

Field of **CHEMICAL ENGINEERING**

Approved in the CSD meeting _____

Doctoral School Director
Prof. habil. PhD. Eng. Mihai Albuлесcu

SYLLABUS

CATALYSIS AND CHEMICAL REACTION ENGINEERING

Discipline category: **Advanced knowledge**

Number of hours for study: **210**

Number of credits allocated: **15**

Evaluation form: **Exam**

CONTENT

- 1. Fundamentals of catalytic processes**
- 2. Properties and preparation of catalytic materials**
- 3. Selection and characterization of catalysts**
- 4. Reactors and catalyst testing**
- 5. Reactor design**
- 6. Deactivation of catalysts: causes, mechanisms and mitigation**
- 7. Homogeneous and enzymatic catalysis.**

REFERENCES

1. Calvin H. Bartholomew, Robert J. Farrauto, Fundamentals of industrial catalytic processes, Second ed., JOHN WILEY & SONS, INC., 2006
2. Octave Levenspiel, Chemical reaction engineering, Third ed., JOHN WILEY & SONS, INC., 1999
3. J.M. Thomas, W.J. Thomas, Principles and practice of heterogeneous catalysis, VCH, 1997.

Discipline coordinator,

Prof. PhD. Eng. Dragoș Ciuparu

Responsible for the PhD field,

Prof. habil. PhD. Eng. Diana Cursaru