

**FORM: Syllabus**  
**Course description**

<b>General information</b>		
Course Holder	Emilija Friganović, Senior Lecturer	
Course title	<b>Technology of Flour and Flour Products</b>	
Study programme	Undergraduate Professional Study of Food Technology	
Course status	Elective	
Year	3. (V semester)	
Evaluation in ECTS credits and forms of class conducting	ECTS coefficient of student workload	5,5
	Number of classes (L+P+S)	75 (45+30+0)

<b>1. COURSE DESCRIPTION</b>		
<i>1.1. Course objectives</i>		
The objective of this course is to prepare students for work, guidance and process control in the production of cereal based products.		
<i>1.2. Terms for enrollment</i>		
None		
<i>1.3. Expected learning outcomes related to the course</i>		
After passing the exam, students will be able to:		
<ul style="list-style-type: none"> <li>- define the basic concepts related to raw materials, products and production technology of cereal based products</li> <li>- describe the machinery, equipment and devices, and their application</li> <li>- schematically show the production stages and processes</li> <li>- use the technical regulations and standards relating to the quality and safety of cereal based products</li> <li>- calculate the energy value and the amount of nutrients for the product</li> <li>- explain the parameters of product and production control</li> <li>- carry out basic analyses of raw materials and products</li> <li>- explain the impact of certain components of the raw material on the technological process</li> <li>- explain the impact of certain components of the raw material on human health</li> <li>- calculate production normative</li> </ul>		
<i>1.4. Course content</i>		
1. Introduction. 2. Warehousing and storage of grains 3. Processes, machinery and milled cereal products 4. Raw materials in baking industry 5. Bakery products: technological stages of the production process, machinery and equipment 6. Pasta and noodle products: raw materials, technological stages of the production process, machinery and equipment. 7. Flour-confectionery products: raw materials, technological stages of the production process, machinery and equipment. 8. Production of snack products by extrusion 9. Quality and safety parameters and legislative framework 10. Quality assessment, nutritional value, transport, packaging and storage of finished products		
<i>1.5. Forms of class conducting</i>	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> practice <input type="checkbox"/> e-learning <input checked="" type="checkbox"/> field learning	<input type="checkbox"/> independent work <input type="checkbox"/> multimedia and the network <input checked="" type="checkbox"/> laboratory <input type="checkbox"/> mentor work <input type="checkbox"/> other _____

1.6. Comments		-													
1.7. Student obligations															
Students are obligated:															
<ul style="list-style-type: none"> <li>- to attend 80 % of lectures and practice and actively participate in classes</li> <li>- to present and defend 1 seminar paper,</li> <li>- to pass a final exam consisting of a written and oral exam (passing grade of two colloquia is recognized as a grade on the final written exam).</li> </ul>															
1.8. Student evaluation method <sup>1</sup>															
Attendance	2,00	Class activity	0,50	Seminar paper	1,00	Experimental work									
Written exam	0,05	Oral exam	0,05	Essay		Research									
Project		Preparing for continuous assessment	1,90	Report		Practical work									
Portfolio															
1.9. Evaluation of the students' work during classes and in the final exam															
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Attendance and class activity</td> <td style="width: 50%;">4,00 % of a grade</td> </tr> <tr> <td>Seminar paper (1)</td> <td>10,00 % of a grade</td> </tr> <tr> <td>Colloquia/Final written exam</td> <td>36,00 % of a grade</td> </tr> <tr> <td>Final oral exam</td> <td>50,00 % of a grade</td> </tr> </table>								Attendance and class activity	4,00 % of a grade	Seminar paper (1)	10,00 % of a grade	Colloquia/Final written exam	36,00 % of a grade	Final oral exam	50,00 % of a grade
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Colloquia/Final written exam	36,00 % of a grade														
Final oral exam	50,00 % of a grade														
1.10. Compulsory reading (updated)															
<ul style="list-style-type: none"> <li>- Krička, T., Kiš, D., Matin, A., Brlek, T., Bilandžija, N. (2012): Tehnologija mlinarstva. Poljoprivredni fakultet Osijek i Agronomski fakultet Zagreb, Osijek.</li> <li>- Kuharić, F. (2017): Suvremene tehnologije u pekarstvu i slastičarstvu - sirovine i proizvodi. TIM ZIP d.o.o., Zagreb.</li> <li>- Auerman, L. J. (prijevod Beleslin, D.) (1988): Tehnologija pekarske proizvodnje. Tehnološki fakultet, Novi Sad.</li> <li>- Pomeranz, Y. (1998): Wheat: Chemistry and Technology (I,II), Published by AACC, St.Paul, Minnesota, USA.</li> <li>- Hosney, R.C. (1994): Principles of Cereal Science and Technology, Published by AACC, St.Paul, Minnesota, USA.</li> <li>- Fabriani, G. (1998): Durum Wheat: Chemistry and Technology; Published by AACC, St.Paul, Minnesota, USA.</li> </ul>															
1.11. Additional reading (updated)															
<ul style="list-style-type: none"> <li>- Owens, G. (ur.)(2001): Cereals processing technology. Woodhead Publishing Limited, Cambridge, England.</li> <li>- Manley, D. (1998): Technology of biscuits, crackers and cookies. Woodhead Publishing Limited, Cambridge, England.</li> <li>- Cauvain, S.P. (ur.)(2003): Bread making - Improving quality. Woodhead Publishing Limited, Cambridge, England.</li> <li>- Moscicki, L. (ur.)(2003): Extrusion-Cooking Techniques - Applications, Theory and Sustainability. WILEY-VCH Verlag &amp; Co. KGaA, Weinheim, Germany.</li> <li>- Zakonski propisi o hrani i hrani na bazi žitarica, www.nn.hr</li> </ul>															
1.12. Number of copies of the compulsory reading units compared to the number of students currently attending the course															
		<i>Title</i>			<i>Number of copies</i>	<i>Number of students</i>									
		- Krička, T., Kiš, D., Matin, A., Brlek, T., Bilandžija, N. (2012): Tehnologija mlinarstva. Poljoprivredni fakultet Osijek i Agronomski fakultet Zagreb, Osijek.			2	10									
		- Kuharić, F. (2017): Suvremene tehnologije u pekarstvu i slastičarstvu - sirovine i proizvodi. TIM ZIP d.o.o., Zagreb.			1	10									
		- Auerman, L. J. (prijevod Beleslin, D.) (1988):			1	10									

<sup>1</sup> IMPORTANT: Each Student Evaluation Method should be followed by a corresponding share in the ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the subject. You can use blank fields for additional activities.

Tehnologija pekarske proizvodnje. Tehnološki fakultet, Novi Sad.		
- Pomeranz, Y. (1998): Wheat: Chemistry and Technology (I,II), AACC, St.Paul, Minnesota, USA.	1	10
- Hosney, R.C. (1994): Principles of Cereal Science and Technology, AACC, St.Paul, Minnesota, USA.	1	10
- Fabriani, G. (1998): Durum Wheat:Chemistry and Technology;, St.Paul, Minnesota, USA.	1	10
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<i>1.13. Quality assurance methods that ensure the acquisition of knowledge, skills and competencies</i>		
<p>Testing is conducted regularly during classes, through presentation, colloquia, the written and oral exam. Information on progress and potential problems is provided to students during semester. At the end of the semester, the evaluation of teachers and course by students (student surveys) is carried out. The information obtained regarding student satisfaction is used to improve the quality of teaching performance. Information on the learning outcomes achieved is used to draw self-evaluation of the teacher and, if necessary, to modify and / or amend the course program, the methods of work and the assessment of the students.</p>		