

Tárgytematika / Course Description Food Microbiology and Hygiene 2.

MENB_ÉTTA018

Tárgyfelelős neve /

Teacher's name: dr. Varga László

Félév / Semester: 2024/25/1

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/1/0

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

Objectives of the course:

The main objective of this course is to help students develop an understanding of environmental factors that affect the activities of microorganisms associated with food spoilage, foodborne diseases, and food fermentation. This seminar focuses on microbial ecology, metabolism, and growth conditions, thereby enabling the destruction of harmful microbes and the stimulation of beneficial ones. A detailed description and characterization of foodborne microorganisms are also provided. Upon successful completion of the course, students should be able to (1) explain the significance and activities of microbes in food, (2) discuss the microbiology of various types of food products, and (3) explain why microbiological quality control programs are needed in food production.

TANTÁRGY TARTALMA / DESCRIPTION

Course content:

Week 1: Regulatory issues

Week 2: *Bacillus cereus*

Week 3: *Campylobacter* spp.

Week 4: *Clostridium botulinum*

Week 5: *Clostridium perfringens*

Week 6: Enterohemorrhagic *Escherichia coli*

Week 7: *Listeria monocytogenes*

Week 8: *Salmonella* spp.

Week 9: *Shigella* spp.

Week 10: *Staphylococcus aureus*

Week 11: *Vibrio* spp.

Week 12: *Yersinia enterocolitica*

Plus, related practicals

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

Requirements:

Attendance at more than 70% of the weekly classes is compulsory. Students must sign their name on the class register. No extra sessions will be provided for missed classes. The signature is a pre-requisite of the exam. There is no possibility for pre-exam. Type of exam: written and oral test. All topics covered during lectures and practicals will be discussed in the exam. Grading: 1 (fail) to 5 (excellent).

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Required and recommended readings:

Doyle, M.P., Diez-Gonzalez, F., Hill, C. (2019): Food microbiology: fundamentals and frontiers (5th ed.). ASM Press, Washington, DC.

Matthews, K.R., Kniel, K.E., Montville, T.J. (2017): Food microbiology: an introduction (4th ed.). ASM Press, Washington, DC. Original research papers and up-to-date reviews published in top-tier scientific journals, e.g., *Food Microbiology*, *International Journal of Food Microbiology*, etc.

AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL

