MSE-709

Powder Characterisation and Dispersion

Bowen Paul

Cursus	Sem.	Type
Advanced Manufacturing		Opt.
Materials Science and Engineering		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Written
Workload	30h
Hours	**20**
Lecture	14
Practical work	6
Number of positions	**16**

Frequency

Every year

Remark

30.06.2021 - 02.07.2021 (the course will be given only if the sanitary situation allows to be in person)

Summary

Introduction to some basic methods used for powder characterisation, particle size measurement and a brief introduction to powder dispersion and suspension characterisation. Discussion of the fundamental theory behind the methods and their limitations. Real world examples.

Content

Please find information on the link below.

Keywords

nanopowders, particle size, dispersion, aggregation, colloidal stability, size reduction

Learning Prerequisites

Required courses

basic scientific background

Learning Outcomes

By the end of the course, the student must be able to:

- Assess / Evaluate Different particle size measurement methods
- Choose an appropriate method for particle size measurement
- Assess / Evaluate colloidal stability of a suspension
- Identify methods for powder characterisation
- Choose an appropriate method for particle size reduction (milling)

Teaching methods

Mixture of power point slide rpesentations with practical demonstrations in the laboratory.

Assessment methods

Written test at the end of the course.

Resources

Bibliography

Detailed bibliography given with the course notes

Notes/Handbook

copy of slides used in the course will be provided

Websites

- https://www.epfl.ch/research/domains/ccmx/courses-and-events/2021pc/?mc_cid=cfcfc381e9&mc_eid=1f0a525ce4