

Study Programme: Food Engineering			
Course Unit Title: Advanced wheat flour milling			
Course Unit Code: DUHI05			
Name of Lecturer(s): Assoc. Prof. Aleksandar Fišteš, PhD			
Type and Level of Studies: Master Academic Studies			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Winter			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 7			
Prerequisites: None			
Course Aims: Acquiring knowledge on scientific principles, modern equipment and engineering practices in contemporary wheat flour milling plants.			
Learning Outcomes: The ability to manage and control the modern wheat flour milling process and solve practical problems by applying the acquired professional and scientific knowledge.			
Syllabus:			
<i>Theory</i>			
Wheat grading; Contemporary practices in wheat cleaning – optical sorters and combie-cleaners; Prebreak and debranning; Grinding in the break system; Grinding in the sizing and reduction system; Grinding with eight-roller mill; Mill process control; Germ separation in flour mills; Micronutrients in flour and flour fortification; Air in the flour milling and dust control; ISO and HACCP in the flour milling industry; Key issues in whole wheat flour milling and storage.			
<i>Practice</i>			
Comparative analysis of wheat grading systems; Analysis of the effect of roll parameters on milling results – grinding with corrugated and smooth rolls; Comparative analysis of milling results: conventional vs. eight-roller milling system; Physicochemical characterization of wheat germ; NIR Control of the milling process; basic aspects of HACCP system implementation in wheat flour mill; Whole wheat flour analysis; Seminars.			
Required Reading:			
1. Posner, Elieser S. Hibbs, Arthur N.: Wheat Flour Milling, American Association of Cereal Chemists, Inc, 2005			
2. Cereal millers handbook, International Association of Operative Millers, Kansas, 1994.			
Weekly Contact Hours: 6	Lectures: 3	Practical work: 3	
Teaching Methods: Lectures, seminars, laboratory exercises			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation		written exam	
Practical work	20	oral exam	50
Preliminary exam(s)		
Seminar(s)	30		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam,			

project presentation, seminars, etc.