Code: 16-2-02

LINKAGE OF SENSORIC AND INSTRUMENTAL METHODS

ECTS: 5

Course coordinator: Prof. Dr. Terezija Golob

Lecturers: Prof. Dr. Terezija Golob, Assist. Prof. Dr. Tatjana Košmerl, Assist. Prof. Dr. Milica Kač

No. of hours: 125
  - Lectures: 10
  - Lab. work: 10
  - Seminar: 20
  - Other: 85

2. Entry requirements:
General conditions for enrolment in doctoral studies.

3. Objectives of the course and intended learning outcomes: (competences)
Educational aims: The basic educational aim is to deepen specific knowledge from the field of sensoric and instrumental analysis, and qualifying the candidate for complex understanding of descriptors of the quality of foods (descriptor analysis in processing and control of food, descriptive analysis). It must be stressed in this the planning of research (experiments) and evaluating the obtained descriptors also in comparison with standard (classical, normal) parameters of quality.

Intended learning outcome: The intended learning outcome is to qualify the candidate to carry out research in the field of the use of contemporary sensoric and instrumental techniques, overall and critical evaluation of the obtained results and correct interpretation of the results. Within the framework of the subject, a candidate will obtain knowledge of the creation and use of databases (mainly with individual cases treated, case studies, which will normally be connected with the candidate’s practical work).

4. Syllabus outline:
- Specific knowledge from the field of sensoric analysis; taking and preparing samples; importance and influence of individual levels on results of sensoric analysis; contemporary sensoric analytical methods; profiling aromas; quantitative descriptive analysis, profiling texture, sensory spectrum, profiling by own choice; aroma; receptors for denoting aroma; sensoric and instrumental methods of determining the profile of an aroma; electronic nose; electronic tongue; types of electronic sensor; use of GC and E-nose in establishing the presence and constitution of foods;
- Specific knowledge from the field of sensoric analysis of wine, differences between sensoric and organoleptic assessors, influence of temperature and order, tactile and audio designations, detailed analysis of appearance, colour, scent, taste and aftertaste of wine, tartness and bitterness, designation and senses, interaction between individual designations, most common symptoms and causes of changes in the sensoric properties of wine (visual, oliphactory and degustatory); microbiological changes, use of HPLC and E-tongue.
- Stress on evaluating the whole picture (holistic approach) in which as many
quality parameters as possible and their interconnection are embraced uniformly with a single glance. Use of databases selectively (tailored targets) and in entirety, criteria for including data in a database. Links between different quality parameters, mainly between physico-chemical measurements and standard parameters of quality, relevance of linkage.

5. Literature (in the case of books and monographs, study sources are only selected chapters from them):
- Current scientific periodicals. (especially for case study)

6. Teaching methods:
Lectures, seminars on the theme of selected case studies, laboratory exercises.

7. Assessment methods:
The student prepares a project seminar task on a selected theme, which is a condition for taking the examination; oral examination.

8. References:

**Golob Terezija**

**Košmerl Tatjana**
1. BEROVIČ, Marin, MAVRI, Jan, WONDRA, Mojmir, KOŠMERL, Tatjana, BAVČAR, Dejan. Influence of temperature and carbon dioxide on fermentation of Cabernet Sauvignon must. *Food technol. biotechnol.*, 2003, vol. 41, no. 4, p. 353-359, graf. prikazi. [COBISS.SI-ID 2803832] JCR IF: 0.253, SE (120/132), biotechnology & applied microbiology, x: 2.028, SE (81/94), food science & technology, x: 0.801

**Kač Milica**

