UNIVERSITY OF MISKOLC

FACULTY OF
EARTH AND ENVIRONMENTAL
SCIENCES AND ENGINEERING

Introduction to ore microscopy

Earth Sciences Engineering MSc

COURSE COMMUNICATION FOLDER

UNIVERSITY OF MISKOLC
FACULTY OF EARTH AND ENVIRONMENTAL SCIENCES AND ENGINEERING
INSTITUTE OF EXPLORATION GEOSCIENCES

Course title: Introduction to ore microscopy **Responsible instructor:** Dr. Zajzon Norbert, **Instructor:** Leskó Máté Zsigmond	**Code:** MFFAT730043 **Responsible department/institute:** Department of Applied Mineralogy / Institute of Exploration Geosciences
	Type of course: optional
Position in curriculum: MSc 3rd semester	**Pre-requisites (if any): -**
No. of contact hours per week (lecture + seminar): 1+1	**Type of assessment (examination/ practical mark / other):** term mark
Credits: 2	**Course:** full time
Competencies to evolve: **knowledge:** T1, T5, T7, T8, T9 **ability:** K1, K2, K5, K6, K9, K11 **attitude:** A1, A2, A3, A4, A5, A7 **autonomy and responsibility*:*** F1, F2, F3, F4, F5	
Course description: To introduce the students the structure and operation of the reflection microscope and the most important optical basics for its use. During the semester, students learn to handle the microscope and to recognize the most important opaque elements, sulfides and oxides in the microscope.	
The short curriculum of the subject: Presentation of microscopes, laboratory accident prevention education, basic knowledge of optics. Structure and operation of a reflection microscope. Native elements (lecture+exercise). Sulfides (lecture+exercise). Oxides (lecture+exercise). Texture characteristics (lecture+exercise).	
Assessment and grading: Evaluation of the knowledge happens in 100% by the result of the exam. Reaching the 80% of the minimum questions, which is a compulsory constrain to start the oral or written exam. Written exam: 90 – 100%: 5 (excellent) 70 – 90%: 4 (good) 60 – 70%: 3 (satisfactory) 50 – 60%: 2 (pass) 0 - 50%: 1 (failed)	
Compulsory literature resources: Craig J. R és Vaughan D. J. (1994): Ore microscopy and ore petrography, Wiley-Interscience Publication, New York Taylor R. (2009): Ore Textures, Springer, London	

Week	Topic
1	Detailed description of the semester's work and assessment, presentation of microscopes, laboratory accident prevention training
2	Basic optical knowledge; lecture
3	Construction and operation of a reflexion microscope; lecture
4	Test
5	Native elements lecture
6	Native elements practice
7	Sulfides; lecture
8	Sulfides; practice
9	Oxides; lecture
10	Oxides; practice
11	Textures; lecture
12	Textures; practice
13	Consultation
14	Test

Seminars:
During the exercises, the knowledge learned in theory is used to recognize and identify different opaque minerals.

Introduction to ore microscopy test

1) Sketch the construction of a reflection microscope and name its parts!
2) What is the wavelength of visible light?
3) Which minerals can be called optically isotropic?
4) How to achieve an optically perfectly flat surface?