



# Materials for catalysis M1



Niveau d'étude  
BAC +4



ECTS  
3 crédits



Composante  
Faculté des  
Sciences

## En bref

- **Date de début des cours:** 1 sept. 2021
- **Langue(s) d'enseignement:** Anglais
- **Méthode d'enseignement:** En présence
- **Organisation de l'enseignement:** Formation initiale
- **Ouvert aux étudiants en échange:** Non

## Volumes horaires\* :

CM : 17 h

TD : 8 h

## Objectifs

Getting familiar with catalytic reactions of industrial interest, characterization of the textural and surface properties of catalysts, synthetic aspects of catalysts

## Présentation

### Description

Thermodynamic and kinetic bases to understand the optimal conditions for catalytic reactions and the requirement of activity and accessibility of catalysts.

Methods for the preparation of porous and dispersed catalysts by nucleation-growth, aggregation and templating mechanisms.

Correlations between structural properties and activity of heterogeneous catalysts.

Examples of applications of heterogeneous catalysts to processes of refining and industrial chemistry.

Further on basic concepts of photocatalysis and electrocatalysis are explored

## Pré-requis nécessaires

Basic knowledge of fundamental concepts in Chemistry, Physics, and Solid State Science (Bachelor degree program)

## Contrôle des connaissances

CC

## Syllabus

Thermodynamic and kinetic bases to understand the optimal conditions for catalytic reactions and the requirement of activity and accessibility of catalysts.

Methods for the preparation of porous and dispersed catalysts by nucleation-growth, aggregation and templating mechanisms.



Correlations between structural properties and activity of heterogeneous catalysts.

Examples of applications of heterogeneous catalysts to processes of refining and industrial chemistry.

Further on basic concepts of photocatalysis and electrocatalysis are explored

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## Informations complémentaires

**Contact(s) administratif(s) :**

Secrétariat Master Chimie

<https://master-chimie.edu.umontpellier.fr/>

## Infos pratiques

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### Contacts

Responsable pédagogique

Werner PAULUS

✉ [werner.paulus@umontpellier.fr](mailto:werner.paulus@umontpellier.fr)

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### Lieu(x)

➤ Montpellier - Triolet