UNIVERSITÄT DUISBURG-ESSEN
Lehrstuhl Steuerung, Regelung
und Systemdynamik
Univ.-Prof. Dr.-Ing. Dirk Söffker

Wintersemester 2020/21

Course	**Practical Exercise Control Theory (1P)** comprising three experiments: • Control of the Inverted Pendulum (ip) • Observer-based Control for a Torsional Oscillator (brt) • Disturbance Estimation in Rotating Machines (de)
Attendance mandatory:	Participants of the course Control Theory (ISE Master Program, ME)
URL of the course	https://moodle.uni-due.de/course/view.php?id=23817
Examiners	Ph.D. students/scientific co-workers
Coordination	Dr.-Ing. Sandra Rothe, praktikum-srs@uni-due.de
Attestation	In WiSe20/21, the attestation will be realized by an online test in the Moodle course. The realization will take place via: - An assignment to the group of admitted participants (prerequisite: registration at the examination office) - Temporally limited execution of the Moodle attestation
Attestation date	December, 18th at 4:30 pm
Execution of the labs	The experiment brt will be replaced in WiSe 20/21 by an interactive video in the Moodle course. A passed attestation is the prerequisite to open the video. Active participation in the integrated questions is a prerequisite for passing. The experiments ip and de are realized at the university and are held in English language. The participants are grouped in teams of 3 students and assigned to fixed lab dates. A central date exchange service by the chair will not be provided, but a **change-of-dates-forum is arranged in moodle**. The participants are allowed to switch their dates with another accepted student on their own risk. If the switching party does not participate, the original advised student loses the right to participate. The doctoral candidate conducting the lab has to be informed at the beginning of the experiment about a date's switch. All participants will be checked if their participation is accepted. Not accepted students are not allowed to take part.
Material	Moodle: Practical Exercise Control Theory – P-CTH (https://moodle.uni-due.de/course/view.php?id=23817) The password can be requested via the e-mail address srs-pw@uni-due.de. The subject must contain only the word **PrC**.
First lab dates	January, 11th

Last lab dates	February, 12th
Place (labs)	brt: online ip, de: MB 325
Lab days	Daily
Time	Dates between 8.00 am - 05.00 pm
Consulting hours	Thursday, 10.00 – 11.30 am, Registration in Moodle
Attestation	You have to succeed one central attestation for all experiments in order to participate at the labs. **The attestation is only offered at the a.m. date. There is no (!) possibility to change the attestation date or to repeat the attestation in the same term.** Resit of this attestation is in the first semester week of the following term. Participation at the labs without a successfully passed attestation is not possible.
Registration	**Mandatory registration at the examination office of the semester (same procedure as for examinations).** ONLY registered participants are allowed to take part in the attestation. A deregistration is only possible via email to praktikum-srs@uni-due.de latest 1 week (full 7 days) before the attestation date. Nonappearance leads to the grading fail for all three experiments. A deregistration after participation at the attestation is not possible.
Grading / fail	Your performance will be graded: **Criteria** / **Grade** - Attestation passed **and** - Active participation at the lab: 1,0 - Attestation passed **but** - No active participation at the lab: 3,0 - Attestation failed, **or** - Nonappearance/delay: 5,0 (failed) Grading with 5,0 (failed), all experiments and the attestation have to be repeated. Grades will be reported to the examination office like other examination results. The experiments have to be completed within one semester (including the repetition period of the directly following semester). Grades are 1,0 or 3,0, or the experiments have to be repeated completely. The pass of the practical exercise is connected with: 1) Attestation: Each participant has to succeed the attestation for all experiments in order to participate at the labs. 2) For each student it is checked whether the requirements for participation in the attestation are fulfilled. The Moodle attestation can only be opened, if all requirements are fulfilled.

	3) Presence: The exercise starts exactly at the announced time. Participants who are not present until 5 minutes after start of the exercise will be graded as being "not present", regardless of reasons. Nonappearance leads to the grading fail for all three experiments. 4) For verification of your identity you have to show your Student-ID, or your passport, or your Aufenthaltstitel in the beginning of the labs. If the ID cannot be accepted or is not correct, the student loses the right to participate. 5) Active participation at the practical experiment. 6) The interactive video for brt experiment must be watched and the integrated questions must be answered correctly.
Additional information	It is recommended to conduct the labs in the proposed order as failed attempts lead to worse grades or failed trials.