

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
<b>Hours</b>	<b>20</b>
Courses	14
TP	6
<b>Number of positions</b>	<b>16</b>

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