1. IDENTIFICATION DETAILS

<table>
<thead>
<tr>
<th>Title:</th>
<th>Degree in Pharmacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/School:</td>
<td>Bio-Sanitary Sciences</td>
</tr>
<tr>
<td>Course subject:</td>
<td>General Chemistry</td>
</tr>
<tr>
<td>Type:</td>
<td>Basic Education</td>
</tr>
<tr>
<td>Credits ECTS:</td>
<td>9</td>
</tr>
<tr>
<td>Year / Semester:</td>
<td>Year 1 - 1st Semester</td>
</tr>
<tr>
<td>Code:</td>
<td>2510</td>
</tr>
<tr>
<td>Subject:</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Module:</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Language:</td>
<td>Spanish</td>
</tr>
<tr>
<td>Total number of hours undertaken by pupil:</td>
<td>225</td>
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2. DESCRIPTION OF THE COURSE

Chemistry is the discipline that studies matter from the perspective of its composition, structure and properties. It aims at explaining the changes in matter during chemical transformations and the consequences of energy transfer in such changes. This subject aims at providing students with the basic tools and concepts required to understand and predict the physical and chemical properties of matter, as well as the activity and reactivity of compounds. A special emphasis will be given to those aspects and concepts related to stoichiometry, reactivity and chemical balance in acid-base, oxidation-reduction, precipitation and complex formation solutions.

3. SKILLS TO DEVELOP

3.1. General skills
To apply the scientific method and gain skills for handling legislation, information sources, bibliography, protocol preparation and other aspects necessary for the design and critical assessment of pre-clinical and clinical trials.

Students must prove knowledge of a study area based on general secondary education. Although its level relies on advanced textbooks, this study area also includes some aspects implying knowledge at the forefront of their field of study.
Students must develop those necessary learning skills to continue postgraduate studies with a high degree of autonomy.

To encourage intellectual curiosity and search for the truth in all life spheres.

To develop rigorous thinking skills.

To develop self-assessment skills.

To apply the theoretical knowledge gained to the resolution of problems and practical cases in different matters.

### 3.2. Specific skills

- To carry out standard lab procedures including the use of synthesis and analysis scientific equipment and instruments.
- To evaluate the risks associated to the use of chemical substances and lab processes.
- To understand the physical-chemical characteristics of substances used in the manufacture of pharmaceutical drugs.
- To be familiar with and to understand the characteristics of reactions in solutions, the different states of matter, and the thermodynamic principles and their application in pharmaceutical sciences.
- To be aware of and to understand the main characteristics of elements and compounds, as well as their application to the pharmaceutical field.

### 4. PREREQUISITES

It is advisable that students have a good knowledge on such subjects as Mathematics, Physics and Chemistry taught during the last years of High School.

### 5. WORK TIME DISTRIBUTION

<table>
<thead>
<tr>
<th>CONTACT HOURS</th>
<th>REMOTE STUDY HOURS</th>
</tr>
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<tbody>
<tr>
<td>100</td>
<td>125</td>
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</table>

### 6. OBJECTIVES

To gain the basic skills in the chemistry field that allow students to easily cope with other subjects in the Degree, the ones within the Chemistry Module, as well as other similar ones. This subject aims at presenting chemistry as a basic, comprehensive, versatile and important branch of knowledge for the pharmaceutical sciences.

### 7. INDEX OF SUBJECTS

The content of the subject will be covered through classroom work and lab practice.

**A) CLASSROOM WORK**

- Week 1 Introduction to Chemistry. Quantities, units, conversions and mathematical tools.
- Week 2 Atoms and molecules. Chemical formulas and stoichiometry. Concept of mole.
- Week 3 Atomic structure and Nuclear Chemistry.
- Week 4 Mixture, substance and solutions (I)
- Week 5 Mixture, substance and solutions (II)
- Week 6 Chemical balance
8. METHODOLOGY/LEARNING ACTIVITIES

FACE-TO-FACE ACTIVITIES:
- [A1] Problem-based learning classes
- [A2] Lab practical classes
- [A3] Seminar

INDEPENDENT ACTIVITIES:
- [A4] Individual assignment
- [A5] Group assignment

9. EVALUATION SYSTEM

-[E1] Written exam: 60% of final grade (R1 to R10 are assessed).
-[E2] Delivery of exercises and practical cases: 20% of final grade (R1, R2, R4, R5, R8, R10, R11 and R12).
-Lab practice: 20% of final grade. It will be assessed according to these two aspects:
-[E3a] Delivery of reports or datasheets with technical information from the lab practice: 10% of final grade (R1, R2, R4, R5, R8, R10, R11 and R12 are assessed)
-[E3b] Participation in a seminar to share results from lab practice: 10% of final grade (R1 to R12 are assessed).

10. BIBLIOGRAPHY