TECHNOLOGY OF NON-ALCOHOLIC AND LOW ALCOHOLIC: TECHNOLOGY AND QUALITY CONTROL OF BEVERAGES, 1ST YEAR, 1ST SEMESTER

Credit value (ECTS):8

Course category: mandatory

Course holder: University assistant TUDOSE-SANDU-VILLE Ştefan

Discipline objectives (course and practical works)

The course of the Technology of the nonalcoholic and low alcoholic beverages will make available to the students up-to-date information regarding the different technologies used to obtain drinks with low concentration in alcohol (beer, cider, wine-cooler, cvas etc.), the authorized production practices, stabilization and conditioning of the obtained products, usual and specific analyzes for these drinks, other information to help the professional training of the future master's graduate. Also, information regarding the sensory evaluation of these low-alcohol drinks will be presented.

Contents (syllabus)

Course (chapters/subchapters)
1. Classification of low alcoholic beverages of horticultural origin. Description. Overview. Raw materials used.
2. Classification of low alcoholic beverages of agricultural origin. Description. Overview. Raw materials used.
3. Lager type beer production technology
4. Ale beer production technology.
5. The technology of producing for some special beers.
6. Cider production technology
7. The hydromel production technology.
8. Production technology for low alcoholic drinks from grapes.
9. Technologies of production for other low alcoholic beverages.
10. Production technology for low alcohol flavored beverages
11. Current stabilization and conditioning treatments applied in low-alcohol beverage technologies
12. Sensory analysis for some low alcoholic beverages.

Practical works
1. Work safety. Description of the average analytical sample in the evaluation of the quality of the raw materials used to obtain low alcoholic beverages.
2. Determination of the content of fermentable sugars from the raw materials for obtaining low alcoholic beverages.
3. Determination of the concentration of the primitive extract of beer. Use of adjuvants to increase the concentration of the primitive extract.
4. Creation and evaluation of the brewing chart in the beer industry
5. Making the fermentation yeast base used in the beer industry. Initiation of primary fermentation (Practical activity in the Micro production Workshop - Beer)
6. Determination of alcohol concentration.
7. Evaluation of pH and total acidity of cider. Acidity corrections.
8. Evaluation of the concentration of reducing sugars in low alcoholic beverages by the Luff-Shoorl method.
9. Analysis of the color of low alcohol drinks by spectrophotometric methods
10. Determination of the optimal dose of clarifying agent used in the technology of obtaining low alcoholic beverages.
11. Olfactory descriptors used in the sensory evaluation of low alcoholic beverages.
12. Determination of CO_2 concentration in low alcoholic beverages by mass difference.

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Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Course	Exam	50%
	Presence	10%
Practical works	Tests	40%

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TECHNOLOGY OF NON-ALCOHOLIC AND LOW ALCOHOLIC: TECHNOLOGY AND QUALITY CONTROL OF BEVERAGES, 1ST YEAR, 2ND SEMESTER

Credit value (ECTS):8

Course category: mandatory

Course holder: University assistant TUDOSE-SANDU-VILLE Ştefan

Discipline objectives (course and practical works)

The course of the Technology of the nonalcoholic and low alcoholic beverages will make available to the students up-to-date information regarding the different technologies used to obtain non-alcoholic beverages (water, juices, coffee, tea etc.), the authorized production practices, stabilization and conditioning of the obtained products, usual and specific analyzes for these drinks, other information to help the professional training of the future master's graduate. Also, information regarding the sensory evaluation of these non-alcoholic beveragaes will be presented.

Contents (syllabus)

Course (chapters/subchapters)
1. .Non-alcoholic beverages. Definitions. Overview. Classification.
2. Fruit juices and nectars technologies. Raw materials. Chemical composition.
3. Soft drinks technology. “The Cola Paradox”
4. Extraction methods: infusion.
5. Extraction methods: decoction.
6. Coffee technology.
7. Tea technology.
8. Cocoa liqueurs technology.
9. Flat and sparkling water technology. Drinking water: description, characteristics, chemical composition
10. Non-alcoholic beer technology.
11. Physical and chemical preservation methods used in the non-alcoholic beverages technology.
12. Methods for stabilizing and conditioning of non-alcoholic beverages. Use of food additives.

Practical works
1. Work safety. Methods for taking the average samples for analysis in the evaluation of the main physico-chemical characteristics of the non-alcoholic beverages.
2. Determination of the main parameters of composition of juices and nectars.
3. Sensory evaluation of soft drinks. Triangular test in demonstrating the "cola paradox"
4. Evaluation of Phenolic Compounds in Tea (HPLC)
5. Evaluation of the color of the teas obtained by infusion.
6. Determination of the concentration of tannins in coffee (HPLC).
7. Determination of gas concentration in drinking water.
8. Determination of the concentration of mineral compounds in drinking water.
9. Determination of the concentration of fermentable sugars in non-alcoholic beers. Nutrition intake assessment.
10. Determination of sucrose concentration in natural juices.
11. Sensory evaluation of coffee.
12. Final laboratory test.

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Evaluation

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Course	Exam	50%
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