</b> Laboratory work
<b>Objectives:</b> A varied experience in conducting experiments and handling engineering software.
<b>Contents:</b> The laboratory is conducted in groups. Each group consists of 3 to 6 students. There are eight laboratory works to be done: <ul style="list-style-type: none"><li>• Particle size measurement (PSM),</li><li>• Comminution (COM),</li><li>• Time of residence (TRE),</li><li>• <b>Estimation of kinetic rate constants (KRC),</b></li><li>• Thermography 1 (THG),</li><li>• Safety relevant units (SRU),</li><li>• Laser Doppler velocimetry measurement (LDV),</li><li>• Thermography 2: Measurement of heat transfer coefficients (HTC).</li></ul> <p>Before each laboratory work, an initial test is written to prove that a fundamental understanding of the specific topic is available. The initial test will be marked.</p> <p>Within four weeks after each laboratory work, every group has to submit a report, for which a mark is given as well. The average of the mark of the initial test and the mark of the report will comprise the final grade for each laboratory work. The average of the eight grades from all laboratory works is in the final grade of the laboratory work module.</p> <p>To complete the module, one excursion, organized by the student council, has to be done. The kick-off meeting for the laboratory work will take place in the <b>second week of the first semester</b>. In this meeting, a general health and safety instruction is given. <b>Only those who have participated in this meeting are allowed to participate in the laboratory.</b> The participation must be documented with a signature.</p>
<b>Teaching</b> Conducting experiments and handling software, Tutorial; (winter semester); (1.+2.+3. Semester of master studies).
<b>Prerequisites</b> Study of the instructions for the laboratory works
<b>Workload:</b> Lectures and tutorials: 50 hours, Private studies: 100 hours



**Examination/Credits:**

Written and oral / 4 CP + 1 CP for one excursion (organized by the student council or by yourself)

**Responsible lecturer:**

Dr. W. Hintz, FVST

**Literature:**

Handouts will be provided in lecture