

<b>#Module-Code</b>	MINLI.BA.HPT.Nr
<b>#Module Name</b>	Mineral Liberation Analysis of Mineral Resources (MLA)
<b>#Responsible</b>	<b>Surname</b> Schulz <b>First Name</b> Bernhard <b>Academic Title</b> Prof. Dr.
<b>#Lecturer(s)</b>	<b>Surname</b> Schulz <b>First Name</b> Bernhard <b>Academic Title</b> Prof. Dr.
<b>#Institute(s)</b>	Institute of Mineralogy, Dept. Economic Geology and Petrology
<b>#Duration</b>	1 Semester
<b>#Competencies</b>	Evaluation of processed metal ores by mineral liberation analysis (MLA) by automated Scanning Electron Microscope (SEM). Set-up and specification of automated measurements by SEM. Numerical and graphical assessment of database files produced from automated SEM measurements. Data extraction, data presentation and reporting.
<b>#Contents</b>	Methods, hardware and software for automated SEM analysis, evaluation software, data extraction, interpretation, writing of reports for mineral processing engineers.
<b>#Literature</b>	Gu, Y. (2003). Automated Scanning Electron Microscope Based Mineral Liberation Analysis. <i>Journal of Minerals and Materials Characterization &amp; Engineering</i> , vol. 2, no. 1: 33–41.; Fandrich, R., Gu, Y., Burrows, D. & Moeller, K. (2007). Modern SEM-based mineral liberation analysis. <i>International Journal of Mineral Processing</i> , 84, 310-320.
<b>#Types of Teaching</b>	Exercise, 2 SWS, Presentation of methods of Mineral Liberation Analysis (MLA) by Scanning Electron Microscope (SEM). Participants evaluate data by using their own Laptops.
<b>#Pre-requisites</b>	MSc students Economic Geology, Process Mineralogy, EMERALD
<b>#Recommendation</b>	Knowledge of analytical methods based on electron beam instruments
<b>#Frequency</b>	2 times per year, in the winter and summer semester
<b># Requirements for Credit Points</b>	For the award of credit points it is necessary to pass the module exam. The module exam is the production of the detailed Report with protocol on the evaluation of a dataset/database file of a Mineral Liberation Analysis by Scanning Electron Microscope (SEM) [w: 1]
<b>#Credit Points</b>	3
<b>#Grade</b>	The Grade is generated from the assessment of the Report with protocol on the evaluation of a Mineral Liberation Analysis by Scanning Electron Microscope (SEM) [w: 1]
<b>#Workload</b>	The workload is 90h. It is the result of 30h attendance and 60h self-studies. Expenditure of time is 60 hrs. This is composed of 30 hrs presence in class and 30 hrs homework, including preparation of report with protocol.