



## COURSE DATASHEET

<b>Semester:</b>	2016/17/1
<b>Course:</b>	Raw and starting materials for ceramic, glass and cement industry
<b>Code:</b>	VEMKSIB213S
<b>Responsible department:</b>	Institute of Materials Engineering
<b>Department code:</b>	MKSI
<b>Responsible instructor:</b>	dr. Éva Makó Kristófné Dr.

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### Course objectives:

The objective is the survey of the raw and starting materials for ceramic, glass and cement industry, as well as their preparatory processes

### Course content:

Definitions. Characteristics of raw materials. Formation and basic minerals of igneous rocks. Formation and basic minerals of sedimentary rocks. Formation, and basic minerals of metamorphic rocks. Formation and industrial application of feldspars, micas, perlite and trass. Formation and industrial application of SiO<sub>2</sub> minerals. Structure, properties, and applications of clay minerals. Formation and industrial application of zeolites. Formation, minerals and applications of salt beds. Formation and applications of sulfate minerals (rocks). Formation and applications of carbonate minerals (rocks). Searching methods for raw materials. Physical properties of minerals. Preparatory processes of minerals. The raw and starting materials of cement industry and their preparatory processes. The raw and starting materials of structural ceramics and their preparatory processes. The raw and starting materials of whitewares and their preparatory processes. The raw and starting materials of refractories and their preparatory processes. The raw and starting materials of glass industry and their preparatory processes.

### Requirements, evaluation and grading:

Requirements of teacher's signature are attendance of lecture and the mean percent value of the two written midterm examinations must be better than 2.00.

Mark: above 89% excellent (5); 76-88% good (4); 63-75% medium (3); 50-62% pass (2); below 50% fail (1).

The whole content of lectures is included in the oral examination. Grading contains the evaluation of two written midterm examinations (1st midterm 10%, 2nd midterm 10%, final oral examination 80%):

After a 20 minutes preparation the examinee gives an oral presentation on the topic for about 20-25 minutes.

Fail (1) when the examinee is unable to prove either the definition of the basic notions or the short scheme of things connected with the topic.

Pass (2) when the examinee is able to interpret the basic notions of the topic.



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### Requirements, evaluation and grading:

Satisfactory (3) when the examinee knows the basic notions of the topic, and is able to present their logic connections with the help of the examiner.

Good (4) when the examinee provides a logic, well-structured presentation with all the important facts and connections of the topic.

Very good (5) when the examinee gives a logic, excellent, well-structured, perfect in details oral presentation that completely reveals the connection of the topic.

### Required and recommended readings:

Juhász A.Z.: Bevezetés a szilikátkémiába I. Veszprémi Egyetem, Veszprém, 1985. Tamás F.: Szilikátipari kézikönyv. Műszaki Könyvkiadó, Budapest, 1982. Jantsky B.: Ásványtelepeink földtana. Műszaki Könyvkiadó, Budapest, 1966. W. E. Worall.: Clays and ceramic raw materials. Elsevier applied science publishers Ltd., England, 1986.