Syllabus

Course title
Elements of chemistry and biochemistry applied to food and wine sciences

Course code
40403

Scientific sector
AGR/13

Degree
Bachelor in Enogastronomy in Mountain Areas

Semester
2nd

Year
1

Academic year
2022/23

Credits
6

Modular
No

Total lecturing hours
36

Total lab hours
24

Total office hours
18

Attendance
Strongly recommended

Prerequisites
/

Course page
/

Specific educational objectives
The course contents are crucial for acquiring the scientific background and professional skills regarding the basis of chemistry and biochemistry applied to food and wine sciences.

List of topics covered
- The atom
- Chemical bonds
- Chemical formulas and equations
- States of matter
- Acid-Base reactions
- Redox reactions
- Carbohydrates
- Amino acids and proteins
- Lipids
- Volatile and aroma compounds
- The enzyme kinetics and modulation of enzyme activity, inhibition, membranes and solutes’ transport.

Learning outcomes
The students will get a comprehensive overview and gather knowledge on different aspects of the chemistry and biochemistry applied to food and wine sciences. The specific outcomes are listed below.

Knowledge and understanding of chemical and biochemical patterns in relation to qualitative and quantitative aspects of food science.

Capability in applying knowledge by developing skills useful for food and wine sciences.
| **Making judgments** based on the choice of analytical protocols, writing a report.  
**Capability in presentation of the skills acquired** with an appropriate language and use of technical and specific terms.  
**Acquisition of learning strategies** based on the use of technical information and knowledge updating. |

| **Assessment** | The assessment of the student preparation is through an oral exam. The exam includes questions to verify the understanding of the course topics. In addition, questions on possible practical implications of the topics taught in the course will be evaluated. |

| **Assessment language** | **English** |

| **Evaluation criteria and criteria for awarding marks** | Ability to present clearly the topics studied within the course using appropriate technical terminology. In addition, the capability to establish relationships between different topics will be evaluated. |

| **Required readings** |  |

| **Supplementary readings** |  |