

- Course title: **Physical Chemistry IV: Chemical Kinetics.**
- Course code: 5285
- Type of course: compulsory
- Level of course: fundamental
- Year of study: 3
- Semester: 1
- Number of credits allocated: 4.5
- Name of lecturer: Begoña García.
- Objective of the course:
 - Defining the basis and the occurrence of chemical reactions.
 - Understanding the role played by a number of different experimental factors that can affect both reaction rates and mechanisms.
 - Applying the knowledge gained to catalytic reactions.
- Prerequisites: It is recommended that students should have attended Physical Chemistry I: Quantum Mechanics and Physical chemistry III: Thermodynamic Chemistry before following this course.
- Course contents: the fundamentals of chemical kinetics; reaction rates; the study of complex kinetic processes; collision theory; transition state theory; chain reactions; reactions in solution; homogeneous catalysis; heterogeneous catalysis; enzyme catalysis.
- Recommended reading:
 - S. Senent (1984) Química Física, UNED, Madrid.
 - N.E. Henriksen, F.Y. Hansen (2008) 9. Theories of Molecular Reaction Dynamics, Oxford University Press Inc., New York,
 - F.W. Sears, G.L. Salinger (1980) 10. Termodinámica, teoría cinética y termodinámica estadística, Reverté, Barcelona,
 - G. D. Billing, K. V. Mikkelsen (1997) 5. Advanced Molecular Dynamics and Chemical Kinetic, John Wiley& Sons. Inc., New York,
 - R.I. Masel (2001) 8. Chemical Kinetics and Catalysis., Wiley Interscience, New York
 - K.J. Laidler (1987) Chemical Kinetics, 3^a Ed., Harper Collins Pub. Inc., New York.
- Teaching methods:
 - Lectures: teachers explain the contents of the lessons.
 - Seminars: students and teacher discuss the problems and other points raised in class.
- Assessment methods:
 - Participation and attitude in lectures and seminars: 10%
 - Resolution of problems, issues and other proposals: 40%
 - Written work and exams: 50%
- Language of instruction: Spanish and/or English