Syllabus
Course description

<table>
<thead>
<tr>
<th>Course title</th>
<th>Fruit fermentation</th>
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<tbody>
<tr>
<td>Course code</td>
<td>43062</td>
</tr>
<tr>
<td>Scientific sector</td>
<td>AGR/16</td>
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<tr>
<td>Degree</td>
<td>Agricultural and Agro-Environmental Sciences</td>
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<tr>
<td>Semester</td>
<td>II</td>
</tr>
<tr>
<td>Year</td>
<td>II, III</td>
</tr>
<tr>
<td>Academic year</td>
<td>2017/18</td>
</tr>
<tr>
<td>Credits</td>
<td>4</td>
</tr>
<tr>
<td>Modular</td>
<td>No</td>
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Total lecturing hours | 30
Total lab hours       | 30
Total exercise hours  | 10
Attendance            | Strongly recommended
Prerequisites          | ----

Specific educational objectives
The course is a deepening of the disciplinary field of food microbiology, as a characterizing course.
The aim of the course is to provide advanced knowledge on fruits fermentation.
The course gives a general overview on the physiology and biochemistry of lactic acid bacteria and yeasts, which have used for making fruit-based fermented products. The use of starter cultures and criteria for their selection has supplied. The effect of the fermentation on fruit properties is given with particular emphasis on the sensory, shelf life and nutritional features.

Module 1
Fruit Fermentation

Lecturer
Raffaella Di Cagno, Office 6 Floor, Palazzo della Regione (raffaella.dicagno@unibz.it), tel. 0471 017216.

Scientific sector of the lecturer
AGR/16

Teaching language
English

Office hours
From Monday to Thursday, on appointment

Teaching assistant (if any)

Office hours

List of topics covered
Ecophysiology and metabolism of lactic acid bacteria, fructophilic lactic acid bacteria and yeasts.
Lactic acid bacteria microbiota of raw fruits.
Spontaneous fermentation and main fermented vegetable and fruit products.
Starter cultures and criteria for their selection.
Metabolic adaptation of lactic acid bacteria during fruit

### Teaching format

Teaching activities consist of lectures, explaining the theoretical concepts of the course, where case studies have carried out. The course is presented in digital format. Presentations and scientific papers used during the course are provided to students.

### Learning outcomes

**Knowledge and understanding** of the role of lactic acid bacteria and yeasts in the fermentation for making fermented fruit based products. **Applying knowledge and understanding** through the capacity to achieve information, which enable to manage the principles of the fermentation process used for making fruit-based fermented products. **Making judgments** through the practical and theoretical knowledge achieved during the course. **Communication skills** to present knowledge with a language pertinent to this specific field. **Learning skills** to manage within the basic concepts of fruit fermentation and use of starters.

### Assessment

The exam consists of a written test, including questions to verify the knowledge and capacity gained the course. The questions aim to assess the transfer capacity of the principles of fruit fermentations.

**Assessment language**

English

**Evaluation criteria and criteria for awarding marks**

A final grade is given. Criteria: clarity of the answers and lexical appropriateness, synthesis capacity, pertinence of the treated topics and capacity of elaboration.

### Required readings

Articles and book chapters will be provided at the beginning of the course.

**Supplementary readings**