

68752 - Bibliographic resources and its application to quality assurance of analytical methods in food science

Syllabus Information

Academic year: 2024/25

Subject: 68752 - Bibliographic resources and its application to quality assurance of analytical methods in food science

Faculty / School: 105 - Facultad de Veterinaria

Degree: 631 - Master's Degree in Food Quality, Safety and Technology

ECTS: 6.0

Year: 1

Semester: First semester

Subject type: Compulsory

Module:

1. General information

The availability of accurate and updated scientific and legal information, and the knowledge of how to use the tools to search for it, are essential in the field of research and professional practice in the food science. Validation of analytical methodologies is one of the measures universally recognized as a necessary part of any quality assurance system in a food analysis laboratory, since reliable analytical methods are required to comply with national and international regulations in all areas of analysis. The objective of this subject is that the student acquires the necessary knowledge in these two areas, which will be very useful for the other subjects and for the completion of the Master's Final Project.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/>), so that the acquisition of the learning results of the subject provides training and competence to contribute to some extent to their achievement.

2. Learning results

Upon completion of the subject, the student will be able to:

1. Know and know how to apply scientific and legal information search tools in the food science.
2. Deepen the search for documents related to a previously selected analysis methodology.
3. Order and structure the results of the information according to legal and scientific aspects.
4. Know the fundamentals of good laboratory practices as well as the validation procedures of the selected analytical methodologies, essential to ensure the quality and reliability of the results.
5. Assess an action protocol in the quality control of an analytical method described in the scientific literature.

3. Syllabus

Theoretical sessions. 22 face-to-face hours.

- Introduction of the subject.
- Importance of reliability of results and control of analytical methodologies.
- Scientific and legal information search tools. Artificial intelligence based tools.
- Good laboratory practices.
- Validation parameters. Definition of terms and acceptance criteria established by international organizations.
- Reference and intercomparison materials.
- Experience of professional experts in the field.

Practical sessions (problems and cases) in the classroom. 38 hours.

- Consultation of different sources of information.
- Learning how to use a bibliography manager program in a web environment.
- Standardized protocols of work and preparation of material and reagents according to good laboratory practices.
- Solving of exercises in a computer classroom or through the use of laptops in the classroom.

4. Academic activities

- Theoretical-practical exposition (by the teacher) and solving and common discussion of exercises related to the subject.
- Written presentation of practical exercises.
- Using the different sources of information, writing of a paper on the analytes and methodologies under study.
- Study and discussion of scientific articles related to the content of the subject.

- Supervision and monitoring of the work done by the students.
- Written test on the knowledge of validation of analytical methodologies at the end of the subject.

5. Assessment system

Continuous assessment

1. Written work based on the study of an analyte and its analysis methodologies, in which the scientific rigor and the bibliographic and legal sources used will be taken into account. The student must submit it once the contents of the subject related to information sources have been covered in class. The grade will account for 30% of the final grade.
2. Written test on the knowledge of validation of analytical methodologies. It will be conducted at the end of the teaching program, and will consist of developing answers, in writing, to 4-5 questions. The grade will account for 55% of the final grade.
3. Presentation of exercises and written reports of the theoretical and practical sessions. Timely submission and thoroughness in the answers will be valued. The grade will account for 15% of the final grade.
In order to pass the subject and demonstrate that the student has achieved the expected learning results, the grade obtained in each of the assessment activities must be equal to or higher than 5. The final grade will be obtained by calculating the weighted average of the grades obtained in the different tests.

Global assessment students who do not pass the continuous assessment, those who wish to improve their grade, or those who have not chosen this modality, will be evaluated by means of a global test consisting of an exam with development questions related to all the content of the subject. A grade of 5 or higher is required to pass. The student who has missed 2 or more sessions, without a justified cause, will be obliged to take the global test.

6. Sustainable Development Goals

- 3 - Good Health & Well-Being
- 4 - Quality Education