

Lab Material Sciences

Course number	4354
Hours per week:	2
ECTS:	2
Scheduled:	Summer Term
Format:	Practical course
Examination:	Research / Working paper
Lecturer:	Timo Schreck, Prof. Dr. Michael Kaloudis
Objectives:	Lab course focuses on the investigation of the structure of matter, the selection of materials for electric, electronic and mechanical applications, the correct usage materials testing methods, planning experiments in material sciences, interpretation of experimental results, as well as improving communication abilities by presenting data and test reports.
Contents:	Students learn to know a variety of test methods and applications in the field of material science and engineering. These include xray crystal structure analysis, elastic and plastic deformation of metals and polymers (tensile testing, hardness tests, impact testing), non-destructive testing (Ultrasonic), metallography, spectroscopic methods (IR, UV, VIS), thermal analysis of materials, optical microscopy, scanning electron microscopy.
Recommended Reading:	Depending on project