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Name of the course:	Destructive material testing
Course type:	Optional
Responsible lecturer:	Dr. Szilvia Gyöngyösi Barkóczy
Content:	The scope of the course is to familiarize students with mechanical material tests (tensile tests, hardness tests), metallographic tests and chemical analysis tests within the area of destructive material testing. Participants will get knowledge on the specimen design, procedure of tests and the evaluation process based on the standards applicable to the various measurements. In addition to classical destructive tests (tensile test, bending test, Charpy impact test, hardness measurements, etc.), participants will learn various spectrometry methods and the related sample preparation process, including OES (optical emission spectrometer) and secondary neutral particle mass spectrometer (SNMS), as well as ion mass spectrometer (SIMS). Demonstration of the relationship between composition and properties of substances through practical examples, e.g. practical application of OES to determine material composition.
Literature:	• Dr. Budai István – Dr. Fazekas Lajos: Gépészeti anyagtan, TERC Kft. Budapest, 2013, ISBN 978-963-9968-78-3 • William D. Callister, Jr., David G. Rethwisch: Materials Science and Engineering, 9th edition Wiley, 2014, ISBEN: 9781118507070 • S. Amelinckx – D. van Dyck – J. van Landuyt – G. van tendeloo: Handbook of Microscopy. Wiley-WCH 1997. ISBN: 3-527-29280-2 • Günter Gauglitz – David S. Moore: Handbook of Spectroscopy. Wiley-WCH 2014. ISBN: 978-3-527-32150-6