

Ceramics

Lecturers

Marie-Paule DELPLANCKE (Coordinator) and Hubert RAHIER

Course mnemonic

CHIM-H415

ECTS credits

4 credits

Language(s) of instruction

English

Course period

Second term

- > The flexibility and adaptability to work in an international and/or intercultural context
- > An integrated insight in chemical process and materials' technology
- > Insight in chemistry as a link between process and materials technology

References, bibliography and recommended reading

Ceramic Materials: Science and Engineering, C. Barry Carter and M. Grant Norton, Springer 2007

Other information

Contact(s)

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Evaluation method(s)

Other

Evaluation method(s) (additional information)

Oral presentation of a subject chosen by the students and discussion on this presentation. Evaluation of the practicals reports

Determination of the mark (including the weighting of partial marks)

oral presentation = 2/3 of the final note
practicals reports = 1/3 of the final note

Main language(s) of evaluation

English

Programmes

Programmes proposing this course at the Brussels School of Engineering

MA-IRMA | Master of Science in Chemical and Materials Engineering | finalité Professional/unit 1 and finalité Professional/unit 2

Course content

This is a class in common between ULB and VUB. The theoretical class is given by prof. H. Rahier at VUB and the practicals are taking place at ULB with Prof. M.P. Delplancke.

The different subjects that are illustrated are:

- > synthesis : methods, use of phase diagrams
- > general properties: melting point, density, solubility, hardness
- > electronic, magnetic and optical properties
- > thermal properties
- > glass: order, glassy ceramics, controlled crystallization.

Objectives (and/or specific learning outcomes)

Introduce the ceramics, their synthesis methods and their properties

Teaching method and learning activities

class and practicals

The practicals are illustrating the different chapters of the theoretical class: synthesis, processing and characterization.

Contribution to the teaching profile

This teaching unit contributes to the following competences:

- > In-depth knowledge and understanding of exact sciences with the specificity of their application to engineering