



Course Syllabus

2018-19

1. Course Description

Course	General Chemistry
Code	202001
Faculty	School of Experimental Sciences
Degrees it is part of	Degree in Biotechnology
Module it belongs to	Chemistry for molecular biosciences
Subject it belongs to	Chemistry
Department	Physical, Chemical and Natural Systems
Year	1 st year
Term	1 st term
Total credits	6
Type of course	Basic
Course language	Spanish
Teaching model	B1

Number of classroom teaching hours of B1 teaching model for each student: 27 hours of general teaching (background), 18 hours of theory-into-practice (practical group tutoring and skill development) and 0 hours of guided academic activities. Up to 10% of face-to-face sessions can be substituted by online teaching, in accordance with the course schedule published before it begins.

2. Course Coordinator

Name	Patrick Merklng
Department	Physical, Chemical and Natural Systems
Field of knowledge	Physical chemistry
Office number	22.3.11. The hours will be agreed between lecturer and students at the beginning of the course
Phone	954348643
E-mail	pjmerx@upo.es

3. Academic Context

Course description	To learn the basis of chemistry in the first semester of the first year, which are necessary to understand the chemical-biological processes that will be explain in detail in the following courses.
Learning objectives	The objective of the course is to lay the foundations of the other advanced courses of the degree. The student will develop general and specific skills shown in the degree report, which are important for complete the education of the graduated students in Biotechnology. The specific objectives of the course are the following: <ul style="list-style-type: none"> - To have the basis to understand the physic-chemical foundations of biomolecules structure and their main reactions in physiological conditions or conditions of interest in biotechnological processes.
Prerequisites	Suggestion: To have studied chemistry, physics, and mathematics in secondary school. At the beginning of the course, a brief review of some aspects of chemistry will be carried out and the students will be aware of their lacks. Concepts such as mole, gas laws or organic and inorganic nomenclature of the most known compounds must be known.

4. Course Content: Topics

UNIT 0	INTRODUCTION AND BASIC CONCEPTS
UNIT 1	ATOMIC STRUCTURE AND MOLECULAR STRUCTURE
UNIT 2	INTRODUCTION TO THERMODYNAMICS
UNIT 3	INTRODUCTION TO CHEMICAL KINETICS AND CHEMICAL EQUILIBRIUM
UNIT 4	PROTON TRANSFER REACTIONS
UNIT 5	ELECTRON TRANSFER REACTIONS
UNIT 6	LIQUID-PHASE REACTIONS

5. Methodology and Resources

General teaching (EB ¹)	Projections, seminars, personalized tutorials, laboratory practices, and if possible the virtual classroom platform will be used. Exams will be carried out. The course consists of a continuous assessment.
Theory-into-practice (EPD ²)	Laboratory practices and seminars will be carried out in this course.
Guided academic activities (AD)	Not applicable.

¹ EB is the acronym for Enseñanzas básicas.

² EPD is the acronym for Enseñanzas prácticas y de desarrollo.