



UNIVERSITY of MISKOLC
Faculty of Materials Science and Engineering
**Antal Kerpely Doctoral School of Materials Science
& Technology**



Metal Matrix Composites

Dr. Gréta Gergely

COURSE DESCRIPTION

2017.

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Metal Matrix Composites

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MAKD

Lecturer

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http://www.matsci.uni-miskolc.hu/new/index.php?option=com_content&view=article&id=146&Itemid=92&lang=hu

Recommendation

The lecture is proposed for all students of the Kerpely Doctoral School, especially in the field of metalforming, physical metallurgy, heat treatment and casting.

Language

English

Scope

The objective of the course is to acquire knowledge of the concepts, properties, production methods and the most important application areas of composites.

Methodology

The course is held in contact lectures. The time of contact courses is based on agreements with the students.

Topics

Definition, advantage and disadvantage, requirements and application fields of composites.

Classification and characterization of composites

Fabrication methods of particle reinforced composites. Powder metallurgy and the process of sintering.

Different fabrication type and structure of fiber reinforced composites

Production technologies of nano sized reinforcements, nano Metal Matrix Composites

References

1. N. Chawla and K. K. Chawla: Metal Matrix Composites. Springer 2006
2. Michele Meo: Composite Science and Technology. DesTech Publication 2013

Exam

Oral exam.

Complex exam questions

1. Application fields of composites. Role, functions and characteristics of matrix materials and reinforcements
2. Fabrication methods of Metal Matrix Composites
3. Characterization of particle and fiber reinforced Metal Matrix Composites. Presentation the relationship between structure and mechanical properties of composites
4. Fabrication methods of nano MMC composites