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| **Title** of the subject: **Technology of wine and soft drinks** | **Credit: 2 + 1** |
| **Type** of the subject: compulsory |
| **Ratio of theory and practice:** 60/40 (credit%) |
| **Type and number of classes per semester**: 28 hours lecture and 14 hours practice per **semester**  |
| **Type of exam**: exam |
| **Subject in the curriculum:** 3rd year 2nd semester  |
| Preliminary requirements:none |
| **Summary of content - theory**:  |
| Course objectivesPractical and theoretical overview of the basis of wine and fruit juice technologies. Fundamental understanding of critical points in wine, fruit juice and soft drink technologies, together with its chemical, microbiological and instrumental background. Ability to participate, and control technological processes. Basic ability of quality control and organoleptic evaluation of fruit juice, soft drinks and wines.1. week: Fruit and vegetable juice, concentrates2. week: Production and processing of filtered and fined juice 3. week: Application of extractors and extraction methods in fruit juice technologies4. week: Theoretical basics of preservation, thermal preservation of fruit juice 5. week: Technology of unfiltered fruit juice6. week: Production of apple juice concentrate7. week: Chemical changes under storage of fruit juice and concentrates8. week: Technology of white wines, Factors affecting fermentation9. week: Technology of red and rosée wines 10. week: Technological criteria of first racking, racking and sulfitization11. week: Filtration and fining of wines12. week: Controlling evolution and ageing of wines, bottling13. week: Special wine technologies14. week: Basis of wine tasting  |
| **Summary of content - practice**: |
| Skills to be learnt: 1. basic knowledge and acquaintance with data of the sector
2. criteria of row materials
3. production and processing of filtered and fined juice I.
4. production and processing of filtered and fined juice II.
5. soft drink technology
6. FACTORY-VISIT
7. EXAM-A part
8. basic knowledge of most relevant global tendencies in wine production, acquaintance with relevant database sources
9. basic knowledge of most popular wine grape varieties
10. orientation of attention on crucial technological parameters
11. being aware of technological order, building ability to calculate capacities and
12. programming wine making protocols/ FACTORY VISIT
13. decision of harvest, practice calculation of chaptalization
14. EXAM-B part
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| **Literature, handbooks in English**  |
| * Gaurav R., Brijesh T. (2017): Fruit Juices, 1st Edition, Extraction, Composition, Quality and Analysis. Academic Press, ISBN: 9780128024911, 910.p.
* Ashurst P. Hargitt R., Palmer F. (2017): Soft Drink and Fruit Juice Problems Solved.
* 2nd Edition. ISBN: 9780081009185, Woodhead Publishing, 232.p.
* Reynolds A. G. : Managing wine quality; 1 : Viticulture and wine quality. Woodhead Publishing Limited, CanadaReynolds A. G. : Managing wine quality; 2 : Oenology and wine quality. Woodhead Publishing Limited,
* [www.OIV.int](http://www.OIV.int)
* Vitis – Journal of Grapevine Research
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| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| 1. **Knowledge:**
* Students will know the principles, equipment, instrument of fruit juice and wine industries
* Students will know the requirements of raw materials in fruit juice, soft drinks and wine technologies
1. **Skills:**
* Students will be able to participate in production and product development
* Students will be able to carry out quality analysis of row materials and the product
1. **Attitude:**
* Students will endeavor to apply the newest technologies
* Students will be emotional to apply traditional technologies
1. **Autonomy and responsibility:**
* Students shall be able to feel responsible for high-quality and safe drink production
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| **Responsible lecturer: Nándor Rakonczás, PhD, assistant professor,** |
| **Other lecturer(s): Judit Gálné Remenyik, PhD, associate professor,** |
| **Terms of course completion:** |
| * completing exercises
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| **Form of examination:** |
| * written exam
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| **Requirement(s) to get signature:** |
| * successful test (60%) and participation in practices
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| **Exam questions:** |
| A-part1. What kind of specification parameters do fruits have?
2. How can fruit species be grouped?
3. What is the importance of fruit juice concentration?
4. What is the difference between fruit nectar and fruit drink?
5. What are the main steps of fruit juice production?
6. How can we enhance juice extraction?
7. Which are the advantages and disadvantages of concentration with evaporation?
8. What kind of alternative concentration methods are there in the fruit juice production?

B-part1. What is the difference between white and red wine technologies?
2. How could you elevate quality in case of red wine technology?
3. What is the importance of fermentation control?
4. What is the difference between aromatic and non-aromatic white grape varieties (from the perspective of wine technology)?
5. What are the main steps and constraints of clarification?
6. How can we enhance aromatic characters in case of wines?
7. Which are the advantages and disadvantages of malolactic fermentation?
8. What kind of alternatives exist in sulfitization?
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