

Course title	<i>Sensors Laboratory</i>
Course code	<i>MECB442</i>
Module coordinator	<i>Miriam Heinrich</i>
Lecturer	<i>Prof. Dr. Klemens Gintner</i>
Level of course	<i>Bachelor</i>
Recommended prerequisites	
Type of course	<i>Lecture</i>
Weekly lecture hours (SWS)	<i>1</i>
ECTS credits	<i>1 ECTS</i>
Workload	<i>In total 30h, 15h course attendance, 15 h self-study</i>
Assessment (grading; pass/fail)	<i>not graded</i>
Regular cycle	<i>Each semester</i>
Language of instruction	<i>English</i>
Contents:	<ul style="list-style-type: none"> • <i>Discussion of fundamentals of measurement and test engineering</i> • <i>terms as accuracy, resolution, linearity, reproducibility and error and error propagation</i> • <i>Influence of electromagnetic disturbance</i>
Learning outcome (competencies):	<p><i>After successful completion of the course, the participants should</i></p> <ul style="list-style-type: none"> • <i>have in-depth experience with measurement technology and be able to assess the quality of measurement results</i> • <i>understand the operation of various sensors (measurement of e.g. temperature, pressure, light intensity, acceleration, rotational speed, flow)</i> • <i>electronic signal processing (mostly analog electronics) and signal conditioning</i>
Teaching methods	<input checked="" type="checkbox"/> <i>Lecture</i> <input type="checkbox"/> <i>Group work</i> <input checked="" type="checkbox"/> <i>Exercises</i> <input checked="" type="checkbox"/> <i>Simulation</i> <input type="checkbox"/> <i>Video feedback</i> <input type="checkbox"/> <i>Others:</i>
Assessment methods	<i>Written report, practical exercises</i>
Recommended reading	<ul style="list-style-type: none"> • <i>laboratory documentation</i> • <i>Marek et.al.: Sensors for Automotive Sensors, Vol. 4, Wiley-VCH, 2003</i> • <i>Göpel et. al., Sensors, Volume 5, Wiley-VCH, 1989</i> • <i>Schmidt, Sensor-Schaltungstechnik, Vogel-Verlag, 1997</i> • <i>H.R. Tränkler, E. Obermeier, Sensortechnik, Springer-Verlag, 1998</i>
Additional information	
Recognition of credits	