



Course catalogue

TTF-PB409 Food preservation processes

Programme	Food Technology and Biotechnology
Level	Bachelor's programme
Academic year	IV year
Semester	Spring Semester
ECTS credits	6 credits
Lecturers	Ass. Prof. Daniela Nikolovska Nedelkoska, PhD
Language	Macedonian
Objective	Understanding the basic principles of food preservation, as well as application of these principles to processes in food production in order to ensure delivery of safe food products with optimal nutritional quality.
Content	Principles of food preservation. Food preservation by thermal inactivation of enzymes and microorganisms. Microbial destruction kinetics. Lethality concept. Commercial sterility. Commercial sterilization systems: Traditional (canning) processing and Aseptic processing. Process optimization. Food preservation by water removal with hot agents. Simultaneous heat and mass transfer in food. Drying curves. Changes in food during drying process. Dryers. Heat and mass balance over dryers. Freeze drying. Food preservation by heat removal (Refrigeration and Freezing); principles and equipment. Controlled and modified atmosphere storage. Changes during freezing and frozen storage. Biological methods of preservation. Preservation by additives. Introduction of new technologies of food preservation.
Learning materials	Reading from the primary literature are referenced in class and posted to the course website.