

FOOD SAFETY

First-year course of MCs Food Science study program where students learn on different aspects of food safety, including technological risks and their control, through lectures, seminars, and laboratory tutorials.

Type of the activity: formal learning

Target group: students

Developed competences: Creativity, Motivation and perseverance, Motivation and perseverance, Working with others, Learning through experience, Working with others

Structure of the activity: seminar works

Impact and Effort:

High impact/high effort.

Learning objectives

Updates to teaching and learning methods would be:

- (i) For seminar exercises: The supplement would be self-paced as part of seminar exercises. The content would be related to processing data from laboratory exercises and current studies in the scientific literature.
- (ii) For laboratory exercises: In addition, there would be an introductory part in which, according to the knowledge gained in the lecture and examination literature, a scientific problem is defined in the context of seminar exercises and a decision is made to carry out the experimental work.

As a conclusion, the student should prepare a presentation of his results in small groups of students. This would involve new tools and newly acquired skills as a pedagogical leader and student.

Final outcome: Laboratory research analysis, discussion, pitch with ppt presentation

Short description of the activity (duration, topic, number of participants)

The experimental work in the laboratory practical is followed by the seminar paper, in which students must understand the problem and further evaluate and present the results of the experimental work in conjunction with scientific literature. All 52 students in the food safety course participated in this activity. The objective of this activity was first to acquire basic knowledge of safety and risk guidelines in the food industry to ensure the production of safe food. In addition, students improved their individual time management and collaboration with each other, increasing their creativity and effectiveness.

Activities, methods, tools used to support the development of the entrepreneurial competences

- Strengthening collaboration and dialogue between students
- Increasing motivation and focus of thinking
- Development of learning opportunities / support through programs
- Change of didactic approach, preparation of a data transmission system
- More independent study of scientific literature
- Encourage critical thinking and discussion

What was a success factor

- Obtain a software tool used by all students for data entry
- Minimize uploading of documents and editing of a common document
- Improving communication between students and this must be very focused
- Improving collaboration between students, which is necessary for the presentation of the results
- To have the opportunity to view the work as you prepare for the presentation

What could be improved next time

- Updates with the aforementioned tools have been considered primarily in the conduct of laboratory exercises and seminar exercises
- We intend to include the updates in the future in the preparation of the research project to allow students to continue working and researching - and this allows the current upgrade of the course with MS teams, which allows to obtain files and create new subgroups. In this way, we enable students to continue working within the course after the end of the Food Safety course, to prepare their results statistically and present them as a whole, to compare them with the scientific literature and to write a small research article
- In the future we intend to provide updates with the inclusion of MS teams tools in lectures and seminars on food safety, in particular organization through MS teams and collaborative work through Power Point / MS teams

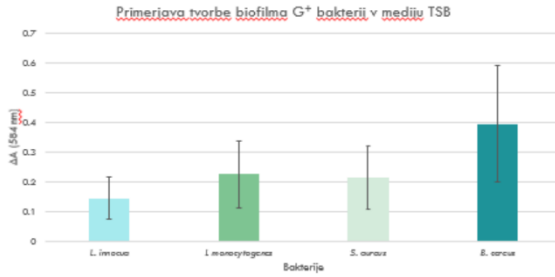
Supporting materials for this activity

<https://www.youtube.com/watch?v=VntXujKRGHo>



Figure 1. Students at Food Safety course and their laboratory work.

Primerjava tvorbe biofilma G+ bakterij v mediju TSB



$P_{\text{vrednost}} = 1,98299 \times 10^{-29}$

Bakterije	Povprečna A
<i>Listeria innocua</i>	0,1437
<i>Listeria monocytogenes</i>	0,2244
<i>Staphylococcus aureus</i>	0,2139
<i>Bacillus cereus</i>	0,3934

Bakterije	Povprečna A (literatura)
<i>Listeria innocua</i>	0,1435
<i>Listeria monocytogenes</i>	0,0775
<i>Staphylococcus aureus</i>	0,5547
<i>Bacillus cereus</i>	0,5201

Figure 2. Results of the experimental work in the laboratory and their evaluation.

Figure 3. Example of Power Point presentation / MS Teams.

ORODJE MS TEAMS

- ORGANIZACIJA DELA NA PROJEKTIH
- ORGANIZACIJA DELA S ŠTUDENI PRI OPRAVLJANJU DIPLOMSKIH IN MAGISTRSKIH NALOG



Figure 4. Example of planning experimental work through drawing a scheme by hand or through the use of MS Teams.

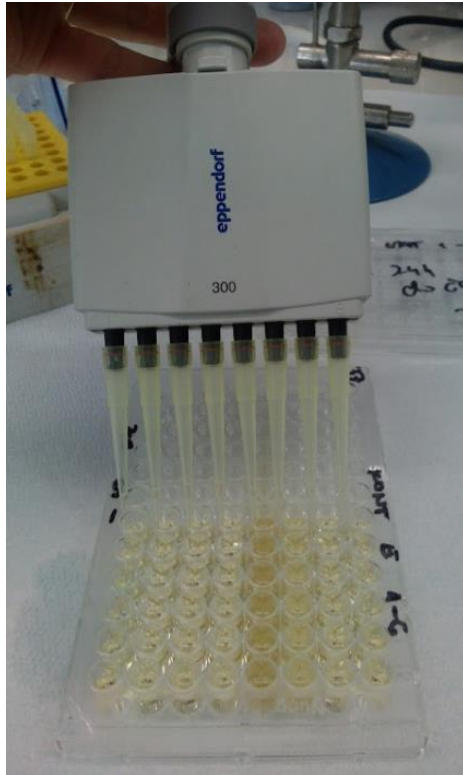


Figure 5. DEVELOPED ENTRECOMP COMPETENCES.